STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

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September 29, 2016

Subject: Project No. 92-668
F.A.P. No. 0911(132)
Rehabilitation of Bridge No. 03093 I-91 over Front Street and Quinnipiac River in the Town of Hartford.

NOTICE TO CONTRACTORS:

This is to notify all concerned and especially the prospective bidders that the bid opening for the subject project has been postponed to October 5, 2016 at 2:00 P.M. in the Conference Room of the Department of Transportation Administration Building, 2800 Berlin Turnpike, Newington, Connecticut.

Addendum No. 2 is attached

This Addendum is necessary to revised contract documents.

The Department has established a general mailbox to receive contractor questions. Please send all future questions to **DOTContracts@ct.gov**

Philip J. Melchionne
For: Gregory D. Straka
Contracts Manager
Division of Contracts Administration

SEPTEMBER 28, 2016
REHABILITATION OF BRIDGE NO. 03093
I-91 OVER FRONT STREET AND QUINNIPIAC RIVER
FEDERAL AID PROJECT NO. 0911(132)
STATE PROJECT NO. 92-668
CITY OF NEW HAVEN

ADDENDUM NO. 2

This Addendum addresses the following questions and answers contained on the "CT DOT QUESTIONS AND ANSWERS WEBSITE FOR ADVERTISED CONSTRUCTION PROJECTS":

Question and Answer Nos. 20, 21, 22 and 23

SPECIAL PROVISION(S)
NEW SPECIAL PROVISION(S)

The following Special Provision is hereby added to the Contract:

- ITEM NO. 1806201A – TYPE D PORTABLE IMPACT ATTENUATION SYSTEM

REVISED SPECIAL PROVISION(S)

The following Special Provision is hereby deleted in its entirety and replaced with the attached like-named Special Provision:

- ITEM NO. 0601270A – FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)

CONTRACT ITEM(S)
NEW CONTRACT ITEM

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1806201A	TYPE D PORTABLE IMPACT ATTENUATION SYSTEM	HOURS	318

The Detailed Estimate Sheet does not reflect this change.

The Bid Proposal Form has been revised to reflect this change.

There will be no change in the number of calendar days due to this Addendum.

The foregoing is hereby made a part of the contract.

ITEM #1806201A - TYPE D PORTABLE IMPACT ATTENUATION SYSTEM

Type D portable impact attenuation systems shall be furnished and used in accordance with Section 18.06, supplemented as follows:

Article 18.06.02 – Materials: is amended as follows:

Change "Prior to using a new TMA," to read "Prior to using a TMA," in the first sentence.

Delete the second paragraph.

Article 18.06.04 – Method of Measurement: Change "Type D Portable Impact-Attenuation System" to read "Type D Portable Impact Attenuation System" in the first sentence.

ITEM #0601270A—FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)

Description: This item shall consist of the saw cutting concrete, removal of all deteriorated concrete for the full depth of the deck slab, furnishing and installing deformed steel bars, and reconstructing the slab with new concrete, where directed by the Engineer and as hereinafter specified.

Work under this item shall also include the providing of a safe access to the structure for the delineation of the repair locations and review of the performed work. The Contractor shall not perform any repair work without prior approval of the Engineer for location, limits and types of repairs.

Materials: The materials shall conform to the following requirements:

1. High Early Strength Concrete – The high early strength concrete shall conform to one of the following:
   A. The Contractor shall design and submit to the Engineer for approval a high early strength concrete mix. This mix shall be air-entrained, and shall be composed of Portland cement, fine and coarse aggregates, approved admixtures and additives, and water. The mix shall contain between 4% and 7% entrained air and shall attain a compressive strength of 2,500 psi prior to opening to traffic. Additionally, the mix shall contain shrinkage compensating additives such that there will be no separation of the patched area from the parent concrete. This shrinkage-compensating additive shall be utilized so as to produce expansion in the high early strength concrete of no more than 3%.
   B. In lieu of the above high early strength concrete mix, the Contractor may propose the use of a proprietary type mix that will meet the same physical requirements as those stated above. A mix design shall be submitted for this material, stating the percentage of each component to be utilized.
2. Regardless of the type of high early strength concrete proposed by the Contractor, substantive data that demonstrates the ability of the material to meet the specification requirements shall be submitted with the proposed mix design at least 2 weeks prior to its use.
3. Deformed Steel Bars: Section 6.02.

Construction Methods: Construction methods shall conform to the following requirements:

1. Inspection of the Structural Slab: Before any existing concrete is removed from the structural slab, the Contractor will provide the Engineer clear access to the bridge deck. During this time, the Engineer will perform an inspection of the structural slab and designate areas where concrete removal will be required. Due to the nature of the operations, the inspection can be performed only after some existing materials, notably overlays and waterproofing systems, have first been removed from the structural slab. It shall be the responsibility of the Contractor to arrange the construction schedule so that the required operations may be performed without causing delay to the work.

   No operations will be performed by the Engineer until after the following construction work has been completed:

a) The existing bituminous overlay or concrete wearing course, if present, has been removed.
b) The existing waterproofing system, if present, has been removed.

The removal of these materials will be paid for under other applicable items.

It shall be the responsibility of the Contractor to inform the Engineer, in writing, of the date that a structure will be available for inspection operations. Notification shall be given to the Engineer at least 7 days prior to the date that the area in question will be in a condition acceptable to the Engineer.

The Contractor is hereby informed that the following time period will be necessary to perform the required inspection operations:

One (1) working day with suitable weather conditions per each 6,000 square feet, or portion thereof, of structural slab area.

The Contractor will not be allowed to do any further work to the structural slab, until all necessary inspection operations have been performed, unless given permission by the Engineer. The Contractor shall include any costs related to the allowance for this inspection in the general cost of the work.

2. Removal of Deteriorated Concrete: All deteriorated concrete shall be removed within the limits shown on the plans and where ordered by the Engineer. The lateral limits of each area to be repaired will be delineated by the Engineer and suitably marked. Where several areas to be repaired are very close together, the Engineer may combine these individual patches into a large area. The outlines of each such area shall first be cut to a depth of 1/2 inch with an approved power-saw capable of making straight cuts. In the event that reinforcing steel is encountered within the upper 1/2 inch depth during sawing operations, the depth of saw-cut shall immediately be adjusted to a shallower depth so as not to damage the steel bars. If so directed by the Engineer, saw cutting shall again be carried down to the 1/2 inch depth at other locations of repair provided reinforcing steel is not again encountered. Where over-breakage occurs resulting in a featheredge, the featheredge be squared up to a vertical edge in an approved manner. Where sawing is impractical, the areas shall be outlined by chisel or other approved means.

   The removal of concrete shall be by hydro-demolition or pneumatic hammer methods and shall be governed by the requirements set forth in the special provision Item "Partial Depth Patch" and as directed by the Engineer.

   The Contractor shall take adequate measures to prevent concrete debris from falling to any area below the structure and onto adjacent roadway lanes. All debris shall be promptly cleaned up and removed from the site. All material removed shall be satisfactorily disposed of by the Contractor.

   Where existing reinforcing steel is damaged or has insufficient cover as determined by the Engineer, it shall be cut out and replaced with new reinforcing steel the same size, with a minimum length for lap splices as indicated on the plans or as directed by the Engineer.

3. Surface Preparation: Sound reinforcing steel which is in the proper position in the slab shall be left in place and cleaned of all concrete. The smaller fragments shall be removed with hand tools or by water blast cleaning.

   The newly exposed reinforcing steel and concrete faces shall be cleaned of loose or powder-like rust, oil solvent, grease, dirt, dust, bitumen, loose particles, and foreign matter just prior to patching.

Existing concrete surfaces against which the new patch will be placed shall be dampened. All free water shall be removed from the surface.

Forms shall conform to the pertinent requirements of Subarticle 6.01.03-1.

The cleaned concrete surface area to receive patching material shall be wetted for a 1 hour period immediately prior to placement of the concrete patch. Any standing water shall be blown out with compressed air prior to application of binding grout and patch material.

After wetting of the deck patch area to receive patching, and removal of the standing water, cement binding grout shall be scrubbed into the concrete patch bonding surface with stiff bristled brushes. All bonding surfaces in the patch area shall receive a coating of bonding grout within a time period not to exceed 5 minutes prior to placement of the concrete patch material.

4. Mixing, Placing, and Finishing: Mixing and placing concrete shall be done in accordance with the applicable portions of Article 6.01.03. Mixing and placing shall not be executed unless the ambient temperature is above 40 °F and rising.

   The concrete mix shall be properly placed to insure complete contact around all reinforcing steel and against existing concrete at patch edges and compacted to a level slightly above the surrounding deck surface. Vibrators of the appropriate size shall be used for all consolidation of the concrete, regardless of the size of the patch area, with no hand tamping or rodding allowed. Concrete may be moved horizontally with the aid of hand tools, but not with the use of vibrators (excess vibration shall be avoided).

   Vibrating plates or vibrating screed shall be used on the surface of all patches for strike off and consolidation. After the concrete has been spread evenly and compacted to a level slightly above the adjacent concrete surface, the vibrating plate or screed shall be drawn over the surface at a uniform speed without stopping, in order to finish the surface smooth and even with adjacent concrete. The surface shall be float finished. Finishing operations shall be completed before initial set takes place.

5. Curing: Immediately after finishing of the patch area, a sheet of 4 mil polyethylene shall be placed over the repair area, in conjunction with insulating curing material. This material shall be a minimum of 2-inch thick closed cell extruded polystyrene insulation board that conforms with the requirements of ASTM C578. It shall have a minimum certified R-value of 10. The insulating material shall extend a minimum of 12 inches beyond the limits of the patch area, and shall be kept in intimate contact with the surrounding payment surface to prevent lifting of the material. It shall be weighted down with sandbags that weight at least 15 pounds each. The sandbags shall be placed a minimum of 2 feet on center around the patch area.

   Cured patches, having a hollow sound when chain dragged or tapped (indicating delamination), shall be replaced by the Contractor at its expense until a patch acceptable to the Engineer is in place.

6. Tolerances in Finished Patch Surfaces: The surface profile of the patched area shall not vary more than 1/8 inch in a distance of 10 feet, when a 10 foot long straightedge is placed on the surface at any angle relative to the centerline of the bridge. Humps in the patch that exceed the 1/8 inch tolerance shall be ground down by approved machinery. Sags or depressions in the surface of the patch area that exceed 1/8 inch tolerance as determined by the Engineer shall be repaired by removal of the concrete in the depression to a depth of 1 inch and repaired in the previously described manner.

7. Testing: The Contractor shall form, cure and test all concrete test cylinders under supervision of a representative of the Department. The dimensions, type of cylinder mold, number of cylinders, and method of curing shall be as directed by the Engineer.
   The Contractor shall provide a portable compressive testing machine, on Site, for the purpose of testing all compressive strength cylinders. All testing shall be in accordance with the requirements of ASTM C39. NOTE: This compressive testing machine must be calibrated in accordance with the provisions of Section 5, ASTM C39.
8. Time Schedule: Traffic will not be allowed on any areas where the Contractor has placed and finished concrete until the material has properly cured as specified, and has developed the required strength of 2,500 psi as determined by the compressive strength test, or until the Engineer authorizes its opening to traffic.
   All work shall proceed as required by the "Maintenance and Protection of Traffic" and "Prosecution and Progress" specifications elsewhere within the Contract.

Method of Measurement: This work will be measured for payment by the actual volume in cubic yards of replacement concrete, complete and accepted. No deduction will be made for the volume of reinforcing steel. Removal of concrete will not be measured for payment.

Basis of Payment: This work will be paid for at the Contract unit price per cubic yard for "Full Depth Patch (High Early Strength Concrete)" complete in place, which price shall include sawcutting and removal of concrete, surface preparation, furnishing and installing deformed steel bars, concrete replacement, all equipment, tools, labor and work incidental thereto.

Pay Item	Pay Unit
Full Depth Patch (High Early Strength Concrete)	c.y.