



**STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION**



**2800 BERLIN TURNPIKE, P.O. BOX 317546  
NEWINGTON, CONNECTICUT 06131-7546**

**Phone: 860-594-3128**

March 27, 2015

Subject: Project No. 117-157

Replacement of Bridge No. 02029 U.S. Route 7 over Norwalk River, in the Town of Ridgefield.

**NOTICE TO CONTRACTORS:**

This is to notify all concerned and especially the prospective bidders that the bid opening for the subject project is scheduled for **April 8, 2015** 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 and can also be obtained on the Statewide Contracting Portal at [http://www.biznet.ct.gov/scp\\_search/BidResults.aspx?groupid=64](http://www.biznet.ct.gov/scp_search/BidResults.aspx?groupid=64)

This addendum is necessary revise contract documents.

Bid Proposal Forms (0117-0157.EBS file and amendment file 0117-0157.00# if applicable) are available for those bidders that have received approval from the Department to bid on the subject project.

To retrieve the official Bid Proposal Forms, please download the electronic bid proposal file and amendment files, if applicable at <https://www.bidx.com>.

**Pre-Bid Questions and Answers:** Questions pertaining to DOT advertised construction projects must be presented through the CTDOT Pre-Bid Q and A Website. The Department cannot guarantee that all questions will be answered prior to the bid date. **PLEASE NOTE - at 12:01 am, the day before the bid, the subject project(s) being bid will be removed from the Q and A Website, Projects Advertised Section, at which time questions can no longer be submitted through the Q and A Website. At this time, the Q and A for those projects will be considered final, unless otherwise stated and/or the bid is postponed to a future date and time to allow for further questions and answers to be posted.**

*Philip J. Melchionne*

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

**MARCH 25, 2015**  
**REPLACEMENT OF BRIDGE 02029 – U.S. ROUTE 7 OVER NORWALK RIVER**  
**FEDERAL AID PROJECT NO. 0007(149)**  
**STATE PROJECT NO. 117-157**  
**TOWN OF RIDGEFIELD**

**ADDENDUM NO. 2**

**SPECIAL PROVISIONS**

**REVISED SPECIAL PROVISION**

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

- **ITEM NO. 0514270A – PRECAST PRECOMPRESSED CONCRETE/STEEL COMPOSITE SUPERSTRUCTURE**

**CONTRACT ITEMS**

**REVISED CONTRACT ITEMS**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>ORIGINAL QUANTITY</u>	<u>REVISED QUANTITY</u>
0202502	REMOVAL OF CONCRETE PAVEMENT	1,050 S.Y.	650 S.Y.
0601276A	PRECAST SUBSTRUCTURE ELEMENTS	58 C.Y.	67 C.Y.

**PLANS**

**REVISED PLANS**

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

02.02.A2	05.16.A2
05.02.A2	05.20.A2
05.03.A2	05.21.A2
05.11.A2	05.22.A2
05.14.A2	05.23.A2
05.15.A2	

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.

**ITEM #0514270A - PRECAST PRECOMPRESSED  
CONCRETE/STEEL COMPOSITE SUPERSTRUCTURE**

**Description:**

The work shall consist of furnishing and installing Precast Precompressed Concrete/Steel Composite Superstructure units at the locations indicated on the Plans. Precompression shall be achieved through the use of the "upside-down" casting technique or an approved equivalent method as described herein.

This work includes all necessary materials and equipment to complete the work as shown on the plans, including all high early strength concrete closure pours within the superstructure and at the abutments as shown on the plans.

**Materials:**

1. **Concrete:** Concrete shall meet the requirements of Section M.03-Class F and shall have a minimum 28-day compressive strength of 5000 psi. All cement shall meet the requirements of ASTM C 150 Type I. Air content shall be between 5% and 7%. The use of calcium chloride or an admixture containing calcium chloride will not be permitted.
2. **Reinforcement:** All reinforcement shall meet the requirements of Section 6.02 and shall be epoxy coated. The type(s) of reinforcing used shall be clearly shown on the shop drawings.
3. **Headed Bar Reinforcement:** All headed bar reinforcement and anchors shall be in accordance with Section 6.02 and shall develop a minimum of 100% of the yield strength (fy) within the closure pour.

Headed Bar Reinforcement shall be fabricated from deformed bar and the allowable end anchors specified below. The Contractor may propose an alternative anchoring system which meets the requirements for the headed bar reinforcement subject to the review and approval of the Engineer.

Erico-Lenton Terminator D16 Rebar End anchors  
Headed Reinforcement Corp. HRC 555  
BarSplice BPI Buttonhead BNH, 5Ab  
Or Engineer Approved Equal

4. **Dowel Bar Couplers:** All dowel bar couplers, splicers, and connections shall be in accordance with Section 6.02. Bar coupler connections shall develop a minimum of 150% of the yield strength (fy) of the reinforcement.

ITEM #0514270A

Dowel Bar Couplers shall be:  
Dayton/Superior D-102A - 90 Hooked Dowel Bar Splicers  
BarSplice Barsplicer XP Type 2  
Erico Lenton Form Saver  
Or Engineer Approved Equal

5. **Structural Steel:** All structural steel shall be of the type and grade specified by the contract documents. Positive heat identification will be required for all steel. Certified copies of the results of chemical analysis and physical tests shall be furnished to the Department. Blast cleaning of all pieces shall meet the requirements of the contract documents. All structural steel and fabrication procedures shall comply with Article M.06.02-Structural Steel.
6. **Shear Connectors and Welded Studs:** All steel shear studs and welded studs shall be in accordance with Article M.06.02-4.
7. **Fasteners:** All fasteners and washers shall be ASTM A325, Type 1 unless otherwise indicated by the contract documents. Nuts, bolts and washers shall meet the requirements of Article M.06.02-3.
8. **Galvanizing:** Zinc (hot-galvanized) coatings on structural steel, shear connectors and welded studs, and fasteners shall meet the requirements of Article M.06.03.
9. **Closure Pours:** Closure pours shall be 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 percent-entrained air (in place), and shall attain a 6-hour compressive strength of 2,500 psi. Additionally, the mix shall contain shrinkage compensating additives such that there will be no separation of the replaced 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 percent.
  - 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.

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

ITEM #0514270A

specification requirements shall be submitted with the proposed mix design at least 30 days prior to its use.

10. **Concrete Repair Material:** All concrete repair materials shall meet the requirements of the contract documents and/or be approved by the Engineer.
11. **Other Materials:** All other materials shall meet the requirements specified in the contract documents and are subject to the approval of the Engineer.

### **Construction Methods:**

1. **Working Drawings:** The Contractor shall submit working drawings in accordance with the requirements of Article 1.05.02 and the following.

At a minimum, the Working Drawings shall include the following information:

#### *Assembly Plan:*

- a. Work area plan, depicting existing features and protective measures if any are required.
  - b. Details of all equipment that will be employed for the assembly of the units.
  - c. Details of all equipment to be used to lift units including cranes, lifting slings, sling hooks, and jacks. Include crane locations, operation radii, and lifting calculations.
  - d. Detailed erection procedures and a timeline for all operations.
  - e. Methods of providing temporary support of the units, if required. Include methods of adjusting and securing the units after placement.
  - f. Tolerances and procedures for controlling tolerance limits both horizontal and vertical.
  - g. Plan layout, including length, width, skew angle, and orientation.
  - h. Formwork for Closure Pours
2. **Shop Drawings:** The Contractor shall submit shop drawings in accordance with the requirements of Article 1.05.02 and the following.

At a minimum, the Shop Drawings shall include the following information:

- a. Prepare shop drawings and stamp by Professional Engineer licensed in the State of Connecticut.
- b. Cross-sections showing structural depths and reinforcement.
- c. Structural steel details, size, type and grade, blast cleaning and galvanizing in accordance with Section 6.03.03, including a cambering procedure and recalculated diagrams based on form weights, etc. (See 3.f below).
- d. Reinforcement details in accordance with Section 6.02.03-1.
- e. Concrete compressive strength for deck and closure pours.

- f. Concrete mix designs including admixtures for deck and closure pours.
- g. Concrete surface finish(es) for deck and closure pours.
- h. Fabrication and curing procedures for deck and closure pours.
- i. Lifting inserts, hardware, or devices and locations on the shop drawings for Engineer's approval, including supporting calculations, type, and amount of any additional reinforcing required for lifting.
- j. Design all lifting devices based on the no cracking criteria in Chapter 5 of the PCI Design Handbook.
- k. Show minimum compressive strength attained prior to handling the units.
- l. Show minimum compressive strength attained prior to delivering the units to the job site
- m. Show details of vertical adjusting hardware.
- n. Do not order materials or begin work until receiving final approval of the shop detail drawings.

UNDER NO CIRCUMSTANCES SHALL FABRICATION OF UNITS COMMENCE PRIOR TO APPROVAL OF THE SHOP AND WORKING DRAWINGS WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER. THE DEPARTMENT WILL REJECT ANY UNITS FABRICATED BEFORE RECEIVING WRITTEN APPROVAL, OR ANY UNITS THAT DEVIATE FROM THE APPROVED DRAWINGS. ANY EXPENSES INCIDENTAL TO THE REVISION OF MATERIALS FURNISHED IN ACCORDANCE WITH SHOP DRAWINGS AND ORDER LISTS TO MAKE THEM COMPLY WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS, INCLUDING COSTS INCURRED DUE TO FAULTY DETAILING OR FABRICATION SHALL BE BORNE BY THE CONTRACTOR.

### **3. Fabrication Requirements:**

- a. Fabrication Facility: Fabrication facilities shall be approved for the project by the Connecticut Department of Transportation (ConnDOT) or be certified by the Prestressed Concrete Institute and/or The National Precast Concrete Association. The facility shall have the capability and equipment to manufacture the concrete in accordance with this specification. Alternatively, the facility may purchase concrete from a source approved by ConnDOT. The facility must also have the capability and equipment necessary to fabricate and cure the units in accordance with this specification. This shall include the necessary quality control equipment to do the work. Concrete shall be manufactured in a batch plant approved by ConnDOT.
- b. Concrete Forms: Forms shall be well constructed, carefully aligned, clean, substantial and firm, securely placed and fastened together to allow for the deflection required in the approved working drawings. The adjustable supports and deflection control shall be checked by the fabricator's engineer prior to

ITEM #0514270A

pouring and monitored throughout the pouring process. The form surface which will produce the wearing or upper surface shall be clearly indicated on the approved working drawings. Care shall be taken throughout the pouring process to maintain the integrity and quality of this surface to produce the highest quality top surface of deck.

- c. Reinforcement: Reinforcing steel shall be free of dirt, oil, paint, corrosion or any foreign material that may prevent bond between the steel and the concrete. All damaged epoxy coating shall be repaired prior to placing the concrete; additionally only epoxy coated tie wire shall be used. Chairs or other approved devices shall be used to insure the proper placement of reinforcement and other embedded items.
- d. Structural Steel: Structural steel will be inspected and approved by the Engineer in charge of the project for compliance with the contract documents prior to casting. Structural steel not meeting the requirements of the contract documents shall be replaced with acceptable steel at no additional cost. All structural steel to be embedded in concrete shall be clean and free from dirt, oil, grease or paint.
- e. Concrete Mix Design and Proportion: The fabricator shall design a concrete mix to produce the strength and other requirements specified in the contract documents. It shall be submitted to the Engineer for approval. Unless otherwise specified, the concrete compressive strength shall be a minimum of 2000 psi at time of removal from the forms and 5000 psi in 28 days. In addition, concrete shall be 5000 psi prior to inverting the units. Maximum cement content for any proposed mix shall be eight (8) bags per cubic yard.
- f. Precompression: The units shall be precompressed by casting the units "upside-down" with the deck, reinforcement, and formwork hanging below the structural steel until the concrete design strength (f c) has been achieved. Other methods for precompression may be considered and shall be subject to the approval of the Engineer. Alternative precompression methods must achieve an equivalent precompression to the "upside-down" casting method and calculations and working drawings shall be submitted by the Contractor for the Engineer's review and approval prior to utilization of an alternative method. An assumed deck and optional haunch configuration has been included on the Plans. **The Contractor shall recalculate deflection values based on actual configuration and form weight to be used and provide deflection stops or apply additional weight, as required based upon his own calculations, to provide the deflections noted on the Plans.**
- g. Placing Concrete: All concrete shall be placed in accordance with Article 5.14.03-4. The Engineer in charge of the project shall be notified of the concrete placement schedule at least 24 hours in advance.

ITEM #0514270A

- h. Finishing: The bridge units shall be finished in accordance with Article 5.14.03-5. The surface that will become the top surface shall be sandblasted to achieve a finish equivalent to a float finish as defined by Article 6.01.03-10.
- i. Curing: The fabricator shall indicate on the working drawings and submit for approval, his proposed method of cure. To insure the complete hydration of cement and to prevent the formation of cracks, moisture must be retained with the concrete. The curing method must accomplish this as a minimum to qualify for acceptance.
- j. Removal from Form: The units may be removed from the form or the forms lowered from the concrete deck as soon as the required stripping strength has been reached. If units are vertically lifted from the forms they shall be lifted without lowering or adjusting the steel beam supports or deflection control equipment.
- k. Concrete Strength Requirements: All testing and recordation procedures shall be performed in accordance with Article 5.14.03-6.
- l. Additional Concrete Tests: Additional quality control tests shall be performed by the fabricator from the same concrete batch used in making the test cylinders. The following test shall be performed.
  - a. Slump, ASTM C143
  - b. Air content by pressure method, ASTM C231
  - c. Temperature
  - d. Unit weight, ASTM C138
- m. Rejection of Units: Any units not fabricated in accordance with the contract documents shall be subject to rejection.
- n. Repair of Units: Minor honeycomb areas where reinforcing steel is not exposed shall be repaired with an approved concrete repair material. Honeycomb areas where reinforcing is exposed, and cracked or damaged units shall be repaired in accordance with a written repair procedure submitted by the Contractor and approved by the Engineer.
- o. Injurious Materials: Concrete shall be manufactured from materials which are free from chemicals or other foreign matter which may be injurious to concrete. Concentration of total chloride ions in excess of 0.06% by weight shall be considered injurious and shall not be used.

- p. Labeling: Each unit shall be clearly and permanently labeled on the underside of the deck with the following information:
    - a. Precast Concrete/Steel Composite Structure
    - b. Manufacturer
    - c. Date of manufacture
    - d. Design loading
    - e. Mark number
  
  - q. Shipping: Units may be shipped after the minimum 28 day strength has been attained and after the Quality Assurance Department has determined they meet the requirements of the contract documents.
  
  - r. Fabrication Tolerances: Units shall be fabricated and comply with the following tolerances:
    - a. Width:  $\pm 1/4$ "
    - b. Overall Depth of Structural Slab:  $+1/4$ ",  $-1/8$ "
    - c. Reinforcing Cover:
    - d. Top mat (bottom mat in mold)  $-1/8$ ",  $+1/4$ "
    - e. Bottom mat (top mat in mold)  $-1/8$ ",  $+1/4$ "
    - f. Inserts:  $\pm 1/4$ " between hole groups,  $\pm 1/8$ " for any hole or insert
    - g. Deviation from square - horizontal diagonals:  $\pm 1/2$ "
    - h. Deviation from precompressed design camber:
      - i. (Inverted position):  $+1/4$ ",  $-1/8$ "
      - ii. Overall Length of Unit:  $\pm 3/8$ "
      - iii. Differential Camber between Units:  $\pm 1/2$ "
4. **Field Inspection:** The Contractor shall provide the Engineer with all facilities necessary to conduct thorough Inspection of all the erection work.
5. **Layout:** The fabricator shall supply to the Contractor, detailed as-built plans of the fabricated units. The Contractor shall lay out and pre-fit fabricated units in accordance with the as-built drawings to facilitate proper fitting of the units during erection.
6. **Bearing and Bearing Surfaces:** Bearing surfaces shall be properly finished to the correct elevation to provide full and even supporting surfaces for the bearings. Bearings shall be installed in accordance with the details shown on the Plans.
7. **Installation of Units:** All units shall be installed to correct line and grade as shown on the approved working drawings and as indicated in the approved erection procedure. After all the units are erected they shall be inspected to insure the correctness of their location. Approved steel shims may be used between the bearing and the girder to compensate for minor differences in elevation between units, subject to the approval of the Engineer.

## 8. Closure Pours:

- a. **Surface Preparation:** The exposed reinforcing steel and concrete joint faces shall be cleaned of loose or powder-like rust, oil solvent, grease, dirt, dust, bitumen, loose particles, and foreign matter just prior to placing concrete.

The surfaces of previously placed concrete, against which the new concrete closure pour will be placed, shall be thoroughly wetted. All free water shall be removed from the surface.

Forms shall conform to the pertinent requirements of Article 6.01.03-3.

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

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

- b. **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 degrees F and rising.

The concrete mix shall be properly placed to ensure complete contact around all reinforcing steel and against existing concrete at closure pour 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 closure pour area, with no hand tamping or redding allowed. Concrete may be moved horizontally with the aid of hand tools, but not with the use of vibrators (excessive vibration shall be avoided).

Vibrating plates or vibrating screed shall be used on the surface of all closure pour areas 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

ITEM #0514270A

shall be completed before initial set takes place.

- c. Curing: Immediately after finishing of the closure pour area, a sheet of 4 mil polyethylene shall be placed over the pour 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 ten (10). The insulating material shall extend a minimum of 12 inches beyond the limits of the closure pour area, and shall be kept in intimate contact with the surrounding pavement surface to prevent lifting of the material. The insulation shall be weighted down with sandbags that weigh at least 15 pounds each. The sandbags shall be placed a minimum of two (2) feet on center around the replacement area.

Cured areas of closure pour concrete, having a hollow sound when chain dragged or tapped (indicating delamination), shall be replaced by the Contractor at his expense until a repair acceptable to the Engineer is in place.

- d. Tolerances of Finished Surfaces: The surface profile of the closure pour shall not vary more than one-eighth 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 replaced area that exceed the one-eighth inch tolerance shall be ground down by approved machinery. Sags or depressions in the surface of the closure pour that exceed one-eighth inch tolerance as determined by the Engineer shall be repaired by removal of the concrete in the depression to a depth of one inch and repaired in the previously described manner.
- e. 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.

- f. Time Schedule: Traffic will not be allowed on the installed precast precompressed concrete/steel composite superstructure units (including abutment closure pours) until all closure pour concrete, between the units and along the abutments, has properly cured as specified, and has developed the required strength of 2,500 psi as determined by the compressive strength test

ITEM #0514270A

and 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 documents.

Steel deck plates will not be allowed.

9. **Structural Steel:** All diaphragms in the closure areas and other structural steel work shall be installed as shown on the approved working drawings after the units are in their final locations.
10. **Galvanizing:** Before hot dip galvanizing steel members, the tanks shall be cleaned to remove surface and bottom contamination, i.e. dross, sludge, ash and flux.

The steel members shall be hot-dip galvanized by completely submerging them in the galvanizing tank. The hot-dip galvanizing shall conform to the requirements of Article M.06.03 and ASTM A123 as follows:

ASTM A123 shall be supplemented with the following:

Finish - The coating shall be continuous, smooth and uniform in thickness and shall be inspected by visual means with the aid of straight edge and dry film thickness instruments. The overall dry film thickness shall be 3.4 - 8.0 mils. Joint faying surfaces shall have a dry film thickness of 3.4 - 4.5 mils.

Appearance - Galvanized articles shall be free from uncoated areas, blisters, flux deposits, acid and black spots, and dross inclusions. Lumps, projections, globules, or heavy deposits of zinc will not be permitted. All holes shall be clean and free of excess zinc. The pieces shall be handled so that after galvanizing they will not freeze together on cooling.

Finish and Appearance - Inspection shall be visual with the aid of straight edge instruments to determine compliance with the above requirements. Articles that have a non-uniform, rough coating shall be ground smooth with power tools such as disc grinders. If grinding has been performed, the resultant surface shall comply with the above requirements.

All damage, (i.e., scratches, nicks, cracks, field welding), on the hot dip galvanized steel shall be given two coats of zinc rich paint in accordance with ASTM A780 Annex A2 "Repair using Zinc-Rich Paints". The Zinc-Rich paint shall conform to Federal Specification TT-PT-6416 Type 1 and shall be brush applied with a dry film

ITEM #0514270A

thickness range of 3 to 6 mils for each coat.

The Contractor shall furnish Materials Certificate in conformance with Article 1.06.07 confirming that the structural steel galvanizing and mechanical galvanizing meets the requirements stated herein.

11. **Matching Elevation of Units:** Adjacent units shall match in elevation within the tolerance shown on the approved shop drawings. If this tolerance is not met, the Contractor shall adjust the units as indicated in the procedure shown on the approved shop drawings.
12. **Longitudinal Joints at Deck Closure Pours:** The surfaces of the longitudinal deck joints shall be free of any material such as oil, grease or dirt which may prevent bonding of the closure pour and sealing materials, if required. Prior to placement of the closure pour material, the bottom of the joint shall be formed to prevent material loss. The closure pour material shall be placed, cured and installed to the dimensions shown on the approved shop drawings.

Additional sealing material if required shall be installed as shown on the approved shop drawings and in accordance with the manufacturer's instructions.

13. **Transverse Joints at Abutment Closure Pours:** The surfaces of the transverse joints at the abutment closure pours shall be free of any material such as oil, grease or dirt which may prevent bonding of the closure pour and sealing materials, if required. Prior to placement of the closure pour material, the sides of the joint shall be formed to prevent material loss. The closure pour material shall be placed, cured, and installed to the dimensions shown on the approved shop drawings.

Additional sealing material if required shall be installed as shown on the approved shop drawings and in accordance with the manufacturer's instructions.

14. **Construction Loading:** Units may be loaded upon erection and before the longitudinal/transverse joints (closure pours) are sealed, in accordance with the approved erection procedure. Once the joints are sealed, no further loading of the units may occur until joint material has cured to the requirements of Section 8.f of this special provision.
15. **Final Repairs:** After all installation work is complete, remaining concrete defects and lifting holes shall be repaired with approved concrete repair material. The methods of repair shall be approved by the Engineer prior to the work being done.

**Method of Measurement:**

The work will be measured as the number of square feet of structural slab surface installed, including closure pours within the superstructure and abutments. Measurement will be taken as the horizontal plane projection of the top of the structural slab. Measurement will be taken from outside edge to outside edge of the top surface. No deduction will be made for joints or chamfers. No addition will be made for the effects of vertical curvature.

**Basis of Payment:**

Work under this item will be paid for at the contract unit price per square foot of "Precast Precompressed Concrete/Steel Composite Superstructure," complete in place, including closure pours within the superstructure and abutments, and all labor, materials and equipment incidental and necessary to complete the work.

**Pay Item**

Precast Precompressed Concrete/Steel Composite Superstructure

**Pay Unit**

S.F.