



## **ADDENDUM NUMBER 4**

Project Number 89005561

Project Title Broadway Boulevard Bridge over 30th Street

County Jackson

ISSUE DATE: **June 5, 2015**

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on **Tuesday, June 9, 2015**, are amended as follows:

Information to Bidders The following is provided to Bidders for information only:

- Q1. What is the anticipated award/Notice To Proceed on the above referenced project?  
A1. The Notice To Proceed is anticipated to be in August depending on the bids received
- Q2. A rebar schedule is provided for the barrier. Will a rebar schedule be provided for the moment slab?  
A2. No. Please use the plans to determine the amount of rebar (shape and size) in the moment slabs. This item is paid for by the “square yard”.
- Q3. Sheet C05, Note 6 discusses the replacement of damaged rebar after hydrodemolition at the direction of the Engineer. How will this be handled? Time is short, do we have extra rebar on the jobsite just in case? How will this be paid? Will the City pay for materials onsite? How much will be needed? What if the rebar is not used? What sizes – black? Epoxy? The project schedule does not allow time to procure rebar materials once the demolition is complete. Can you please provide some direction.  
A3. Any damaged rebar, either from hydrodemolition or from deterioration, that the Engineer determines needs to be replaced shall be replaced in kind. The rebar is incidental and shall be considered covered by the unit price for the bid item “Hydrodemolition”. It is at the contractor’s discretion how much rebar to purchase prior to the completion of the hydrodemolition.
- Q4. The half-sole detail shown on Sheet C10 applies to deck rehabilitation work where the top slab of rebar stays intact with existing concrete. The hydrodemolition work (5”) exposes the top mat of rebar in its entirety for the Broadway Project. Can you better define the half-sole activity as it applies to this project? The detail provided does not apply.  
A4. Because the existing slab is over 2’ thick, half-sole for this project is detailed so any bad or deteriorated concrete below the top 5” of the concrete slab, after the hydrodemolition is complete, is also removed. Hydrodemolition will most likely remove all concrete around the top mats of rebar. However, if half-sole is required, (more concrete removal is needed to remove more poor concrete) and the top mat happens to be lower than the top 5”, then the half-sole will need to extend under that rebar as the detail describes. If

hydrodemolition does get below the top mat of rebar, then the half-sole would just need to remove all the unsound concrete prior to the new silica fume overlay being provided.

- Q5. We cannot locate any project specifications for the waterproofing membrane, Item 32, or the Silica Fume Overlay, Item 34. Can you please point us towards their location.
- A5. See 02785 Silica Fume Overlay and 02790 Waterproofing Membrane, attached.
- Q6. What are the required cure times for both items of work? How long must we allow these activities to cure before proceeding with the next item of work?
- A6. See 02785 Silica Fume Overlay and 02790 Waterproofing Membrane, attached.
- Q7. Sheets C11, C12, and C13 discuss limestone fascia, spalls, and delaminated wall repairs. It is our understanding of the bid proposal that this scope of work shall be paid using Item 28, Substructure Repair (Unformed), and Items 35, Limestone Facing. Please confirm.
- A7. Repairs will be handled under “Substructure Repair (Unformed)”, “Limestone Facing” and crack repair will be “Epoxy Pressure Injection”.
- Q8. Sheet C06 identifies overhead spall repairs. A site visit confirms that there are some significant overhead areas that need to be repaired. How is this scope of work to be paid? It is not an ‘unformed’ repair. Please clarify quantity, specification, and Owner requirements for this work. There is a possibility that there could be some full depth repairs from top to bottom of arch.
- A8. The intent of the repair is to follow MoDOT Specification 704.3.5 as follows:
- 704.3.5 Superstructure Repair (Unformed).** This work shall consist of repairing the deteriorated concrete on the bottom of the bridge deck in the required areas with a qualified special mortar.

### Specifications

1. Add 02785 Silica Fume Overlay, attached.
2. Add 02790 Waterproofing Membrane, attached.

**NOTE: Bidders must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.**

## **02785 Silica Fume Overlay (5")**

### **A. GENERAL**

Refer to the current edition of the KCMO APWA Specification Section 2700 for work pertaining to Structures.

Contractor shall obtain the latest version of KCMO APWA Specification Section 2700 from the KCMO website.

And in accordance with Section 2702.2, any Structures items not specifically covered under the standard KCMO APWA Specification shall fall under the jurisdiction of the Standard MoDOT Specifications.

### **B. DESCRIPTION**

Work for this item includes setting up and calibrating an approved self-propelled mechanical concrete deck-finishing machine (including all rails) with a dual roller carriage, coordination of batching and delivery of a concrete wearing surface material to the site, and all labor, equipment and materials associated with the placement, finishing and curing of the wearing surface. The contractor must submit in writing his prescribed plan of managing the Overlay from pouring through curing. This document shall include all equipment, material, labor, schedule details and processes the contractor shall employ in delivering a satisfactory product and shall be approved by the Engineer.

It shall be the responsibility of the contractor to perform all deck preparation prior to the actual deck overlay pour, including but not limited to: hand chipping of delaminated concrete, half-sole repairs, securing exposed reinforcing steel, forming of pour headers at bridge ends (if necessary), blast cleaning, final cleaning, wetting and covering of the deck with plastic. Any compressors used for air blasting as part of the prep work shall be equipped to prevent oil in the air supply.

The contractor will be responsible for all work in placing and finishing the deck overlay pour, including the preparation of the surface for the waterproofing membrane between the silica fume overlay and the asphalt overlay. The contractor will also be responsible for the curing of the chosen overlay material throughout the entire required cure time-frame in accordance with Missouri Standard Specifications. Spud vibration shall be utilized at all locations where rebar exposure exceeds 50% of the bar diameter.

The contractor shall provide a Silica Fume Overlay for this project based on a 5" wearing surface total depth.

All applicable portions of Missouri Standard Specifications Sections 501 and 505 shall apply for the control and execution of all work items unless otherwise noted in these specifications. Submission of any and all mix designs, required equipment calibrations and scheduling of materials inspection shall be coordinated with KCMO and provided at least 10 days prior to incorporation into the finish product.

The overlay must be poured within **five (5) calendar days** of the completion of hydrodemolition work. Completion of hydrodemolition shall be judged to be the final flushing and clean-up of the debris from the site.

All clean-up of remnants of any materials stockpiled on the site to be utilized in the final product will be the responsibility of the contractor.

### **C. MEASUREMENT**

Silica Fume Overlay (5") will be measured to the nearest square yard (yd<sup>2</sup>) based on measurement longitudinally from end of slab to end of slab and transversely from edge of deck to edge of deck. Final measurement of Silica Fume Overlay (5") will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

### **D. PAYMENT**

Payment for the above described work, including all material, equipment, labor and any other incidental work necessary to complete this item, will be considered completely covered by the contract unit price for "Silica Fume Overlay (5)".

**END OF SECTION 02785**

## 02790 Waterproofing Membrane

### A. GENERAL

Refer to the current edition of the KCMO APWA Specification Section 2700 for work pertaining to Structures.

Contractor shall obtain the latest version of KCMO APWA Specification Section 2700 from the KCMO website.

And in accordance with Section 2702.2, any Structures items not specifically covered under the standard KCMO APWA Specification shall fall under the jurisdiction of the Standard MoDOT Specifications.

### B. DESCRIPTION

This work consists of furnishing and placing an approved waterproofing membrane and protective covering over a prepared concrete bridge deck surface.

### C. MATERIALS

**Waterproofing Membrane.** The waterproofing membrane shall consist of a single component, hot applied, elastomeric membrane and primer if required. The hot applied, elastomeric membrane shall be capable of being sprayed or spread to a uniform thickness at the application temperature as recommended by the manufacturer. After cooling, the waterproofing membrane shall form a tough resilient membrane, well bonded to the concrete surface and shall be in accordance with the requirements of ASTM D 6690, Type II, except that blocks for the bond test shall be as described in ASTM D 5329. The waterproofing membrane shall be from a PAL approved source for "Concrete Joint Sealer, Hot-Poured Elastic Joint Material" in which the manufacturer recommends the material for bridge deck waterproofing.

**Protective Covering.** The protective covering shall be composed of one or more layers of felt thoroughly bonded together and saturated with asphalt. Both exposed sides shall be asphalt coated. The surfaces shall be coated with suitable mineral matter to prevent the material from sticking to itself. The covering may be furnished either in rolls or sheets and shall be free of visible external defects, such as holes, ragged or untrue edges, breaks, cracks, tears, protuberances and indentations. The covering furnished in rolls shall not crack nor be so sticky as to cause material damage upon being unrolled at atmospheric temperatures as low as 50°F (10°C). The covering shall be in accordance with the requirements in the table below. The protective covering may be conditionally accepted in the field based on visual inspection for appearance, workmanship, weight of a representative specimen and certifications for the felt and asphalt materials used to make the protective covering.

Physical Property	Requirement
Width, inches	35.5 – 60.5
Pliability at 77°F (25°C)	No cracking when bent 90° over a rounded corner of 0.5 in
Behavior on Heating to 176°F (80°C)	Max. 1.5 percent volatile loss. No flowing, sagging or blistering.
Min. Weight, lb/ft <sup>2</sup>	0.5
Net Weight, lb/gal	> 8.58
Specific Gravity	> 1.03

#### D. CONSTRUCTION REQUIREMENTS

**Concrete Deck Preparation.** The entire deck and the sides of the curbs for a height of 2 inches above the plan thickness of the asphalt surface course shall be free of all foreign material such as dirt, grease, old pavement and primer. All surfaces to receive the waterproofing membrane shall be sand blasted or shot blasted. Immediately prior to the application of primer or membrane, all dust and loose material shall be removed. The Engineer will approve the deck condition before application of the membrane.

**Weather and Moisture Limitations.** Application of primer or membrane shall not be done during inclement weather conditions or when deck and ambient air temperatures are below 50°F (10°C). The deck surface shall be dry at the time of application of primer and membrane.

**Waterproofing Membrane Application.** Hot applied membrane shall be applied to the prepared deck surface at a uniform rate as recommended by the manufacturer. During the application, the thickness will be measured by the engineer. Lack of uniform application will be cause for termination of the work until remedial measures have been taken. Primer, if required, and the membrane shall be placed up the curb faces for a height of 2 inches above the plan thickness of the asphalt surface course.

**Protective Covering Application.** As soon as practical, but in all cases the same day as membrane application, the protective covering shall be placed from roadway face of curb to roadway face of curb as allowed by stage construction. Protective covering shall be laid parallel to the centerline of the bridge. The protective covering shall be butted together at longitudinal and transverse joints. Overlapping will not be permitted. The maximum allowable space between adjoining sections of the protective covering shall be one inch. Following the placement of the protective covering, a bead of compatible mastic or hot applied membrane shall be applied where the covering contacts the curbs and in cracks between adjoining sections that are apart by more than 3/8 inch. The

bead shall fill the void preventing water from entering at this point.

**Inspection.** Upon completion of the membrane and protective covering, the Engineer will inspect the membrane system and give approval in writing before application of the alternate asphaltic concrete wearing surface. The contractor shall be responsible for maintaining the condition of the membrane system until covered with alternate asphaltic concrete wearing surface to the thickness required by the contract.

#### **E. MEASUREMENT**

Waterproofing membrane will be measured to the nearest square yard (yd<sup>2</sup>) based on measurement longitudinally from end of slab to end of slab and transversely from roadway face of curb to roadway face of curb. Material placed on curb faces will not be measured. Final measurement of waterproofing membrane will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

#### **F. PAYMENT**

Payment for the above described work, including all material, equipment, labor and any other incidental work necessary to complete this item, will be considered completely covered by the contract unit price for "Waterproofing Membrane".

**END OF SECTION 02790**