

## **ITEM 03564.97 M - TRANSPORTATION AND ERECTION OF STORED SUPERSTRUCTURE**

### **DESCRIPTION:**

This work shall consist of transport and erection of the previously disassembled and stored, truss span structural steel from Location 1 to Location 2 as indicated on the Contract Plans. Location 1 is Route 31 over the Seneca River at Belgium, New York. Location 2 is Plainville Road (CR 32) over the Erie Canal (State Ditch Cut).

### **MATERIALS:**

Materials for this work shall meet the requirements of the following Subsection of the latest edition of the New York State Department of Transportation Standard Specifications:

Structural Steel	715-01
High Strength Bolts, Nuts and Washers	715-14

### **CONSTRUCTION DETAILS:**

After the stored existing structural steel has been cleaned (100% paint removal) and prior to the application of protective paint coating system and the erection work, the Contractor shall notify the Engineer-In -Charge (EIC) seven (7) calendar days in advance to allow inspection of the structural steel. It is the Contractors sole responsibility to provide access to the structural steel for the Engineer to perform this inspection regardless of the structural steel location. Paint removal and the treatment, handling and disposal of paint removal waste will be paid for under the following items:

- Item 18570.010002 M - Lead Health & Safety Program
- Item 18570.020002 M - Lead Exposure Control Plan
- Item 18570.030002 M – Medical Testing & Exposure Monitoring Sample Analysis
- Item 18570.040002 M – Decontamination Facilities
- Item 18570.150401 M - Class A Containment System For Paint Removal
- Item 571.010002 M - Treatment & Disposal of Paint Removal Waste
- Item 03573.97 M - Pressure Washing and Abrasive Blast Cleaning

Shop painting of the structural steel designated for transport and erection will be paid for under Item 16572.03nnnn M. A second abrasive blast cleaning is required as specified under Item 16572.03nnnn M and shall be occur within eight (8) hours of application of the primer coat specified by Item 16572.03nnnn M. A second payment for Class A Containment System For Paint Removal, Item 18570.150402 M, will be made for containment associated with the second abrasive blast cleaning.

The E.I.C. will determine any additional structural steel repair work to be made after completing the inspection of the cleaned steel, Item 03573.97 M. Any additional structural steel work ordered by the E.I.C. will be paid under force account except for rivet replacements, which will be paid under Item 586.05 M. Any parts of the truss designated for erection which are damaged during the course of transporting to Location 2 or during the erection operation shall be repaired or replaced at the direction of the Engineer at the Contractors expense.

Transport and Erection of the existing structural steel shall be performed in accordance with the requirements

## **ITEM 03564.97 M - TRANSPORTATION AND ERECTION OF STORED SUPERSTRUCTURE**

of the New York State Steel Construction Manual section 14. Transportation Drawings and Erection Drawings shall conform to the New York State Steel Construction Manual sections 202 through 206. The Contractor shall determine the method of transport and erection of the structural steel. The Contractor shall submit an Erection Procedure for approval forty-five- (45) days prior to commencement of erection work. The Erection Procedure is subject to the approval of the New York State Canal Corporation, Deputy Chief Engineer Structures, and U.S. Coast Guard.

Location 2 staging area that the Contractor can utilize is indicated on the Contract Plans.

The Erie/Barge Canal transportation system is closed from 11/15 through 4/15 each season. Barges and temporary bents that restrict or block navigational traffic during the winter will be permitted at Location 2. During the navigational season (4/15 to 11/15), legal horizontal and vertical clearances for the canal will be required in addition to a plan for Canal Maintenance and Protection of Traffic. It is the Contractors sole responsibility to submit and obtain New York State Canal Corporation Work Permits and approved New York State Canal Corporation Maintenance and Protection of Traffic Plan.

The minimum vertical clearance between the maximum navigable pool elevation and the low steel of overhead bridge crossings on the canal system between Location 1 and Location 2 is 4.7 meters. Lock No. 24 is 13.7 meters wide by 91 meters long. If the Contractor elects to transport the stored superstructure by barge, a thorough investigation of the feasibility to pass the truss/truss parts through Lock No. 24 at Baldwinsville (315-635-3101), New York should be conducted. Inquiries relative to the Canal Rules and Regulations should be directed to Mr. John Zmarthie, NYS Canal Corporation, (315-437-4267). The "Guard Gate" at the upstream end of Lock 24, railing, a cabinet that houses the lock controls mechanism, and Route 48 Bridge immediately adjacent to the downstream end of Lock 24 severely restricts overhead and horizontal clearances.

All dismantled structural steel truss pieces designated for storage from Location 1 shall have been "stamp-marked" at the lower down-station end at Location 1 project (reference Item 03202.XX M). The "stamp-marking" system selected by the Contractor must be such that truss piece marks will not be obliterated by the paint removal process and shall be approved by the DCES. The truss marks with descriptions shall be recorded in tabular form and cross-referenced to drawings or sketches of the truss. A copy of the mark list and accompanying drawings/sketches shall be submitted to the EIC prior to truss dismantling.

The actual superstructure steel dead load camber recorded at Location 1 (reference Item 03202.XX M) by the Contractor shall be obtained at Location 2 upon completion of the steel erection. An exception to the final steel dead load camber will be allowed. This exception will be based on the difference in deflection computed for the floor system removed at Location 1 and the new floor system installed at Location 2. The camber diagram for the truss indicated on the Contract Documents for Location 2 shall be field changed by the EIC to reflect the actual steel dead load camber from Location 1 and the difference in the steel floor framing weights at Location 1 and Location 2. Any corrective measures required to obtain this camber shall be approved by DCES and be done at no cost to the State.

The total steel dead load camber at Location 2 shall be measured and recorded by a Licensed Land Surveyor currently registered in the State of New York. The cost of this work will be paid under Item 03564.XX M.

## **ITEM 03564.97 M - TRANSPORTATION AND ERECTION OF STORED SUPERSTRUCTURE**

The total steel dead load camber will be measured after the truss is in final position and supported only at the bearing points. Vertical elevations will be recorded at the top of each floor-beam flange located directly above the floor-beam web centerline within 50-mm of each floor-beam to truss connection. A length will be measured from the theoretical working line of the bottom chord indicated in the original 1949 shop drawings for the truss to the projected top of each floor-beam flange at the working line for each vertical elevation recorded. The total steel dead load camber shall be calculated from a theoretical datum line that intersects the working line of each truss at the end panel locations, L0 and L16. The camber shall be provided at each truss panel point and shall be recorded as the perpendicular length between the datum line and the theoretical working line of the bottom chord of each truss. This work shall be completed within an accuracy of 3-mm (+/-). The field survey and calculations shall be submitted for approval to the EIC.

All structural steel assembly connections (not scheduled for replacement) that were disassembled prior to storage shall be made by means of high strength bolts unless otherwise directed by the contract plans and paid for under Item 03564.XX M. Any additional reaming for bolt installation shall be approved by the DCES.

The south truss from Location 1, marked at the lower down station end shall be erected as the south truss at Location 2 with the lower down station end marks installed at the lower down station end. The truss shall be reassembled in accordance with Section 1103 of the New York State Steel Construction Manual. Floor-beam (FB-1) must be erected before Floor-beam (FB-9 & FB-10). All floor-beams must be fastened to the truss before the fascia stringers are installed.

### **METHOD OF MEASUREMENT:**

Payment will be made at the unit price bid for each superstructure. Fasteners and other metal parts used for this construction shall be considered as part of this item unless specifically noted otherwise in the Contract Documents.

### **BASIS OF PAYMENT:**

The unit price bid per unit shall include the cost of furnishing all labor, professional services, materials, fees and equipment necessary to complete the work. This shall include the removal of fasteners, and disconnecting, supporting, or adjusting steel as necessary. The unit price bid per unit shall include the cost for repair or replacement of any stored truss element that is damaged during transport or the erection operation. Temporary access fill, excavation, and back filling with suitable materials to enable the Contractor to complete this work shall be included in the unit price bid per unit. Monthly estimates shall be made for this work in proportion to the amount of work satisfactorily completed.

Structural steel replacement shall be paid for under their respective items as shown in the Contract Plans.