

EXECUTION VERSION

I-395 Project

Exhibit C-3

Technical Requirements

Attachment 1.0d

395 General Purpose Lanes Bridge Rehabilitation Scope of Work

395 GENERAL PURPOSE LANES BRIDGE REHABILITATION SCOPE OF WORK

A. Location of General Purpose Lanes Bridge Rehabilitation

1. I-395 over Sanger Ave. – Str. No. 2805
2. I-395 over West Braddock Rd. – Str. No. 2806
3. I-395 (NB GP Lanes and HOV) over Rte. 27 NBL and Joyce St. – Str. No. 2040

B. Description of Work

See Attachment 3.15c for details and bridge location of specific repairs. Deck level repair work outlined in this scope of work (including joint reconstruction, elimination, barrier replacement) is limited to the 395 General Purpose (GP) lanes portions of the bridges listed above. All other work, shall apply to the entire structure (i.e. both the GP lanes and HOV lanes portions of the structures).

- Perform deck evaluation
- Perform substructure and superstructure evaluation to accurately delineate locations of defects outlined in Bridge Repair Quantities Table.
- Prepare detailed repair plans for each of the listed structures. The scope of repair work to be included in the repair plans shall be based in the repair items listed in the Bridge Repair Quantities Table and information collected during the deck, substructure and superstructure evaluations.
- Perform Type A milling and Type A Hydro-demolition of entire bridge deck (and approach slab surface without asphalt overlay) and overlay with Very-early-strength latex-modified concrete
- Remove existing barrier and replace with a cast-in-place concrete parapet (F-Shape)
- Reconstruct expansion joints with elastomeric dams.
- Perform Deck slab closure (joint elimination).
- Painting of steel superstructure.
- Replace Bearings.
- Perform substructure repairs listed in Bridge Repair Quantities Table.
- Clean and Wash Abutments and Piers.
- Ultrasonic Impact Treatment
- Crack repair (Type B)
- Concrete substructure surface repairs
- Waterproofing Coating
- Waterproofing – Epoxy Resin (Type EP-5)

C. Deck Evaluation

Perform visual, sounding and concrete cover depth measurements to accurately delineate areas of the deck that are previously repaired, spalled, and / or delaminated. Determine delamination in accordance with ASTM D4580-03 (2007). Cover depth measurements shall be made using equipment capable of providing continuous cover depth measurements and shall be made along grid lines spaced at not more than 10 feet.

Perform chloride content survey. Chloride content tests, in accordance with AASHTO T 260-97 (2005), Procedure A, shall be performed on concrete samples taken from the deck at locations determined by the Concessionaire and at the following approximate depths:

- 1” below top of deck.
- At top layer of the reinforcing steel.
- ½” below top of layer of the reinforcing steel.

All core locations shall be repaired in accordance Section 412 of the

Specifications. The minimum number of samples shall be as follows:

- | | |
|--|------------|
| • I-395 NB GP Lanes over Sanger Ave. – | 15 samples |
| • I-395 NB GP Lanes over West Braddock Rd. – | 30 samples |
| • I-395 NB GP Lanes over Rte. 27 NBL and Joyce St. - | 20 samples |
| • I-395 SB GP Lanes over Sanger Ave. – | 15 samples |
| • I-395 SB GP Lanes over West Braddock Rd. – | 30 samples |

Deck evaluation for all bridges shall be completed prior to the commencement of any bridge deck repair work (i.e. no deck milling, patching etc. work shall be permitted on any bridge deck until after deck evaluations for all the bridges have been completed).

D. Superstructure Evaluation

- Accurately identify areas of steel superstructure to receive zone coating.
- Identify bearings that will need to be replaced.
- Identify weld locations for Ultrasonic Impact Treatment (UIT)
- Prepare and Submit Report

Results of deck, superstructure and substructure evaluations shall be included in a report for review and approval by the Concessionaire. The report shall include test results, location of chlorides cores, location and size of all delaminated or otherwise defective concrete, list of weld locations with a fatigue stress category D, E, and E', and all other defective items encountered during the evaluations. Sample photos of all defective concrete, bearings, paint, etc. shall also be included in the report.

E. Substructure Evaluation

Perform visual and sounding surveys to accurately delineate areas of the substructure that are previously repaired, spalled, and delaminated. Crack survey shall also be performed.