

PREFABRICATED TRUSS BRIDGE

****From Warren BRF 013-4(14)**

- xx. DESCRIPTION. This work shall consist of the design, fabrication, transport, and erection of a truss bridge superstructure in accordance with these specifications, and in reasonably close conformity with the lines, grades, and dimensions shown in the Plans.
- xx. MATERIALS. Materials shall meet the following requirements:
- (a) Cast-in-Place Concrete. Cast-in-Place Concrete shall meet the requirements of Section 501 for Concrete, High Performance Class A.
 - (b) Structural Steel. Structural Steel shall meet the requirements of Section 506 for AASHTO M 270M/M 270 Grade 50.
 - (c) Reinforcing Steel. Reinforcing Steel shall meet the requirements of Section 507 for Level II reinforcing.
 - (d) Bearings. Bearings shall meet the requirements of Section 531.
- xx. DESIGN. The prefabricated truss bridge shall be designed in accordance with the AASHTO LRFD Bridge Design Specifications, fifth edition dated 2010 and its latest interim revisions, and the 2010 VTrans Structures Design Manual and its latest revisions. The VTrans Structures Design Manual is available on the Agency's website at the following location:

http://www.aot.state.vt.us/progdev/Publications/DocumentsPUBLICATIONS/Structures_Design_Manual.pdf

Additionally, the design and load rating of gusset plate shall meet the requirements of Vtrans Structures Engineering Instruction (SEI) 08-002 "Design and Load Rating of Gusset Plate Connections in Steel Truss Bridges". This SEI is available on the Agency's website at the following location:

<http://www.aot.state.vt.us/progdev/Publications/Structures%20SEI/SEI-08-002.pdf>

Where there is a discrepancy between the AASHTO LRFD Bridge Design Specifications and the Vtrans Structures Design Manual, the VTrans Structures Design Manual shall control.

The following data are provided in the Contract Documents:

- (a) Roadway and Bridge typical sections, plans, and profiles.
- (b) Minimum truss span and low beam elevation.
- (c) Design life.
- (d) Design Live Load.
- (e) Design year ADT and percent trucks.

- (f) Bridge railing and curb loads.
- (g) Camber requirements.

xx. SUBMITTALS.

- (a) Design. Three (3) copies of the bridge design shall be submitted to the Agency's Structures Engineer a minimum of 28 days prior to beginning any work. The design calculations shall substantiate that all proposed bridge components, including but not limited to the truss bridge, the bridge deck, and the bearings, satisfy the requirements of the Contract Documents. The design calculations for the truss bridge shall include a load rating for the seven standard axle configurations indicated in the load rating table in the Plans.

The design shall be submitted as Working Drawings to be reviewed for conformance in accordance with Subsection 105.03. The submitted documents shall be signed, stamped, and dated by a Professional Engineer (Structural or Civil) licensed in the State of Vermont. The Professional Engineer is responsible for ensuring that the design and details of the proposed bridge components conform to the requirements of the Contract Documents.

- (b) Working Drawings. Working Drawings shall be submitted in accordance with Section 105 for any item of work requiring Fabrication or Construction Drawings under Section 105; submitted drawings shall meet the requirements of the specifications for the item of work.

The time required for preparation and review of these submittals will be charged to the allowable Contract time. Delay caused by untimely submittals or insufficient data will not be considered justification for time extension. No additional compensation will be made for any additional material, equipment, or other items found necessary to comply with the project specifications as a result of the Engineer's review.

- xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Prefabricated Truss Bridge) to be measured for payment will be on a lump sum basis in the complete and accepted work.

- xx. BASIS OF PAYMENT. The accepted quantity of Special Provision (Prefabricated Truss Bridge) will be paid for at the Contract lump sum price. Payment will be full compensation for designing and detailing bridge components; making the required submittals; fabricating, furnishing, and erecting the bridge, including but not limited to the truss bridge superstructure, concrete deck and reinforcing steel, bearings, and miscellaneous hardware; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Partial payments will be made as follows:

- (a) An initial payment of 15% of the Contract lump sum price will be made when all Working Drawings have been submitted and marked conforming in accordance with Section 105.

(b) The next 70% of the Contract lump sum price will be paid on a prorated basis for the estimated duration of the Contract work remaining.

(c) The remaining 15% of the Contract lump sum price will be paid when construction of the bridge is completed to the satisfaction of the Engineer.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.645 Special Provision (Prefabricated Truss Bridge)	Lump Sum