ITEM 10585.2122 M - TEMPORARY LOAD TRANSFER STRUCTURES AND LOAD TRANSFER

DESCRIPTION

Under this item, the Contractor shall design, fabricate, pre-assemble, furnish, install, maintain and subsequently remove and dispose of the temporary load transfer structures as required at the four locations shown on the contract plans and in accordance with the provisions of the contract documents.

The temporary load transfer structures are to be used to support the loads transferred from the existing bearings to the floor beams between the bearing shoes. Also included in the work under this item, the Contractor shall transfer the dead load of the structure from the bearing shoes to each of the floor beams between the bearing shoes. The Contractor shall develop the method of transferring the loads from the bearing shoes to the floor beams.

This work is necessary to facilitate installation of new cover plates on the existing through girders, which is paid for under other items of work.

MATERIALS

1. All materials shall be in conformance with the current New York State Department of Transportation Standard Specifications.

2. All structural steel fabrication and erection, including welding and bolting procedures, shall comply with the requirements specified in the current New York State Steel Construction Manual.

CONSTRUCTION DETAILS

1. General

The plans show a conceptual temporary load transfer structure configuration (post system) and a suggested procedure for transferring the dead load of the existing bridge from the bearing shoes to the floor beams between the bearing shoes.

The Contractor may elect to use the load transfer structure configuration shown on the plans, or may develop an alternative load transfer structure configuration. In either case, it is the responsibility of the Contractor to perform the structural design and detailing of the temporary load transfer structures. The design shall include the method and procedures that the Contractor will use to transfer the dead load of the existing bridge from the bearing shoes to the floor beams between the bearing shoes.

The Contractor shall select the location of the lift points, subject to approval of the Deputy Chief Engineer (Structures), and calculate the required lifting force. The temporary load transfer structures shall be designed for 1.50 times the actual dead loads of the existing bridge superstructure including ballast and tracks and the computed transverse wind load. Wind load shall be as per requirements of the current American Association of Highway and Transportation Officials (AASHTO) Standard Specifications for Highway Bridges.

The Contractor shall engage the services of a New York State Licensed Professional Engineer to design and detail the temporary load transfer structures. He shall be available for consultation in interpreting his plans and in the resolution of problems which may arise during the performance of the work.

All designs and details for the temporary load transfer structures shall be in conformance with the current New York State Department of Transportation Standard Specifications for Highway Bridges and the

current New York State Steel Construction Manual. There shall be no increase in the basic allowable stresses given in the New York State Department of Transportation Standard Specifications for Highway Bridges for the temporary condition.

2. Working Drawings

The Contractor shall furnish working drawings, prepared, stamped and signed by a New York State Licensed Professional Engineer, for the proposed system of temporary load transfer structures.

The drawings shall include, but need not be limited to, the following:

1. Lift point locations.
2. Details of all support system for the Temporary Load Transfer Structures including the magnitude of forces that each component and connection carries. The details will include foundations, support columns, support beams, bracing and points of application of the dead load reactions during different stages of subsequent work.
3. Type and grade of all materials.
4. All disconnection, reconnection or adjustments that are necessary to properly install and subsequently remove the Temporary Load Transfer Structures.
5. Details and procedures for transferring the dead load from the bearing shoes to the floor beams between the bearing shoes.

Six legible, standard sized (560 mm x 910 mm nominal, 530 mm x 850 mm working area) prints of each drawing, together with three copies of all design computations and three sets of catalog cuts for all hydraulic jacking equipment, shall be submitted to the Deputy Chief Engineer (Structures) for approval. Failure to submit drawings of the required size will be cause for their return without examination.

The Deputy Chief Engineer (Structures) shall be allowed the longest of the following time duration to examine design computations, working drawings and catalog cuts:

1. Ten working days or
2. Two working days for each drawing of a set of working drawings plus one working day for every four (4) design computation sheets. Any design computation sheet written on both sides will be considered as two design computation sheets.

All times for examination shall begin upon receipt of all pertinent information by the Deputy Chief Engineer (Structures).

The Deputy Chief Engineer (Structures) comments will be indicated on the returned copies. Should the proposed system not be approved, the reasons will be indicated with the return of the material. The Contractor shall then submit revised drawings for approval, subject to the same terms as the first submission. Resubmission shall not be considered legitimate reason to request an extension of time under Subsection 108-04 of the Standard Specifications, Extension of Time.

All work shall be done in accordance with the approved working drawings. The Contractor must have approved working drawings prior to the start of any structural lifting operations.

The Contractor shall bear all costs and/or damages which may result from the ordering of any materials or equipment, or the use of any preparatory labor prior to the approval of the working drawings.

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Maintenance of Temporary Load Transfer Structures

The Contractor shall maintain the Temporary Load Transfer Structures for the needed duration, and repair the existing structure including the LIE roadway surfaces resulting from the installation and use. All repair methods shall be submitted by the Engineer for approval.

Disposal of Temporary Load Transfer Structures

All materials of the Temporary Load Transfer Structures shall remain the property of the Contractor and shall be removed from the site after their intended use is completed.

Maintenance and Protection of Traffic

During the course of this work, the Contractor shall maintain and protect traffic on the Long Island Expressway (LIE) and the north and south service roads of the LIE as shown on the contract plans and as specified in the contract documents.

METHOD OF MEASUREMENT

Payment for the item Temporary Load Transfer Structures and Load Transfer will be made at the lump sum price bid.

Payment for temporary load transfer structures and load transfer will be made only once at the lump sum price bid, regardless of the number of times the temporary load transfer structures are used during the course of the work.

BASIS OF PAYMENT

The lump sum price bid for all of the Temporary Load Transfer Structures shall include the cost of all labor, materials and equipment necessary to complete the work, including all removals and disposals of all incidentals. In addition, for structural steel components the price bid shall include the applicable items of work specified in Subsection 564-5.02 Additional Work. No separate payment will be made for this additional work under any other structural steel items.

Payment for any maintenance and protection of traffic needed under this item of work will be made separately.