

Special Specification 4015

Prefabricated Steel Truss Span



1. DESCRIPTION

Design, fabricate, and install prefabricated steel truss span.

2. MATERIALS

Provide materials for the prefabricated steel truss span and bearing devices in accordance the following:

- Item 434, "Bridge Bearings,"
- Item 441, "Steel Structures,"
- Item 442, "Metal for Structures,"
- Item 446, "Field Cleaning and Painting Steel,"
- Item 447, "Structural Bolting,"
- Item 448, "Structural Field Welding," and
- Item 449, "Anchor Bolts."

Paint, galvanize, or use weathering steel as shown on the plans. Use paint System II per Item 446, "Field Cleaning and Painting Steel," when painted finish is specified on the plans.

Do not use structural steel shapes or plates for bridge members with a thickness less than 1/4 in. Do not use closed sections (tubing) for main truss members. Do not use ASTM A490 bolts.

3. DESIGN

Submit engineering details and design calculations, signed and sealed by a professional engineer, for the prefabricated steel truss span for review and approval. Design all truss components per the latest American Association of State Highway and Transportation Officials (AASHTO) LRFD Bridge Design Specifications for Highway Bridges. Design all truss components for HL93 live load.

Provide chord members that do not collect or retain water.

Provide redundant bottom chords. Provide design calculations showing the bottom chord members are structurally redundant members capable of carrying full dead and live load under the fracture or loss of one member.

Include in the submittal, the design and details for the steel truss span superstructure, any required bearing devices, and any pedestals, haunches or other modifications necessary for the interface of the steel truss span with the concrete deck and abutments as shown on the plans, as well as erection/assembly drawings showing construction phasing. Construct reinforced concrete slab and deck joints as shown on the plans.

Provide the engineering details and design calculations to the Engineer no less than 28 calendar days prior to start of fabrication.

4. FABRICATION

Fabricate the steel for trusses, floor beams, stringers, bearing devices and other permanent metal components for the steel truss span in accordance with Item 441, "Steel Structures." Fabricate all members by a fabricator listed in the material producer list for "Steel Bridge Fabrication Shops" or by fabricator

approved by the Engineer and certified by the American Institute of Steel Construction (AISC) Quality Certification Program as a fabrication shop for Major Steel Bridges (Cbr).

5. CONSTRUCTION

Verify all dimension of the prefabricated steel truss span with the manufacturer prior to construction of the substructure and foundation.

Provide bolted connections at field splices in accordance with Item 447, "Structural Bolting." Field welding of secondary members will be allowed in accordance with Item 448, "Structural Field Welding."

6. MEASUREMENT

This Item will be measured by each steel truss span in the completed and accepted final position.

7. PAYMENT

The work performed and materials furnished in accordance with this Item, and measured as provided under "Measurement" will be paid for at the unit price bid for "Prefabricated Steel Truss Span" of the length shown. This price is full compensation for designing, fabricating, transporting, and erecting truss spans; installing bearing devices with anchor bolts; and for all materials, labor, tools, equipment and incidentals necessary to complete the work. Placing reinforced concrete bridge deck and expansion joints is paid for by other items of work.