**Special Note for Bridge Concrete Curb Repair**

**I. DESCRIPTION**

Except as specified herein, perform all work in accordance with the Department's Standard and Supplemental Specifications and Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications.

Furnish all equipment, labor, materials, and incidentals for the following work items:

(1) Maintain and control traffic; (2) Remove existing concrete curb in the areas identified elsewhere in the Proposal or as directed by the Engineer; (3) Clean and straighten exposed existing steel reinforcement; (4) Form and place new concrete curb as specified by this note; (5) Finish and cure the new curb; and (6) all other work specified as part of this contract.

**II. MATERIALS**

Except as specified herein, provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual and make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing.

1. **Maintain and Control Traffic.** See Traffic Control Plan.
2. **Concrete-Class M.** See Sections 601.
3. **Epoxy Bond Coat.** See Section 511.
4. **Steel Reinforcement.** Use Grade 60. See Section 602.

**III. CONSTRUCTION METHODS**

1. **Maintain and Control Traffic.** See Traffic Control Plan.
2. **Site Preparation.** Prior to removal of existing unsound concrete, determine the exact limits of unsound concrete along the surface of the bridge curb to be repaired. (Approximate limits have been identified elsewhere in this Proposal; other areas of unsound concrete curb may be identified by the Engineer.) Mark the curb areas to be removed; mark lines should be straight and as square as possible. In order to keep the removal mark lines straight and as square as possible, this may require marking, and removal of, some sound concrete. Prior to removing the unsound concrete, saw cut the marked areas to a depth of 1 inch so as to create a neat edge for the curb repairs. Obtain the Engineer’s approval of all marked removal areas prior to saw cutting. Saw cutting of the existing concrete shall be incidental to the contract unit price for ‘Repair Concrete Curb’.
3. **Removal of Existing Concrete.** After saw cutting, remove all unsound concrete using hammers weighing 40 pounds or less. Remove concrete to a depth of 1 inch below any reinforcing bar which is more than 25% exposed or that appears to not be bonded to the existing concrete. Ensure that the periphery of routed areas is as nearly vertical as possible. If the removal of unsound concrete extends through two thirds or more of the depth of the curb, remove and replace the entire depth of the curb. Dispose of all removed concrete, debris, and other waste and debris off the Right-of-Way. Protect the plinths from damage throughout the life of the project.
4. **Clean, Straighten, Repair, and/or Re-tie Existing Steel Reinforcement.** After removing the existing deteriorated concrete, blast clean all exposed steel reinforcement according to Section 606.03.04 to remove scale, rust, grease, oil, and other material that would prevent the adhesion of the concrete to the steel reinforcement. Before placing concrete, straighten and/or retie existing steel reinforcement as directed by the Engineer. Ensure that all exposed steel reinforcement is tied according to Section 602.03.04 prior to placing new Class M Concrete. Straightening and retying of steel reinforcement shall be incidental to the contract unit price for ‘Repair Concrete Curb’. Any steel reinforcement that is damaged by the Contractor shall be repaired or replaced as directed by the Engineer at no additional cost to the Department.
5. **Additional Steel Reinforcement.** After removal of the unsound concrete, the Engineer may determine that portions of the existing steel reinforcement need to be replaced. Furnish for replacement \_\_ linear feet of #4 steel reinforcing bars, approximately \_\_\_ lbs (common stocked bar size is 1/2” diameter by 20’ length). Place new steel reinforcement in areas deemed by the Engineer to require additional reinforcement. The Contractor shall retain possession of any unused steel reinforcement. Ensure that any new steel reinforcement is tied according to Section 602.03.04 prior to placing new Class M Concrete.
6. **Placing Class M Concrete.** Immediately prior to the placement of the Class M Concrete, the surface areas of existing concrete to come in contact with the new Class M Concrete shall be blast cleaned until free of all laitance and deleterious substances, and then coated with an epoxy bond coat in accordance with Section 511. Form the curb to original dimensions and place and consolidate the Class M Concrete according to Section 601.
7. **Concrete Finish and Cure.** Immediately after placing the Class M Concrete, provide a transverse broom finish to the surface. Ensure that the new concrete is flush and of similar texture with the surrounding existing concrete. Cure the Class M Concrete according to Section 601.03.17. Prior to drilling and attaching the Steel Post Anchorages to any areas of the bridge curb that are repaired, the Contractor shall wait until the Class M Concrete has reached a minimum compressive strength of 3,500 psi.
8. **Clean Up and Disposal of Waste.** Clean up and dispose of all removed concrete, debris, and other waste and debris off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department. See Special Provision for Waste and Borrow Sites.

**IV. METHOD OF MEASUREMENT**

1. **Maintain and Control Traffic.** See Traffic Control Plan.
2. **Site Preparation; Removal of Existing Concrete; Clean, Straighten, Repair, and/or Re-tie Existing Steel Reinforcement.** Other than the bid items listed, the Department will not measure the operations of: Site Preparation; Removal of Existing Concrete; Clean, Straighten, Repair, and/or Re-tie Existing Steel Reinforcement for separate payment but shall be incidental to the contract unit price for ‘Repair Concrete Curb’.
3. **Bridge Concrete Curb Repair.** The Department will measure the quantity in linear feet of curb repaired.
4. **Steel Reinforcement.** See Section 602.
5. **Clean Up and Disposal of Waste.** The Department will NOT measure for payment the operations of Clean Up and Disposal of Waste. These activities shall be incidental to the contract unit price for ‘Repair Concrete Curb’.

**V. BASIS OF PAYMENT**

1. **Maintain and Control Traffic.** See Traffic Control Plan.
2. **Bridge Concrete Curb Repair.** The Department will make payment for the completed and accepted quantities under the bid item ‘Repair Concrete Curb’. Payment at the contract unit price per linear foot shall be full compensation for furnishing all materials, equipment, tools, hardware, labor, and incidentals necessary to remove the specified existing concrete; blast clean; straighten, repair, and/or re-tie steel reinforcement; apply the epoxy bond coat; place, consolidate, finish, and cure the Class M Concrete; clean up and dispose of waste; any other items necessary to complete the work as specified by this note.
3. **Steel Reinforcement.** See Section 602.