



**TRANSPORTATION CABINET**

Frankfort, Kentucky 40622  
www.transportation.ky.gov/

**Steven L. Beshear**  
Governor

**Michael W. Hancock, P.E.**  
Secretary

March 8, 2011

CALL NO. 334  
CONTRACT ID NO. 112904  
ADDENDUM # 1

Subject: Butler County, FE02 016 0231 B00003N  
Letting March 18, 2011

(1) Revised - Special Note - Pages 10-13(a) of 84

Proposal revisions are available at <http://transportation.ky.gov/contract/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in blue ink that reads "Ryan Griffith".

Ryan Griffith  
Director  
Division of Construction Procurement

RG:ks  
Enclosures



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## **SPECIAL NOTE FOR SURFACE PREPARATION AND PAINT APPLICATION**

All structural steel shall be cleaned and painted in accordance with the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction (current edition), and the following requirements:

### **A. SUBMITTALS**

The Contractor shall comply with the submittal requirements detailed in Section 108 of the 2008 Standard Specifications for Road and Bridge Construction and submit the following **written** items to the Project Engineer **14 days** prior to the Pre-Construction Conference:

1. A detailed Progress of Work Schedule. The Progress of Work Schedule will be reviewed and approved by the KYTC Engineer.
2. Traffic Control Plan. The Traffic Control Plan will be reviewed and approved by the KYTC Engineer.
3. Worker Protection Plan. The Worker Protection Plan will be reviewed by the KYTC Engineer.
4. Environmental Compliance Plan, including a Waste Management and a Ground Water and Surface Water Protection Plan. The Environmental Compliance Plans will be reviewed by the KYTC Engineer.
5. Manufacturers' recommended Film Thickness and application conditions for the coating system to be used.
6. Rigging and Containment Plan, Design for rigging and containment shall be signed and stamped by a licensed Kentucky professional engineer. The design for containment will be reviewed by the KYTC engineer.

**All submittals must be approved prior to beginning any work.**

### **B. CONTAINMENT**

All structural steel shall be totally enclosed during all phases of the work. All containment shall meet the criteria for **SSPC Guide 6 – Containment Classification Class 2A** for cleaning and painting of structural steel bridges.

Air Pressure- Negative air pressure meeting the requirements for **Type H2** shall be maintained.

Air Movement- A minimum air movement in containment is not specified but the contractor shall demonstrate that the air movement in the containment will provide the necessary engineering control to comply with OSHA worker safety requirements (i.e., lead standards as required by **29 CFR 1926**).

Emissions - Quantity of emissions from containment for structural steel bridges shall be assessed using Method A – Visible Emissions of **SSPC Guide 6 - Level 1 Emissions**. Emissions shall be monitored for at least 15 minutes and reported in the logbook (**SEE SPECIAL NOTE FOR QUALITY CONTROL**) at least once for every four (4) hours of cleaning and painting.

Quantity of emissions from containment shall be assessed using **Method G** – Visual Assessment of Site Cleanliness. Results of the Method G assessment shall be reported in the logbook (**SEE SPECIAL NOTE FOR QUALITY CONTROL**).

Observance of emissions at any time may require (at the discretion of the Engineer) that cleaning and painting cease until the containment is sufficient to prevent emissions.

The Contractor shall conduct EPA Ambient Air Monitoring for Toxic Metals (TSP-Lead) in accordance with 40 CFR 50 throughout all cleaning and painting. Background monitoring shall be conducted for a minimum of 3 days prior to mobilization of equipment and installation of containment materials. Additional monitoring may be requested at the discretion of the Engineer. Select an analytical laboratory which is approved to perform TSP-Lead analyses through the National Environmental Laboratories Accreditation Program (NELAP). Submit certified analytical results for each sample to the Engineer within 5 days of obtaining the sample. Emissions monitored by this method shall not exceed 1.5 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) as a 90 day average as defined in the National Ambient Air Quality Standard (NAAQS) for Lead. Calculations to determine adjusted acceptable allowances based on NAAQS and site specific schedules are detailed in SSPC Technology Guide No. 6 and SSPC Technology Update No. 7.

Provide proper (OSHA COMPLIANT) lighting on all operations (i.e. surface preparation, painting and inspection). Lighting for QA inspection shall meet the criteria described in **SSPC Guide 12** (Guide for Illumination of Industrial Painting Projects) for inspection.

The contractor shall provide OSHA compliant safe access for all cleaning, painting, and inspections.

Wastes and residue deposited on the containment materials shall be collected daily. In addition, containment materials shall be cleaned prior to moving/dismantling. The Engineer may direct additional cleaning as conditions warrant.

## **C. SURFACE PREPARATION**

### **Solvent Cleaning**

All visible grease and oil shall be removed from the surface prior to abrasive blast cleaning. The surface shall be cleaned in accordance with **SSPC-SP 1** to remove oil, grease, and any other surface contaminants. Only solvents or detergents that are acceptable to the coating manufacturer and the Department shall be used. A clean cloth shall be used for the final wiping of the cleaned surface. All solvent cleaning materials shall be collected, handled, stored, and disposed of as hazardous waste.

### **Compressed Air**

Compressed air used for any work shall be free from oil and/or water. The cleanliness of the compressed air shall be in accordance with **ASTM D 4285 (blotter test)**. The cleanliness of the compressed air shall be verified at least once per shift per compressor or as directed by the Engineer.

### **Abrasive Blast**

All structural steel shall be abrasive blast cleaned to an **SSPC-SP 10/NACE NO. 2** “Near White Metal Blast Cleaning” standard as described in the current SSPC documents. After blast cleaning all surface imperfections that remain (e.g. sharp fins, sharp edges, weld splatter, burning slag, scabs, slivers, etc.) shall be removed. The surface profile shall be **1.5 to 4.5 mils** as measured in accordance with **ASTM D 4417 Method B**.

### **Abrasive Media**

Clean, dry, uniformly graded recyclable steel grit or grit/shot abrasive mix shall be used to produce an angular profile for blast cleaning that is free of oil, soluble salts and other similar substances which could contaminate the blasted surface. The abrasive shall meet the **SSP-AB 2** “Cleanliness of Recycled Ferrous Metallic Abrasive” standard.

**Residual lead paint may still be on bridge.** The Contractor is advised to take all necessary protective measures including worker safety and environmental regulations when performing surface preparation. The Department will not consider any claims based on residual lead paint.

Newly retrofitted fiber glass drain downspouts shall receive only the solvent cleaning portion of the specified surface preparation. The Contractor shall protect the fiber glass downspouts from any damage from the cleaning and painting operation.

## **D. PAINT APPLICATION**

Areas shall not be painted until they have been inspected and approved by the Engineer. Paint shall be applied only to clean, dry surfaces. Ensure that the appropriate surface condition, as described in the Abrasive Blast Cleaning section, is present at the time of primer application (i.e. re-treat if rust-back occurs). Apply a **Class II (Type I or Type II)** system from the approved list referenced in the **SPECIAL NOTE FOR PAINT** and consisting of:

1. **Prime Coat** --Paint all structural steel with one (1) coat of organic zinc rich primer. (dry film thickness per manufacturers product data sheet) See **SPECIAL NOTE FOR PAINT**.
2. **Intermediate Coat**—Paint all structural steel with one (1) full intermediate coat (dry film thickness per manufacturers product sheet). See **SPECIAL NOTE FOR PAINT**
3. **Finish Coat** - Paint all structural steel with one (1) full finish coat (dry film thickness per manufacturers product data sheet). See **SPECIAL NOTE FOR PAINT**.

Comply with KYTC “Standard Specifications for Road and Bridge Construction” Section **614.03.02** and coatings supplier recommended conditions for application.

Newly retrofitted fiber glass drain downspouts shall receive only the intermediate and finish coat of the specified coating system.

The finish coat shall be gray closely approaching Federal Standard No. **595B-X6187**.

**Damages** - All steps necessary to preclude damage to public property from paint overspray shall be taken. These steps shall include changes in the type of containment or cessation of spraying operations. The contractor shall be solely responsible for any damages arising from the painting operations.

**Repair of paint defects** - All defects in the new paint shall be repaired.

**E. PAINT STORAGE, HANDLING, SAMPLING, MIXING AND THINNING**

A paint storage site for receiving and storing paint delivered for use on the project shall be established. The paint storage site shall be located separate from the job site. All new paint shall be received at the storage site for inventory and acceptance testing. At that time, have the Contractor's QC inspector (**SEE SPECIAL NOTE FOR QUALITY CONTROL**) and the Department's inspectors independently inventory the supplied paint by batch number and quantities delivered. Their tallies shall be compared and any differences resolved. The Department's inspector examines all paint containers delivered and rejects those with 1) broken seals, 2) rust, 3) and altered, missing or illegible batch numbers or labels. The Department's inspector numbers and initials each container with an indelible marker. A representative of the Department samples each lot of material (**SEE SPECIAL NOTE FOR PAINT**). Rejected paint containers shall be labeled "REJECTED" and dispose of them promptly. The unapproved and/or rejected containers of paint shall be stored separately from those that have been approved. No paint shall be permitted at the actual job site until the Division of Materials has approved it.

Both the Contractor's QC inspector and the Department's inspector shall conduct a daily start-up inventory of containers of approved paint brought to the job site noting batch numbers and the Department inspector's container number. At the end of the work day, the QC inspector and the Department's inspector shall conduct another inventory noting the number of paint containers expended, Department inspector's inventory numbers, and types of paint. Paint containers brought on the job site and not used shall be inventoried. Re-inventory those when they are taken back to the job site to be used.

The addition of solvents to paint shall be permitted **only** by written approval from the Engineer. Use only new solvents supplied by the paint manufacturer. Solvents shall only be used at the job site in the presence of the Department inspector. Solvents from new, unopened containers with the solvent manufacturer's labeling intact shall be used. The QC inspector shall record locations where solvent-thinned paint was used. Solvents used for cleaning at the job site shall be kept in sealed containers away from mixing operations. Solvents used to clean brushes, rollers, or spray equipment shall be collected in sealed containers and stored as a hazardous waste.

The paint manufacturer shall be required to provide a technical representative at the job site when requested by the contractor or the Department at no additional cost to the Department.

**F. WORKMANSHIP**

All structural steel surfaces shall be properly cleaned and painted to the satisfaction of the Engineer. There shall be no provision for missed areas or substandard work regardless of size of the area in question. **All improperly prepared or painted surfaces shall be repaired to meet the provisions of this specification.**

Allowable field variation of the color of all cured finish coats on structural steel shall be  $2.0\Delta E^*$ . These values shall be obtained from a spectrophotometer utilizing a D65 illuminant at  $45^\circ$  illumination and  $0^\circ$  viewing with a  $2^\circ$  observer. The reference for this test shall be readings obtained on the initial test patch (**SEE SPECIAL NOTE FOR QUALITY CONTROL**). Surfaces with finish coats with color variations exceeding the  $2.0\Delta E^*$  value shall be repainted at the option of the Engineer.