



**STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION**



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Phone: 860-594-3128

November 21, 2016

Subject: Project No. 35-194: Rehabilitation of Bridge No.00047 Old King's Highway North over I-95 in the Town of Darien

NOTICE TO CONTRACTORS:

This is to notify all concerned and especially the prospective bidders that the bid opening for the subject project is being postponed One (1) additional week to November 30, 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

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

Gregory D. Straka

Gregory D. Straka
Contracts Manager
Division of Contracts Administration

NOVEMBER 21, 2016
REHABILITATION OF BRIDGE NO. 00047
OLD KING'S HIGHWAY NORTH OVER I-95
FEDERAL AID PROJECT NO. N/A
STATE PROJECT NO. 0035-0194
TOWN OF DARIEN

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. 8,9,10

SPECIAL PROVISIONS
NEW SPECIAL PROVISIONS

The following Special Provisions are hereby added to the Contract:

- ITEM NO. 0521021A – STEEL-LAMINATED ELASTOMERIC BEARINGS
- ITEM NO. 0821022A – REMOVE AND RESET PRECAST CONCRETE BARRIER CURB
- ITEM NO. 1806201A – TYPE D PORTABLE IMPACT ATTENUATION SYSTEM

REVISED SPECIAL PROVISIONS

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

- ITEM NO. 0514271A – PRECAST CONCRETE STEEL COMPOSITE SUPERSTRUCTURE
- ITEM NO. 1206025A – REMOVAL AND RELOCATION OF EXISTING OVERHEAD SIGNS

CONTRACT ITEMS
NEW CONTRACT ITEMS

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>
0821022A	REMOVE AND RESET PRECAST CONCRETE BARRIER CURB	L.F.	80
1806201A	TYPE D PORTABLE IMPACT ATTENUATION SYSTEM	HOURS	180

REVISED CONTRACT ITEMS

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>ORIGINAL QUANTITY</u>	<u>REVISED QUANTITY</u>
<u>0202529</u>	<u>CUT BITUMINOUS CONCRETE PAVEMENT</u>	<u>140 L.F.</u>	<u>228 L.F.</u>
<u>0406171</u>	<u>HMA S0.5</u>	<u>545 TON</u>	<u>555 TON</u>

PLANS

REVISED PLANS

The following Plan Sheets are hereby deleted and replaced with the like-numbered Plan Sheets appended with A2:

02.01.A2

03.12.A2

The Detailed Estimate Sheet does 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.

ITEM #0514271A - PRECAST CONCRETE/STEEL COMPOSITE SUPERSTRUCTURE

Description: Work under this item shall be in accordance with the applicable provisions of Sections 5.08, 6.01, 6.02 and 6.03, and the provisions contained herein.

This Item shall include the fabrication, delivery, temporary bracing, and installation of the Prefabricated Bridge Units (PBUs), including all necessary materials, labor and equipment to complete the work, as shown on the plans. The PBUs are comprised of steel beams made composite with a reinforced concrete deck, cast prior to the erection of the PBU. Cast-in-place concrete closure pours and link slabs will be used to connect the deck portions of the PBUs.

This item also includes appurtenances that are incidental to the PBU or projecting from the PBU including, but not limited to, diaphragms, sole plates, and projecting reinforcing steel.

Due to the accelerated nature of this project, all PBUs shall be manufactured and accepted two weeks prior to the initiation of the full roadway closure at the site.

Materials: The materials for Prefabricated Bridge Units shall conform to the following requirements:

Structural steel materials shall conform to the requirements of Section M.06. Shear stud connectors shall conform to the requirements of Subarticle M.06.02-12. All structural steel in the superstructure shall conform to the requirements of AASHTO M270, Grade 50W T2. This includes the steel girders, connection plates, sole plates, and diaphragms.

Class "F" Concrete shall be used for the bridge deck and closure pours. Concrete shall meet the requirements of Article M.03.01, for Class "F" Concrete" and shall have a minimum 28-day compressive strength of 4,400 psi. The use of calcium chloride or an admixture containing calcium chloride will not be permitted.

Bridge Deck Concrete shall be used for link slab area of the superstructure.

Reinforcing steel shall be epoxy coated deformed steel bars and conform to the requirements of Article M.06.01.

Construction Methods: Off-site fabrication of the concrete deck shall be performed by a Fabricator with an established Quality Control Management plan which is acceptable to the Engineer.

- 1. Shop Drawings:** Prior to any fabrication, the Contractor shall submit shop drawings in accordance with Article 1.05.02-3. Multiple shop drawings may be required for the PBUs since the fabrication can take place in two separate facilities. The Contractor shall coordinate the preparation of the separate shop drawings to ensure that there are no conflicting details.

Approval of the shop drawings will be required prior to the ordering of the materials and the fabrication of the prefabricated bridge units.

In addition to the standard detailing of shop drawings, the Contractor shall include the following information:

- a. The stamp of the registered Professional Engineer licensed in the State of Connecticut who has reviewed and certified the shop drawings.
 - b. All lifting inserts, hardware, or devices and locations for Engineer's approval. All lifting devices shall be designed by the Contractor.
 - c. Locations and details of the lifting devices, including supporting calculations, type, and amount of any additional reinforcing required for lifting. All lifting devices will be designed based on the no cracking criteria in Chapter 8 of the PCI Design Handbook (Seventh Edition).
 - d. Details and methods for accommodating the dimensional requirement of each PBU accounting for profile grade and cross slope.
 - e. Methods for controlling the accumulation of dimensional tolerances through the use of working points or working lines. The width of each individual unit along with the width of the closure pour shall be determined such that, when pieces are laid together, the prefabricated bridge units shall satisfy the required bridge out-to-out width and cross slopes shown on the plans.
 - f. The minimum required compressive strength of the concrete deck prior to handling the prefabricated bridge units.
- 2. Assembly Plan:** The Assembly Plan is a document prepared by the Contractor and a qualified Professional Engineer with specific knowledge of the Contractor's equipment and "means and methods" for constructing the elements required to complete the work on the project. The development of this Assembly Plan is closely linked to the schedule of operations and the interim material strengths necessary for the work to progress. The Contractor shall coordinate the development of the Assembly Plans with the development of the Shop Drawings to ensure consistent detailing. For example, if additional lifting hooks, grout ports, leveling devices, etc. are required, they should be added to the shop drawings prior to approval.

The development of the Assembly Plan and Shop Drawings for the PBUs will not be measured separately for payment and should be considered incidental to this Item.

The Assembly Plan shall be considered a Working Drawing. The development and approval of the Assembly Plan shall be according to Article 1.05.02. Approval of the Assembly Plan will be required prior to the initiation of the full roadway closure.

Under no circumstances shall the fabrication of the prefabricated bridge units commence prior to the approval of the Shop Drawings and the Assembly Plan unless written permission is given by the Engineer. The Department shall reject any components fabricated before receiving written approval or components that deviate from the approved drawings. Any

expenses incidental to the revision of materials furnished, in accordance with the Shop Drawings and order lists, to make them comply with the plans and specifications, including costs incurred due to faulty detailing or fabrication, shall be borne by the Contractor.

At a minimum, the Assembly Plan shall include the following information:

- a) Details and/or cut sheets of all equipment that will be employed for the assembly of the prefabricated bridge units.
 - b) Details of all equipment to be used to lift the PBUs including cranes, excavators, lifting slings, sling hooks, and jacks. Crane locations, operation radii, and lifting calculations will also be included. The factors of safety for the lifting of PBUs will be achieved by using 125% of the weight of the PBU being lifted. The Contractor is responsible for determining the center of gravity for all PBUs. Special care shall be used for PBUs that are not symmetrical. These elements may require special lifting hardware to allow for installation to the grades shown on the plans.
 - c) The Assembly plan shall address the potential for tension in the concrete deck during shipping and handling. Allowable tension stresses in the concrete shall be according Chapter 8 of the PCI Design Handbook (seventh edition). Calculations shall be prepared for the lifting and handling in accordance with the no discernible cracking criteria. Lifting hook locations and hardware shall be coordinated with the Fabricator(s).
 - d) A statement of compliance with all requirements of applicable environmental permits.
 - e) A work area plan, depicting all affected utilities, drainage, and protective measures that will be employed throughout the construction activities.
 - f) Full size 22"x34" sheets depicting the assembly procedures for the PBUs.
 - g) A detailed schedule with the timeline for all operations. In development of the schedule the Contractor shall account for setting and cure times for concrete closure pours.
 - h) Methods of adjusting and securing the elements after placement.
 - i) Procedures for controlling erection tolerances for both the horizontal and vertical direction.
 - j) Methods of forming closure pours.
 - k) Methods for curing closure pours. The Contractor shall include detailed description of curing materials if casting is anticipated during times when wet weather can be anticipated.
 - l) The Assembly Plan shall be bound into one complete document and shall be prepared and stamped by a registered Professional Engineer licensed in the State of Connecticut.
- 3. Installation:** The field personnel shall have knowledge of and follow the approved Assembly Plan. If changes are warranted due to varying site conditions, resubmit the plan for review and approval.

Working points, working lines, and benchmark elevations shall be established prior to placement of all elements. The Contractor is responsible for field survey as necessary to complete the work. The District reserves the right to perform additional independent survey. This survey does not relieve the Contractor from performing survey for the construction. If discrepancies are found, the Contractor may be required to verify previous survey data.

The PBUs shall be placed in the sequence and according to the methods outlined in the Assembly Plan. The height of each element will be adjusted to acceptable tolerances by means of leveling devices or shims. The Contractor shall ensure that the PBU is in the proper horizontal and vertical location prior to releasing from the crane and setting the next unit. Vertical tolerance needs to be checked at the top surface of the PBU. Diaphragms may be used to control geometry; however if the required setting tolerance cannot be met, the Contractor may be required to adjust or fabricate new diaphragms.

4. Erection Tolerances:

a) Plan Alignment: Location and Clearances

The Contractor shall adhere to the following tolerances for the final condition of the PBU after placement:

- i. Do not exceed 1/4 inch maximum deviation at each end of the span from overall longitudinal alignment after setting.
- ii. Do not exceed 1/4 inch maximum deviation from overall transverse location (i.e. longitudinal position) at each line of bearings.
- iii. Maximum deviation from alignment in both primary plan directions at each end of the span being set shall not exceed 1/4 inch or that required for the accommodation of manufactured expansion joint components or bearings, whichever is the less.
- iv. In the absence of other constraints, keep individual elements or surfaces within 1/4 inch of location with respect to similar matching surfaces.

b) Bridge Bearings: Elevation and Location

The Contractor shall keep the elevation of individual bridge bearings within plus or minus 1/8 inch of required elevations. The plan location of bridge bearings shall be within a tolerance of 1/8 inch and the alignment within plus or minus 1/16 inch across the bearing.

If tolerances are not met, submit for approval of Engineer, means to adjust elevations or to correct for or accommodate errors or unintended deviations from required tolerances. Submit proposals and seek approval of the Engineer for the use of shims, injection of high strength grout or other methods to accommodate differences from required tolerance. Do likewise, for the accommodation of anchor bolts or similar restraining devices.

5. Quality Control: At a minimum, the following requirements shall be met:

- a) The reinforced concrete deck on top of the girder pairs shall be constructed by a concrete fabricator with an established Quality Control Management plan that is approved by the Department. The fabricator shall follow the Department's approved quality control procedures.
- b) The PBUs will be constructed to tolerances shown on the plans. Where tolerances for the concrete deck are not shown, follow tolerance limits in the PCI MNL 116-99, "Manual for Quality Control for Plants and Production of Structural Precast Concrete Products, 4th Edition". Elements that are found to be out of tolerance may be subject to rejection. Rejection of the elements may be waived by the Engineer if the Contractor can demonstrate that the out of tolerance element can be installed without significant modifications to the bridge. For example, an over width element may be acceptable if the adjacent element is under width.
- c) The Contractor is required to provide field survey to determine that the PBUs are placed within the horizontal and vertical tolerances stated on the plans.
- d) The Contractor is responsible for interim testing of concrete placed in the field to allow the work to proceed with various stages of construction. For example, if the approved Assembly Plan allows for loads to be placed on the PBU after the closure pour concrete has achieved a compressive strength of 2000 psi, the Contractor will be required to test the concrete proving that the strength has been achieved. For materials used throughout the construction that have a proven strength gain at predetermined time interval, the compressive testing requirements may be waived by the Engineer. All testing furnished by the Contractor shall be performed by an AASHTO accredited laboratory. All Quality Control test results shall be submitted to the Division of Materials Testing section for approval. Additional testing by the Contractor will be performed at no additional cost and will not be measured for payment. Final acceptance testing of concrete shall be in accordance with Article 6.01.03.
- e) The fabricator and Contractor shall prevent cracking or damage of the PBUs during handling, storage, transportation, and final installation in permanent position.
- f) If damage occurs, replace defects and breakage of the PBUs in accordance with the following:
 - i. Members that sustain damage or surface defects during fabrication, handling, storage, hauling, or erection are subject to review or rejection.
 - ii. Approval must be obtained before performing repairs.
 - iii. Repair work must re-establish the elements' structural integrity, durability, and aesthetics to the satisfaction of the Engineer.
 - iv. Determine the cause when damage occurs and take corrective action.
 - v. Failure to take corrective action, leading to similar repetitive damage, can be cause for rejection of the damaged element.
 - vi. Cracks that extend to the nearest reinforcement plane and fine surface cracks that

do not extend to the nearest reinforcement plane but are numerous or extensive are subject to review and rejection.

- g) The plant will document all test results. The quality control file will contain at least the following information:
 - i. Element identification
 - ii. Date and time of casting
 - iii. Concrete cylinder test results
 - iv. Quantity of used concrete and the batch printout
 - v. Form-stripping date and repairs if applicable
 - vi. Location/number of blockouts and lifting inserts
 - vii. Temperature and moisture of curing period
 - viii. Document lifting device details, requirements, and inserts

6. Marking: Permanently mark each prefabricated bridge unit with the date of casting and supplier identification. Stamp markings in fresh concrete.

7. Handling and Storage: Materials for this work shall be stored off the ground before, during, and after fabrication. The PBUs shall be kept free from dirt, grease and other contaminants and shall be reasonably protected from corrosion. Care shall be taken during storage, transporting, hoisting and handling of the PBUs to prevent damage to any part of the PBU. Sections damaged by improper storing, transporting or handling shall be repaired or replaced by the Contractor, as directed by the Engineer and at no cost to the State. All storage and handling operations shall be as directed by the Engineer.

8. Special Considerations: The Contractor has two options to ensure the proper fit up of the PBUs when placed on the bridge substructure.

Option 1: Fabricate PBUs individually using geometric controls to maintain vertical and horizontal tolerances at closure pours. A dry fit of the PBUs prior to shipment is required to ensure that they can be properly joined in the field.

Option 2: Fabricate the total number of PBUs, required to make up the full bridge width, together on temporary supports in the same orientation as they will end up in their final location supported by the bridge substructure. A separate dry fit of the PBUs is not required prior to shipping the PBUs.

Method of Measurement: This work will be measured for payment by the actual area of concrete deck cast, finished, cured and accepted prior to erection of the PBU. Measurements will be made across the top (horizontal) surface of the concrete deck prior to erection. There will be no measurement for payment of any vertical face along the PBU nor any closure pour/link slab areas. Reinforcing bar extensions shall not be used for these measurements.

Basis of Payment: This work will be paid for at the contract unit price per square foot for

“Precast Concrete/Steel Composite Superstructure”, complete and accepted. Price shall include all tools, material, equipment, labor and work incidental to the construction.

Payment for work and materials described above or as noted on the plans as being incidental to the construction of the PBU shall be included in the unit price for “Precast Concrete/Steel Composite Superstructure”.

Concrete for the closure pours shall be paid for separately under the item “Class “F” Concrete”. Concrete for the link slab shall be paid for separately under the item “Bridge Deck Concrete”.

<u>Pay Item</u>	<u>Pay Unit</u>
Precast Concrete/Steel Composite Superstructure	S.F.

ITEM #0521021A - STEEL-LAMINATED ELASTOMERIC BEARINGS

Description: Work under this item shall consist of furnishing and installing steel-laminated elastomeric bearing assemblies as shown on the plans, as directed by the Engineer and in accordance with these specifications. Each bearing assembly consists of the elastomeric pad, the steel load plate, the connection bolts and elastomeric shims (if necessary).

Materials:

1. Elastomer: The elastomeric compound, used in the construction of the bearings, shall contain only virgin polychloroprene (Neoprene) as the raw polymer. The elastomer compound shall be low temperature grade 3 (as defined by the testing requirements), have a Shore "A" Durometer hardness as shown on the plans.

The elastomeric shims shall be neoprene, with a Shore "A" Durometer hardness of 60 and a low temperature grade 3, 1/16 inch and 1/8 inch thick.

Properties of the elastomer shall meet the requirements in Article 18.2.3.1 of the AASHTO LRFD Bridge Construction Specifications

2. Steel Laminates: The internal steel laminates, used for reinforcement, shall be a mild rolled steel conforming to ASTM A570M, Grade 250 or 275, ASTM A611, Grade C or D, or an approved equal.

3. External Load Plates: The external load plates shall conform to the requirements shown on the plans.

All surfaces of the external load plates shall be abrasive blast cleaned prior to being hot bonded to the bearing during vulcanization. For bearings used on painted steel structures, the surfaces of the external load plates shall be prepared in accordance with the requirements of the special provision "Precast Concrete/Steel Composite Superstructure" contained elsewhere within these specifications. For bearings used on weathering steel structures, the surfaces of the external load plates shall be blast cleaned in accordance with the requirements of SSPC-SP6 "Commercial Blast Cleaning".

After fabrication, the external load plates of bearings used on painted steel structures shall be shop coated with primer in accordance with the requirements of the special provision "Precast Concrete/Steel Composite Superstructure" contained elsewhere within these specifications.

Adhesive bonding of the elastomer portion of the bearings to the external load plates is not permitted.

4. Connection Bolts: Bolts used to connect the bearing assembly load plate and sole plate shall be high strength bolts conforming to ASTM A325, Type 3.

5. Fabrication and Fabrication Tolerances: The fabrication and fabrication tolerances of elastomeric bearings shall conform to the requirements in Articles 18.1.4 and 18.2.4 of the AASHTO LRFD Bridge Construction Specifications.

If guide pins or other devices are used to control the side cover over the steel laminates, any exposed portions of the steel laminates shall be sealed by vulcanized patching.

6. Testing: The materials for the elastomeric bearing and the finished bearings themselves shall be subjected to testing. The testing shall conform to the requirements in Article 18.2.5 of the AASHTO LRFD Bridge Construction Specifications.

Test bearings, in addition to the bearings shown on the plans, shall be furnished for each type (size and thickness) of bearing for destructive testing. The test bearings shall be furnished without external load plates.

7. Marking: Each steel-laminated elastomeric bearing shall have marked on it, with indelible ink, the following: the manufacturer's identification code or symbol, and the month and year of manufacture, the orientation, order number, lot number, bearing identification number, and elastomer type and grade (Neoprene, Grade 3). The markings should be placed on a side of the bearing that is visible after installation.

8. Certification: The Contractor shall furnish a Certified Test Report, confirming that the elastomeric bearings satisfy the requirements of these specifications, in conformance with the requirements set forth in Article 1.06.07.

Construction Methods:

Before fabricating any materials, the Contractor shall submit shop drawings to the Engineer, for review and approval, in accordance with Subarticle 1.05.02. These drawings shall include, but not be limited to, the following information: manufacturer's name, complete details of the bearings, material designations, nominal hardness of the elastomer, the quantity of bearings required, including test bearings, and the location of the bearing identification.

Bearing areas, upon which the elastomeric bearings will be set, shall be cleaned of all debris. Bearing areas, shall be carefully finished, by grinding, if necessary, to a smooth, even, level surface of the required elevation, and shall show no variations from a true plane greater than 1/16 inch over the entire area upon which the elastomeric bearings are to rest.

The elastomeric bearings shall be installed as shown on the plans. The elastomeric bearings shall be installed when the temperature of the ambient air and the bearings is between 40 deg. F to 85 deg. F and has been within this range for at least 2 hours.

Adhesive bonding of the elastomeric bearings to steel and concrete surfaces is not permitted.

Welding, with the elastomeric bearings in place, will not be permitted unless there is more than 1.5 inches of steel between the weld and the elastomer. In no case shall the elastomer be exposed to

temperatures greater than 400 deg. F. Welding shall conform to the requirements of Subarticle 6.03.03-6.

Assembly with high strength bolts shall conform to the requirements of Subarticle 6.03.03-19.

The elastomeric bearings shall bear uniformly on all surfaces under full dead load.

Method of Measurement: This work will be measured for payment as the volume, in cubic inches, of the elastomeric pad which is part of the installed and accepted bearing assembly. Test bearings will not be measured for payment.

Basis of Payment: This work will be paid for at the contract unit price per cubic inch for "Steel-Laminated Elastomeric Bearings", complete in place, which price shall include all vulcanized external load plates, connection bolts, primer, test bearings and adhesive, materials, testing, equipment, tools and labor incidental thereto.

Sole plates shall be paid for under the item "Precast Concrete/Steel Composite Superstructure"

Pay Item

Steel-Laminated Elastomeric Bearings

Pay Unit

c.i.

ITEM #0821022A - REMOVE AND RESET PRECAST CONCRETE BARRIER CURB

Description:

Work under this item shall consist of the removal, storage and resetting of precast concrete barrier curb from its existing location as required, shown on the plans or directed by the Engineer. The cost of removal of existing wearing surface in front of the barrier curb shall also be included under this item.

Work under this item shall also consist of removal and replacement of existing bedding material behind the barrier curbs.

Work under this item shall also consist of the removal of the existing concrete cap and construction of a new reinforced cast-in-place concrete cap to be placed between the concrete median barrier curbs and as detailed on the plans. This item also includes the installation of preformed joint filler and joint seal as noted on the plans.

Materials:

All materials required for this work shall conform to the requirements of the special provisions for the materials in question; or if not specified, they shall be of a quality satisfactory to the Engineer.

Concrete shall be Class "A" concrete conforming to the requirements of Article M.03.01.

Reinforcement shall be welded steel wire fabric conforming to the requirements of ASTM A185 and shall be epoxy coated conforming to the requirements of ASTM A884. The size and configuration of the wire fabric shall be 4x4-W4xW4.

Joint sealant for joints between cap sections and between the concrete median barrier and cap sections shall conform to M.04.02.

Preformed expansion joint filler shall conform to the requirements of AASHTO M153, Type II.

Bedding material shall conform to the requirement of Article M.08.03.

Construction Methods:

Existing concrete barrier curb designated to be removed and reset shall be carefully removed in such a manner as to safeguard the units from damage. Removal of existing concrete barrier curb shall be coordinated with the installation of temporary precast concrete barrier curb and pavement markings to maintain and protect traffic.

All concrete barrier curb removed shall be transported to a storage location maintained by the Contractor and approved by the Engineer. The Contractor shall index or mark the existing concrete barrier curb sections to facilitate the resetting of the units to their original configuration. The indexing or marking shall be done on the back of the units in a location that will not be visible when the units are reset in their final position.

The Contractor shall replace, at his own expense, all concrete barrier units damaged due to his operations. Any unit damaged by the removal, transportation, storage or handling operations shall be replaced with new units of the same dimension as the damaged units at no additional cost to the State.

Bedding material construction shall be performed in accordance with standard specifications or as directed by the Engineer.

The concrete cap shall be constructed to the configuration shown on the plans.

Lap splices in the welded wire fabric shall be a minimum of 8 inches.

Prior to placement of the joint sealant in the joints, the concrete surface shall be thoroughly cleaned of all dirt, loose concrete, or other foreign matter by brushing and/or blasting with oil free air.

The joint seal material shall be installed in accordance with the manufacturer's printed instructions. Primer, if required, shall be supplied by the sealer manufacturer and shall be applied in accordance with the manufacturer's instructions.

Method of Measurement:

This work will be measured for payment by the actual number of linear feet of precast concrete barrier removed and reset measured along the face of the barrier. No additional measurement shall be made for removal of existing wearing surface in front of the barrier curb, removal and replace of bedding material and removal and reconstruction of concrete caps between barrier curbs.

Basis of Payment:

This work will be paid for at the contract unit price per linear feet for "Remove and Reset Precast Concrete Barrier Curb", which price shall include the removal, storage, and transporting, resetting and labor incidental to completion of this item. The price for this item shall also include the removal of existing wearing surface in front of the barrier curb, removal and replacing of bedding material. The price for this item shall also include removal and reconstruction of cast-in-place concrete cap complete in place, which shall include Class "A" Concrete, welded steel wire fabric (epoxy coated), joint fillers, joint sealants, transportation, materials, equipment, tools, labor and work incidental thereto.

Pay Item

Remove and Reset Precast Concrete Barrier Curb

Pay Unit

L.F.

ITEM #1206025A - REMOVAL AND RELOCATION OF EXISTING OVERHEAD SIGNS

Section 12.06 is supplemented as follows:

12.06.01 – Description is supplemented with the following:

Work under this item shall consist of the removal and reinstallation of designated existing bridge mounted overhead signs onto contractor supplied side-mounted supports and foundations, and then reinstallation of the signs on the new bridge mounted supports where indicated on the plans or as directed by the Engineer.

12.06.03 – Materials:

Temporary supports and foundation can be constructed with steel, timber or concrete along with suitable hardware and fasteners for the intended purpose. Materials can be previously used if they are sound and in good condition and are acceptable to the Engineer.

12.06.03 - Construction Methods is supplemented with the following:

Temporary supports and foundations shall be designed by the Contractor. The design shall be in accordance with the applicable requirements of the *AASHTO Guide Design Specifications for Bridge Temporary Works, 1st Edition, 2008 Interim Revisions*. Design calculations and working drawings will be prepared and stamped by a Professional Engineer licensed in the State of Connecticut and submitted to the Engineer for review. The temporary side-mount locations must be either 30' from the edge of the nearest travel lane or behind a roadside barrier, otherwise the temporary supports need to function as break-away supports.

For overhead signs designated for reinstallation, the Contractor shall accomplish the work in a manner so as not to cause twisting, bending or deforming of sign panels, or scratching of the sign face. Any sign panel damaged shall be repaired or replaced at the Contractor's expense. The signs shall be level, correctly aligned as indicated on the plans and shall be properly fastened to the structure or supports with the necessary hardware as indicated on the plans.

12.06.04 - Method of Measurement is supplemented with the following:

This work will be paid for at the contract lump sum price for "Removal and Relocation of Existing Overhead Signs" which price shall include overhead signs designated for relocation, side-mounted sign supports and foundations, and other materials designated for removal, and all equipment, material, tools and labor incidental thereto.

12.06.05 - Basis of Payment is supplemented with the following:

This work will be paid for at the contract lump sum price for "Removal and Relocation of Existing Overhead Signs". This price shall include the removal, relocation, temporary installation on contractor supplied supports and foundations and permanent installation of overhead signs on bridge mounted sign supports. Also, the price shall include all necessary hardware required for the reinstallation of the existing sign panels onto existing or new sign supports, unless such hardware is paid for under separate pay items. The price shall include all

equipment, material, labor and tools necessary to complete this work. This price shall also include removing and disposing of sign supports, foundations and other materials, and all equipment, material, tools and labor incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Removal and Relocation of Existing Overhead Signs	L.S.

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.