



**STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION**



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**Phone: 860-594-3128**

December 2, 2016

Subject: FAP Nos. 0843(236), 0843(234) & 0843(235)  
Project Nos. 63-699, 63-700 & 63-701: Rehabilitation of Multiple Bridges I-84 East and West Bound, City 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 previously postponed Two (2) additional weeks from November 23, 2016 to December 7, 2016 at 2:00 P.M. in the Conference Room of the Department of Transportation Administration Building, 2800 Berlin Turnpike, Newington, Connecticut.

**Addendum No. 4 is attached**

Please send all future questions to <http://dot-contractsqanda.ct.gov/Default.aspx>

*Philip J. Melchionne*

For: Gregory D. Straka  
Contracts Manager  
Division of Contracts Administration

**DECEMBER 1, 2016**  
**REHABILITATION OF MULTIPLE BRIDGES I-84 EASTBOUND & WESTBOUND**  
**FEDERAL AID PROJECT NOS. 0843(236), 0843(234), 0843(235)**  
**STATE PROJECT NOS. 63-699, 63-700, 63-701**  
**CITY OF HARTFORD**

**ADDENDUM NO. 4**

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

Question and Answer Nos. 80, 81, 82, 83, 84, 85, 87, 88, 90, 91, 92, 93

**SPECIAL PROVISIONS**

**REVISED SPECIAL PROVISIONS**

The following Special Provisions are hereby deleted in their entirety and replaced with the attached like-named Special Provisions:

- CONTRACT TIME AND LIQUIDATED DAMAGES
- ITEM #0603081A – STRUCTURAL STEEL REPAIRS (SITE 1)
- ITEM #0603082A – STRUCTURAL STEEL REPAIRS (SITE 2)
- ITEM #0603083A – STRUCTURAL STEEL REPAIRS (SITE 3)

**CONTRACT ITEMS**

**NEW CONTRACT ITEMS**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>
<u>0406172</u>	<u>HMA S0.375</u>	<u>TON</u>	<u>2,183 TONS</u>
<u>0508050</u>	<u>SHEAR CONNECTORS</u>	<u>EACH</u>	<u>7,250 EACH</u>

**REVISED CONTRACT ITEMS**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>ORIGINAL QUANTITY</u>	<u>REVISED QUANTITY</u>
<u>0406157</u>	<u>PMA S0.25</u>	<u>2,043 TONS</u>	<u>1,169 TONS</u>
<u>0406159</u>	<u>PMA S0.5</u>	<u>3,261 TONS</u>	<u>1,952 TONS</u>

## **PLAN SHEETS**

### **REVISED PLAN SHEETS**

The following Plan Sheets are hereby deleted and replaced with the like-numbered Plan Sheets:

- SHEET NO. 01.02.01.A4 LIST OF REVISIONS
- SHEET NO. 01.04.03.A4 HIGHWAY PLAN
- SHEET NO. 01.04.04.A4 HIGHWAY PLAN
- SHEET NO. 01.04.05.A4 HIGHWAY PLAN
- SHEET NO. 01.04.06.A4 HIGHWAY PLAN
- SHEET NO. 01.04.07.A4 HIGHWAY PLAN
- SHEET NO. 01.08.008.A4 GENERAL PLAN 3
- SHEET NO. 01.08.010.A4 GENERAL PLAN 5
- SHEET NO. 01.08.011.A4 TYPICAL SECTIONS AND NOTES
- SHEET NO. 01.08.087.A4 SUBSTRUCTURE REPAIR – DETAILS 1
- SHEET NO. 01.08.089.A4 SUBSTRUCTURE REPAIR – DETAILS 3
- SHEET NO. 01.08.095.A4 FRAMING PLAN – 5
- SHEET NO. 01.08.099.A4 EXPANSION BEARING REPLACEMENT – 1
- SHEET NO. 01.08.102.A4 TEMPORARY SUPPORT OF STRUCTURE – 1
- SHEET NO. 01.08.111.A4 PARAPET RETROFIT
- SHEET NO. 01.08.115.A4 MEDIAN DETAILS – 1
- SHEET NO. 01.08.118.A4 MEDIAN DETAILS – 4
- SHEET NO. 01.08.123.A4 PAINTING AND CONTAINMENT
- SHEET NO. 01.09.03.A4 IMS – PLAN 2
- SHEET NO. 02.04.11.A4 SUBSTRUCTURE REPAIR – DETAILS 1
- SHEET NO. 02.04.16.A4 FRAMING PLAN – 2
- SHEET NO. 02.04.17.A4 STRUCTURAL STEEL REPAIRS – 1
- SHEET NO. 02.04.19.A4 STRUCTURAL STEEL REPAIRS – 3
- SHEET NO. 02.04.20.A4 EXPANSION BEARING REPLACEMENT – 1
- SHEET NO. 02.04.22.A4 TEMPORARY SUPPORT OF STRUCTURE – 1
- SHEET NO. 02.04.33.A4 PARAPET RETROFIT
- SHEET NO. 02.04.38.A4 PAINTING AND CONTAINMENT
- SHEET NO. 03.04.03.A4 TYPICAL SECTIONS AND NOTES
- SHEET NO. 03.04.09.A4 SUBSTRUCTURE REPAIR – DETAILS 1
- SHEET NO. 03.04.15.A4 STRUCTURAL STEEL REPAIRS – 2
- SHEET NO. 03.04.16.A4 EXPANSION BEARING REPLACEMENT – 1
- SHEET NO. 03.04.18.A4 TEMPORARY SUPPORT OF STRUCTURE – 1
- SHEET NO. 03.04.29.A4 PARAPET RETROFIT
- SHEET NO. 03.04.33.A4 PAINTING AND CONTAINMENT

The Detailed Estimate Sheets do not reflect these changes.

The Bid Proposal Form has been revised to reflect these changes.

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.

## **CONTRACT TIME AND LIQUIDATED DAMAGES**

In order to minimize the hazard, cost and inconvenience to the traveling public, pollution of the environment, it is necessary to limit the time of construction work, which interferes with traffic as specified in Article 1.08.04 of the Special Provisions.

There will be four assessments for liquidated damages and they will be addressed in the following manner:

1. For this contract, an assessment per day for liquidated damages, at a rate of Two Thousand (\$2,000.00) Dollars per day shall be applied to each calendar day the work runs in excess of the Four Hundred Eighty Five (485) allowed calendar days for the contract.
2. For this contract, an assessment per hour for liquidated damages shall be applied to each hour, or any portion thereof, in which the Contractor interferes with normal traffic operations during the restricted hours given in Article 1.08.04 of the Special Provisions. The liquidated damages shall be as shown in the following tables entitled "Liquidated Damages Per Hour" for each hour, or any portion thereof, in which the Contractor interferes with normal traffic operations during the restricted hours.

For the purpose of administering this contract, normal traffic operations are considered interfered with when:

- A. Any portion of the travel lanes or shoulders is occupied by any personnel, equipment, materials, or supplies including signs. Placement of traffic drums and cones in the shoulders to protect formwork during parapet modification work will not be considered as an interference to normal traffic operations.
  - B. The transition between the planes of pavement surfaces is at a rate of one inch in less than fifteen feet longitudinally.
3. **IMS Equipment Installations**

For this Contract, an assessment per day for liquidated damages, at a rate of Two Thousand Dollars (\$2,000) per day shall be applied to each calendar day that the CCTV Cameras are not operational after 12 months of the approval of the Camera Assembly submission. The CCTV Camera Sites included in this Contract are the following:

CCTV Camera Site No. 153 (I-84 WB at Sigourney St.)

The contractor shall refer to the “Notice to Contractor – IMS Installation Qualifications”, “Notice to Contractor – IMS Installation” and Item No. 11122250A Equipment Operations special provisions for terms and conditions.

4. CTfastrak Busway Operations

Should all construction equipment, materials and debris not be removed from the CTfastrak roadways by the time indicated in the row of the Table “CTfastrak Operations Shutdown Times” labeled “Clear By” in the “Notice to Contractor – Coordination with CTfastrak”, the Contractor shall be penalized \$2,000 per hour (or portion thereof) per direction of roadway in liquidated damages.

**ITEM # 0603081A – STRUCTURAL STEEL REPAIRS (SITE NO. 1)**

**ITEM # 0603082A – STRUCTURAL STEEL REPAIRS (SITE NO. 2)**

**ITEM # 0603083A – STRUCTURAL STEEL REPAIRS (SITE NO. 3)**

Refer to Notice to Contractor – Bridge Sites for limits of Sites No. 1-3.

Work under this item shall conform to the requirements of Section 6.03 – Structural Steel of the Standard Specifications as amended and supplemental herein:

**6.03.01 - Description:**

*Add the following:*

Under this item, new structural steel plates and shapes shall be furnished and installed to repair existing structural steel members as indicated in the Contract documents and described herein.

The work shall include the following primary elements:

- Repair plates, fill plates, and stiffener angles at girder web repairs. (Painted)
- Repair plates and fill plates at girder flange repair areas. (Painted)
- Repair plates and fill plates at cap girder repair areas. (Painted)
- Steel tab plates, angles, splice plates, etc. necessary to reconnect existing diagonal members removed or modified to allow installation of girder web repairs. (Painted)
- End & intermediate cross frames, gusset plates, and diaphragm channels. (Painted)
- Bent cross frame strut elements. (Painted)
- Interfering cross frame diagonal elements. (Painted)
- Jacking stiffeners. (Painted)
- Seismic locks. (Galvanized)
- Keeper plates and studs embedded in keeper blocks. (Galvanized)
- Cast-in headed anchor bolts and un-headed drilled in anchor bolts for steel keeper installation. (Galvanized)
- Counterweight mounted steel keeper & receiver. (Galvanized)
- Bottom flange brace angles. (Galvanized)
- Bolsters and beveled sole plates not vulcanized to the elastomeric bearings. (Galvanized)
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In addition to furnishing and installing the new structural steel, the work item shall involve cutting and removal of existing structural steel elements, welding, drilling, localized cleaning, grinding, cutting bearing stiffeners, cutting bracing and cross frame members, and all necessary

work to complete the structural steel work. Existing structural steel was originally coated with lead paint. Disposal of demolished and removed structural members, in accordance with these special provisions, is included.

This work shall include providing access to the repair locations for the Engineer's inspection.

The steel load plate, vulcanized to the elastomeric bearings, and the steel shims required between the bearings and the bolsters or beveled sole plates are not included in this item. These items are included in the Item "Bearing Replacement with Elastomeric Bearing Pads".

Unless furnished galvanized, the new steel shall be painted after erection has been completed in accordance with the special provision for "Abrasive Blast Cleaning and Field Painting of Beam Ends (Site No. X)". Stainless steel shall not be galvanized or painted.

The faying surfaces of existing structural steel, to which new structural steel is connected, shall be cleaned and primed in accordance with the special provision for "Abrasive Blast Cleaning and Field Painting of Beam Ends (Site No. X)" or "Localized Paint Removal and Field Painting of Existing Steel", depending on location. This item shall cover removal of existing coatings, prime coating the faying surface of the existing steel, and recoating of existing steel for the erection of structural steel in areas outside of the containment areas required for Abrasive Blast Cleaning and Field Painting of Beam Ends (Site No. X). Such areas are as follows:

- Bottom Flange Bracing (F-4)
- Bottom Flange Bracing between Piers ML11 and ML14.
- Cross Frame Repair (CF-3 & CF-4)
- Girder Repair (F-2)
- Steel Cap Girder Web Repairs
- Areas approved by the Engineer

**6.03.02 - Materials:** Unless otherwise noted on the plans, the materials for this work shall conform to the requirements of Connecticut Department of Transportation Standard Specifications Section M.06. Shop applied coatings shall conform to Article M.06.03- 'Galvanizing' or Article M.07.02 – 'Coating Systems for Structural Steel'.

*Add the following:*

Epoxy-Based Filler: Shall conform to ASTM C881, Grade 3. The epoxy based filler material shall be Flexolith<sup>®</sup> Gel as manufactured by Tamms, Kop-Coat A-788 as manufactured by Carboline, Steel-Seam FT910 as manufactured by Sherwin-Williams, or Engineer approved equivalent product.

Shear Studs: Stud shear connectors shall conform to the requirements of M.06.02-(4).

Non-Shrink Grout: Non-shrink, non-staining grout shall conform to the requirements of M.03.05.

Shim Plates: Shims shall be placed between plies of structural steel, where noted on the plans, and shall be pre-drilled to suit the bolt pattern. Shims shall be cut to the dimensions of the assembled parts and drilled for all bolts that pass through the shims. Shims less than ¼-inch thick shall be Stainless Steel ASTM A240 Type 304. Shims ¼-inch or greater in thickness shall be Carbon Steel ASTM A709 Grade 50. Carbon steel shims shall be prime coated. In general, sufficient thickness shall be furnished to secure 1/64-inch variations of the shim allowance plus one shim equal to the full allowance. For example, a ½ inch nominal shim pack shall consist of the following thickness variations: one ½-inch, one ¼-inch, one 1/8-inch, one 1/16-inch, one 1/32-inch, and two-1/64-inch.

High Zinc Dust Content Paint: Zinc paints shall contain not less than 65% zinc dust (by weight) in the dried paint film and shall be approved for use by the Resident Engineer.

**6.03.03 - Construction Methods:** *Add the following:*

The work shall be performed and scheduled to conform within the requirements of Article 1.08 and as described herein.

**2. Submittals:** *Add the following:*

- (a) Shop Drawings: Field measurements shall be performed to verify all necessary dimensions prior to shop drawing submittals. The Contractor shall be responsible to verify all necessary dimensions, including existing fastener spacing to complete the work. Where shop drawing dimensions are based on existing fastener spacing, the Contractor shall submit supporting documentation, including field measurements, as part of the shop drawing submittal.

**4. Field Erection:** *Add the following:*

- (d) Field Assembly: The Contractor shall be responsible for coordinating the erection of structural steel.

The Contractor shall complete all bolting work that has been started prior to the end of the work shift.

Where grout is required between concrete surfaces and structural steel members, it shall be performed as part of this item. Replacement diaphragm channels shall be grouted into contact with the existing bridge deck above using non-shrink, non-staining grout.

- (e) Welded Connections: *Add the following:*

The Contractor will perform the following inspection of field welds:

1. MT test 10% of the total length of field welds performed to connect cross frame elements.
2. MT test at least 25% of each field weld performed to connect new bearing stiffeners to girder webs.



3. MT test 100% of each field weld performed to connect new bearing stiffeners to girder flanges.
4. MT test at least 10% of the total field weld length performed to connect new bearing sole plates to girder bottom flanges at bearings.

Galvanized members that are to be welded after galvanizing shall be masked 1 inch (25 millimeters) on either side of the weld line prior to galvanizing. After welding, the weld areas shall be cleaned in accordance with the SSPC-SP3 "Power Tool Clean" and coated with High Zinc Dust Content paint. The galvanizing shall be repaired in accordance with ASTM A780 "Repair of Hot Dip Galvanizing". The paint shall be applied such as to achieve a dry film thickness of a minimum of 3 mils (76.2 micrometers) and not more than 5 mils (127 micrometers). Application methods shall be in accordance with the manufacturer's recommendations.

**(f) High Strength Bolted Connections:** *Add the following:*

Connections between new and previously painted structural steel members shall have primed faying surfaces. The existing steel shall be cleaned and primed in accordance with the special provision for "Abrasive Blast Cleaning and Field Painting of Beam Ends (Site No.)" or "Localized Paint Removal and Field Painting of Existing Steel", depending on location. Faying surfaces shall only receive a prime coat that meets the Class B requirements for Slip Coefficient and Creep resistance. Prime coat shall be completely cured prior to member assembly. Top coat paint shall not be permitted between the assembled plies. Any paint other than the prime coat, including inadvertent overspray, shall be removed prior to assembly.

*Also Revise Subarticle 4(f) "Field Erection - High Strength Bolted Connections" as follows:*

*Replace the first sentence of the fourth paragraph "Surface Conditions: At the time of assembly ... other foreign material." with the following:*

*" Connection faying surfaces within portions of structural steel designated to be painted shall receive a single coat of primer in accordance with requirements stipulated elsewhere in these special provisions."*

*Delete the fifth paragraph of Subarticle 4(f) and the three bulleted paragraphs after it: "Paint is permitted on ... wire brushing is not permitted."*

**(4)(h) Girder and Cap Girder Web Repairs:** *Add the following:*

Where perforations in existing structural steel exist, the edges of the loss shall be neatly trimmed to a minimum thickness of 1/8" and a minimum radius of 1" shall be provided at all corners. Fill plates shall be placed in the trimmed areas prior to the application of epoxy filler material.

All work for the girder repairs shall be performed after cleaning and prime coating of the repair areas. The Contractor, in conjunction with the Engineer, shall document any increased levels of deterioration at the noted girder locations, which may be revealed after the cleaning operation. The additional deteriorated steel locations, dimension of the deterioration and approximate section loss shall be included in the documentation. Based on the location of the additional deterioration and the section loss, increased repairs will be required as ordered by the Engineer. The increased dimensions of steel repair locations shall be included in the shop drawing submittal. The Contractor shall fully cooperate with the Engineer to determine the necessary repairs for the girders.

An epoxy-based filler shall be provided at plate repair areas where deterioration has occurred on the steel surface. Uneven or perforated surfaces shall receive an epoxy-based filler to remove possible areas where moisture or water may be trapped after the repair plates have been installed.

**6.03.04 – Method of Measurement: The following will be included in this item:**

“Structural Steel Repairs (Site No. X)” shall be measured in accordance with Connecticut Department of Transportation Standard Specifications Section 6.03.04, on the net weight determined by computation.

Installation of un-headed anchor bolts in existing concrete, furnished under this item, shall be included for measurement under the item “Drilling Holes and Grouting Dowels”.

Removal of existing fasteners and selective removal of existing structural steel components to permit installation of structural steel under this item shall be considered incidental to the work and shall not be measured.

The placement of non-shrink grout between existing concrete elements and the replacement cross frames is incidental to the proper installation and function of the cross frames and shall not be measured.

**6.03.05 – Basis of Payment: The following will be included in this item:**

“Structural Steel Repairs (Site No. X)” shall be paid for in accordance with Connecticut Department of Transportation Standard Specifications Section 6.03.05, at the contract unit price per hundredweight. The unit price per hundredweight of steel shall include the cost of all materials, equipment, labor, and incidental expenses required to satisfactory complete the work in accordance with the Contract documents. The various structural steel work items shall also include the existing steel modification and removal; fastener removal with high strength galvanized bolt replacement; localized cleaning and all necessary work to complete the work.

Removal and replacement of fasteners required shall be included for the various steel work items and shall be included in the cost. No separate payments will be provided for this work.

Payment for coating of new structural steel shall be included in the item “Abrasive Blast Cleaning and Field Painting of Beam Ends (Site No. xx).”

Payment for the coating of existing structural steel shall be included in the items for “Abrasive Blast Cleaning and Field Painting of Beam Ends (Site No. xx)” or “Localized Paint Removal and Field Painting of Existing Steel”.

<u>Pay Item</u>	<u>Pay Unit</u>
Structural Steel Repairs (Site No. 1)	CWT
Structural Steel Repairs (Site No. 2)	CWT
Structural Steel Repairs (Site No. 3)	CWT