

PROJECT SPECIAL PROVISIONS

ROADWAY

PAINT SAMPLING AND TESTING:

(8-15-06)

SP10 R45

Revise the *2006 Standard Specifications* as follows:

Page 10-190, Article 1080-4, Delete the first paragraph and replace with the following:

All paint will be sampled, either at the point of manufacture or at the point of destination. Inspection and sampling will be performed at the point of manufacture wherever possible. The Contractor shall not begin painting until the analysis of the paint has been performed, and the paint has been accepted.

PORTABLE CONSTRUCTION LIGHTING:

The Contractor shall provide portable construction lighting in accordance with Section 1413 of the Standard Specifications. Portable construction lighting will be considered incidental to other contract items and no direct payment will be made.

CHANGEABLE MESSAGE SIGNS:

(11-21-06)

SP11 R11

Revise the *2006 Standard Specifications* as follows:

Page 11-9, Article 1120-3, Replace the 3rd sentence with the following:

Sign operator will adjust flash rate so that no more than two messages will be displayed and be legible to a driver when approaching the sign at the posted speed.

SCOPE OF WORK

This work shall consist of furnishing all labor, equipment, and materials to clean and paint the structural steel of the existing bridges. Work includes: removing, containment and disposal of the existing paint system; preparation of the surface to be painted and applying the new paint system; traffic control, marking & delineation; portable lighting; erosion and sediment control; seeding and mulching all grassed areas disturbed; and all incidental items necessary to complete the project as specified and shown on the plans.

The contractor shall be responsible for fulfilling all requirements of the NCDOT Standard Specifications for Roads and Structures dated July 2006, except as otherwise specified herein.

MANAGING BRIDGE WASH WATER:**Description**

Collect and properly dispose of Bridge Wash Water from bridge decks.

Construction Methods

- (A) Prepare a written Bridge Wash Water management plan in accordance with the Guidelines for Managing Bridge Wash Water available at <http://www.ncdot.org/doh/preconstruct/ps/contracts/letting.html>. Submit plan and obtain approval from the Engineer prior to beginning of the bridge cleaning operation.
- (B) Prior to final payment, submit a paper copy of all completed records pertaining to disposal of Bridge Wash Water.

Measurement and Payment

Payment for collecting, sampling, testing, pH adjustment, monitoring, handling, discharging, hauling, disposing of the bridge wash water, documentation, record keeping, and obtaining permits if applicable, shall be included in the payment for other items.

DESCRIPTION OF BRIDGES

Bridge #135 Randolph County: The bridge carries SR1145 over US220. The superstructure consists of 4 spans of 4 lines of W33 and W36 beams @ 7'-0" spacing. The bridge is 296' in length with a concrete deck and a 26'-4" out to out deck width. The minimum roadway under clearance is 14'-6". The existing paint system is aluminum over red lead, and the estimated area to be cleaned and painted is 11,340 sq. ft.

Bridge #157 Randolph County: The bridge carries SR1150 over US220. The superstructure consists of 4 spans of 4 lines of W36 beams @ 8'-0" spacing. The bridge is 219' in length with a concrete deck and a 31'-4" out to out deck width. The minimum roadway under clearance is 15'-3". The existing paint system is aluminum over red lead, and the estimated area to be cleaned and painted is 8,811 sq. ft.

Bridge #168 Randolph County: The bridge carries US64 over US220. The superstructure consists of 4 spans of 14 lines of W27 and W33 beams @ 7'-5" spacing. The bridge is 177' in length with a concrete deck and a 102'-4" out to out deck width. The minimum roadway under clearance is 15'-5". The existing paint system is aluminum over red lead, and the estimated area to be cleaned and painted is 23,631 sq. ft.

Bridge #177 Randolph County: The bridge carries SR1713 over US220. The superstructure consists of 4 spans of 10 lines of W27 and W33 beams @ generally 6'-3" spacing. The bridge is 185' in length with a concrete deck and a 62'-4" out to out deck width. The minimum roadway under clearance is 15'-1". The existing paint system is aluminum over red lead, and the estimated area to be cleaned and painted is 16,876 sq. ft.

Bridge #182 Randolph County: The bridge carries US220 over SR3255. The superstructure consists of 3 spans of 10 lines of W33 beams @ generally 7'-6" spacing. The bridge is 150' in length with a concrete deck and a 68'-0" out to out deck width. The minimum roadway under clearance is 15'-2". The existing paint system is aluminum over red lead, and the estimated area to be cleaned and painted is 14,514 sq. ft.

Bridge #196 Randolph County: The bridge carries SR1442 over US220 NBL. The superstructure consists of 3 spans of 10 lines of W33 beams @ generally 8'-0" spacing. The bridge is 125' in length with a concrete deck and a 78'-4" out to out deck width. The minimum roadway under clearance is 15'-5". The existing paint system is aluminum over red lead, and the estimated area to be cleaned and painted is 11,767 sq. ft.

Bridge #197 Randolph County: The bridge carries SR1442 over US220 SBL. The superstructure consists of 3 spans of 10 lines of W33 beams @ 7'-10" spacing. The bridge is 150' in length with a concrete deck and a 78'-4" out to out deck width. The minimum roadway under clearance is 14'-9". The existing paint system is aluminum over red lead, and the estimated area to be cleaned and painted is 21,300 sq. ft.

Bridge #9 Randolph County: The bridge carries NC42 over US220 SBL. The superstructure consists of 3 spans of 10 lines of W33 beams @ 8'-0" spacing. The bridge is 142' in length with a concrete deck and a 78'-4" out to out deck width. The minimum roadway under clearance is 14'-4". The existing paint system is aluminum over red lead, and the estimated area to be cleaned and painted is 13,924 sq. ft.

Bridge #17 Randolph County: The bridge carries NC42 over US220 NBL. The superstructure consists of 3 spans of 10 lines of W33 beams (1 W30 beam in span 3) @ 8'-0" spacing. The bridge is 125' in length with a concrete deck and a 78'-4" out to out deck width. The minimum roadway under clearance is 14'-10". The existing paint system is aluminum over red lead, and the estimated area to be cleaned and painted is 12,355 sq. ft.

Bridge #205 Randolph County: The bridge carries SR1462 over US220 Byp. The superstructure consists of 5 spans of 5 lines of W33 and W36 beams @ 7'-6" spacing. The bridge is 237' in length with a concrete deck and a 36'-10" out to out deck width. The minimum roadway under clearance is 14'-9". The existing paint system is aluminum over red lead, and the estimated area to be cleaned and painted is 12,076 sq. ft.

Bridge #207 Randolph County: The bridge carries SR2269 over US220. The superstructure consists of 4 spans of 8 lines of W36 beams @ generally 6'-9" spacing. The bridge is 265' in length with a concrete deck and a 51'-4" out to out deck width. The minimum roadway under clearance is 15'-4". The existing paint system is aluminum over red lead, and the estimated area to be cleaned and painted is 11,767 sq. ft.

Paints on all bridges (regardless of color), contain red lead and other hazardous constituents. All cleaning and surface preparation activities must prevent dispersion of debris into the environment.

Surface area shown is approximate and may vary from the actual quantity to be painted. The Contractor is responsible for determining the actual area to be painted.

PAINTING EXISTING STRUCTURES:

Work Schedule – Prior to beginning work, the Contractor shall submit his work schedule to the Engineer. Schedule shall be kept up to date, with a copy of the revised schedule being provided to the Engineer in a timely manner.

SSPC QP-2 Certification - The existing paint systems include toxic substances such as red lead oxide, which are considered hazardous if improperly removed. Only contractors who are currently SSPC QP-2, Category A certified, and have successfully¹ completed lead paint removal on similar structures within 18 months prior to this bid, may bid on and perform this work.

Twelve-month Observation Period - The Contractor maintains responsibility for the coating system for a twelve (12) month observation period beginning upon the satisfactory completion of all the work required in the plans or as directed by the Engineer. The Contractor must guarantee the coating system under the payment and performance bond (refer to Article 109-10). To successfully complete the observation period, the coating system must meet the following requirements after twelve (12) months service:

- No visible rust, contamination or application defect is observed in any coated area.
- Painted surfaces have a uniform color and gloss.
- Painted surfaces have an adhesion that meets an ASTM D-3359, 3A rating.

Final acceptance is made only after the paint system meets the above requirements.

Containment Plan - No work begins until the Contractor furnishes the Engineer with a containment plan for surface preparation and coating operations and the Engineer reviews and responds in writing about the acceptability of said plan. Such plan must meet or exceed the requirements of a Class 2A containment in accordance with SSPC Guide 6. Enclosure drawings and loads supported by the structure must be prepared, signed and sealed by a Registered North Carolina Professional Engineer.

In the containment plan describe how debris are contained and collected. Describe the type of tarpaulin and bracing materials and the maximum designed wind load. Describe the dust collection system and how a negative pressure of 0.03 inches of water column is maintained inside the enclosure while blasting operations are being conducted. Describe how the airflow inside the containment structure is designed to meet all applicable OSHA Standards. Describe how water run-off from rain will be routed by or through the enclosure. Describe how wash water will be contained and paint chips separated. Describe what physical containment will be provided during painting application to protect vehicles and areas not to be painted.

Wash water Sampling and Disposal Plan - No work begins until the Contractor furnishes the Engineer with a containment plan for surface preparation and coating operations and the

¹ Successfully: Work completed in accordance with contract specifications, free of citation from safety or environmental agencies.

Engineer reviews and approves in writing said plan. All wash water shall be collected and sampled prior to disposal. Representative sampling and testing methodology shall conform to 15A NCAC 02B.0103, "Analytical Procedures". Wash water shall be tested for pollutants listed in 15A NCAC 02B.0211 (3), 15A NCAC 02T.0505 (b)(1) and 15A NCAC 2T.0905 (h) (See NCDOT Guidelines for Managing Bridge Wash Water). Depending on the test results, wash water disposal methods shall be described in the disposal plan. Wash water shall be disposed of in accordance with all current state and federal regulations.

Waste Handling of Paint and Abrasives – Use a company from the below list of approved waste management companies. Immediately after award of the contract, the Contractor arranges for waste containers, transportation and disposal of all waste. No work begins until the Contractor furnishes the Engineer with a written waste disposal plan. Any alternative method for handling waste must be pre-approved by the Engineer.

Southern Logistics, Inc. – 312 Orvil Wright Blvd, Greensboro, NC 27409 (Ph. 336-662-0292)
A&D Environmental – 2718 Uwharrie Rd., Archdale, NC 27263 (Ph. 336-434-7750)

All removed paint shall be considered a hazardous waste. The Contractor has the option of furnishing the Engineer certified test reports showing Toxicity Characteristic Leaching Procedure (TCLP) results of the paint chips stored on site, with disposal being in accordance with "Flowchart on Lead Waste Identification and Disposal"

(www.wastenotnc.org/hwhome/guidance/guidance.htm).

If the Contractor elects to have TCLP testing done, samples shall be taken from at least 10% of the barrels to be disposed of, with at least one sample being from each bridge.

Once the waste has been collected and the quantity determined, the Contractor prepares the appropriate shipping documents and manifests and presents them to the Engineer for waste shipment and disposal. The Engineer will verify the type and quantity of waste and obtain a Temporary Waste Disposal Identification Number (TWDIN) from the NC Hazardous Waste Section.

NC Hazardous Waste Section
PO Box 27687, Raleigh, NC 27611-7687
(919) 733-2178 FAX (919) 733-4810

At the time of shipping the Engineer will sign, date and add the TWDIN in the appropriate section on the manifest. The cost for waste disposal (including any lab fees) is included in the bid price for this contract. Note NC Hazardous Waste Management Rules (15A NCAC 13A) for more information.

Equipment Mobilization - The equipment used in any travel lanes and paved shoulder must be mobile equipment on wheels that has the ability to moved on/off the roadway in less than 30 minutes. All work conducted in travel lanes must be from truck or trailer supported platforms and all equipment must be self propelled or attached to a tow vehicle at all times.

SUBLETTING OF CONTRACT:

Only contractors certified to meet SSPC QP-2, Category A, and have successfully completed lead paint removal on similar structures within 18 months prior to this bid are qualified for this work. Work is only sublet by approval of the Engineer.

SPECIFICATIONS:

The North Carolina Department of Transportation (NCDOT) Standard Specifications for Roads and Structures dated July 2006, together with these Special Provisions apply to this project. Surface preparation and painting are performed in accordance with Section 442 except where otherwise noted in these Special Provisions. The Paint materials must meet the applicable materials specifications under Section 1080. Materials approvals are in accordance with 4.0 Materials of this Special Provision.

2.0 PREPARATION OF SURFACES:

- 2.1 Power washing with low pressure water – Before any other surface preparation are conducted, all surfaces shall be power washed to remove dust, salts, and other contaminants.
- 2.2 Blasting is done with recyclable steel grit meeting the requirements of Section 1080-15. The profile must be between 1.0 and 3.0 mils when measured on a smooth steel surface.
- 2.3 Before the contractor departs from the work site at the end of the work day, all debris generated during surface preparation are collected in approved containers.
- 2.4 The Contractor cleans a two square foot area at each structure to demonstrate the specified finish and the inspector preserves this area by covering it with tape, plastic or some other suitable means so that it can be retained as a site standard.
- 2.5 Any area of corroded steel (steel which has lost more than 50% of its original thickness) must not be painted until the Engineer observes its condition.
- 2.6 All parts of the bridges not to be painted, and the travelling public, shall be protected from overspray.

3.0 PAINTING OF STEEL:

Paint System 1, as specified in these special provisions and Section 442 of NCDOT's Standard Specifications, is to be used for this work. System 1 is an inorganic zinc primer and acrylic topcoats used over blast cleaned surfaces (SP10 – near white).

Any area where newly applied paint fails to meet the specifications must be repaired or replaced by the Contractor. The Engineer approves all repair processes before the repair is made. Repaired areas must meet the specifications. The Contractor applies an additional finish coat of paint to areas where the tape adhesion test is conducted.

4.0 MATERIALS:

Only paint suppliers that have a NCDOT qualified inorganic zinc primer may furnish paints for this project. All paints applied to a structure must be from the same supplier. Before any paints are applied the Contractor provides the Engineer a manufacturer's certification that each batch of paint meets the requirements of the applicable Section 1080 of NCDOT's Standard Specifications.

The inspector randomly collects a one pint sample of each paint product used on the project. Additional samples may be collected as needed to verify compliance to the specifications.

5.0 INSPECTION:

Quality Assurance Inspection - The Contractor furnishes all necessary apparatus such as ladders, scaffolds and platforms as required for the inspector to have reasonable and safe access to all parts of the work. The contractor illuminates the surfaces to be inspected to a minimum of 50-foot candles of light.

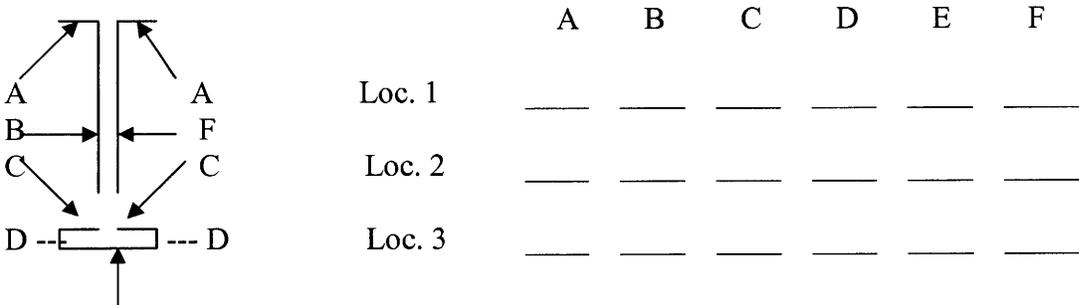
The contractor informs the Engineer of all scheduled and unannounced inspections from SSPC, OSHA, EPA and/or others that come on site. NCDOT will be provided copies of any audits resulting from said visits.

Inspection Instruments - The Contractor furnishes at least the following calibrated instruments at site and conducts the quality control testing:

- Sling Psychrometer - ASTM E-337 – bulb type
- Surface Temperature Thermometer
- Wind Speed Indicator
- Tape Profile Tester – ASTM D-4417 Method C
- Surface Condition Standards – SSPC VIS-1 and VIS-3
- Wet Film Thickness Gage – ASTM D-4414
- Dry Film Thickness Gage – SSPC-PA2 Modified
- Solvent Rub Test Kit – ASTM D-4752
- Adhesion Test Kit – ASTM D-3359
- Elcometer and dollies

The contractor maintains a daily quality control record in accordance with Section 442-12 and such records must be available at the job site for review by the inspector and be submitted to the Engineer as directed. In addition to the information required on M&T-610, the Contractor shall submit all DFT readings as required on M&T611.

- A. The dry film thickness is measured at each spot as indicated on the attached diagram at no less than three random locations along each girder in each span. Also dry film thickness is measured at no less than six random spots per span on diaphragms/“K” frames. Each spot is an average of three to five readings in accordance with SSPC PA-2.



E Randomly select one A, one C and one D spot along with B, E and F.

- B. Two random adhesion tests per span are conducted on interior surfaces after the paint has been properly cured, and will be touched up by the Contractor. One random Cut Tape adhesion test per span is conducted on interior surface after the finish coat is cured, and will be touched up by the Contractor.

6.0 SAFETY AND ENVIRONMENTAL COMPLIANCE PLANS:

Personnel access boundaries are delineated for each work site using signs, tape, cones or other approved means. Submit copies of safety and environmental compliance plans that comply with SSPC QP-2 Certification requirements.

7.0 ENVIRONMENTAL MONITORING:

Comply with Section 442-13(B) of NCDOT’s Standard Specifications.

A “Competent Person²” is on site during all surface preparation activities and monitors the effectiveness of containment and dust collection systems. Any visible emissions outside the containment enclosure or pump monitoring results exceeding the level of 30 µg/m³ TWA is justification to suspend the work. Before any work begins the Contractor provides a written summary of the responsible person’s safety training.

² **Competent Person** as defined in OSHA 29 CFR 1926.62 is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who have authorization to take prompt corrective measures to eliminate them.

8.0 HEALTH AND SAFETY RESPONSIBILITY:

(8-28-08)

(SPI)

Comply with Section 442-13(C) of the *Standard Specifications*. Insure employee blood sampling tests results are less than 50 micrograms per deciliter. Remove employees with a blood sampling test of 50 or more micrograms per deciliter from work activities involving any lead exposure.

An employee who has been removed with a blood lead level of 50 micrograms per deciliter or more shall have two consecutive blood sampling tests indicating that the employee's blood lead level is at or below 40 micrograms per deciliter before returning to work activities involving any lead exposure.

9.0 STORAGE OF PAINT AND EQUIPMENT:

The Prime Contractor provides a location for materials, equipment and waste storage. Tarpaulins are spread over all pavements and surfaces underneath equipment utilized for abrasive recycling and other lead handling equipment or containers.

10.0 UTILITIES:

The Contractor protects all utility lines or mains which may be supported on, under, or adjacent to bridge work sites from damage and paint over-spray.

11.0 PAYMENT:

The cost of inspection, surface preparation and repainting the existing structure is included in the lump sum price bid for "Cleaning and Repainting of Bridge # _____". This price is full compensation for furnishing all inspection equipment, all paint, cleaning abrasives, cleaning solvents and all other materials; preparing and cleaning surfaces to be painted; applying paint in the field; protecting work, traffic and property; and furnishing blast cleaning equipment, paint spraying equipment, brushes, rollers and any other hand or power tools and any other equipment; containment, handling and disposal of debris and wash water, all personal protective equipment, and all personal hygiene requirements.

This price shall be full compensation for all inspection equipment, all materials and labor necessary to fully contain the blast debris; daily collection of the blast debris into the specified containers; and any measures necessary to ensure conformance to all safety and environmental regulations as directed by the Engineer.