

HISTORIC BRIDGE RESTORATION

All existing dimensions were field-measured. All existing dimensions that may affect construction and repair activities must be verified by the Contractor. Any deviations must be reported to the Engineer. All construction and repair activities that are affected by dissimilar dimensions may not proceed until approved by the Engineer.

The Contractor is responsible for construction and repair activities that involve dimensions that differ from the plans. The dimensions of the existing truss members were field-measured. The existing member sizes are assumed based on these field measurements and current standard shapes. The existing truss design is based on these assumed member sizes.

Any existing member that is found to be inconsistent with the plans must be immediately reported to the Engineer. Any new structural member that is not equal to, or greater than, the capacity of the existing structural member that is being replaced must be approved by the Engineer. The Contractor is responsible for all aspects of any deviation from these plans.

The Contractor is responsible for the Structural Capacity of the bridge, in its entirety, if any of the existing structural members are found to be dissimilar from these plans.

Because of the nature of this project, portions of this structure cannot be observed in the existing configuration. There may be portions of deterioration or inferior structural members that require repair.

Therefore, any additional deterioration or additional inferior structural members or details that are found during proposed activities that may require structural repair must be reported immediately to the Engineer. The Contractor is responsible for all aspects of any deterioration or inferior structural member or detail that is observable during the proposed activities and not reported to the Engineer.

The Engineer must approve any additional construction and/or repair activities. The Contractor is responsible for the structural adequacy of any additional construction and/or repair activities.

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FLOOR BEAM REPLACEMENT

This work shall consist of the replacement of the existing floor beams and cross bracing as shown on the Plans. Connection of the new floor beams to the existing verticals and cross bracing to the floor beams shall be made with rivets. The size, number, and location of the rivets shall match the existing rivets. Connection angles and gusset plates for the new floor beams and cross bracing shall be sized to match the existing. Care should be given when removing the existing floor beams to prevent damage to the connection plate and vertical member. Cutting of structural members shall be avoided unless advanced written authorization is given by the Engineer. Any damage that is not necessary for the floor beam replacement, and was not agreed to by the Engineer prior to occurring, shall be repaired by the Contractor with no additional cost to the Owner.

Materials shall be in accordance with the following:

Steel shall be ASTM A709 Grade 50W in accordance with Section 711.

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TRUSS REPAIRS

This work shall consist of the replacement of existing connection angles, connection plates, gusset plates, and lattice bars as shown on

the plans or as directed by the Engineer and other truss parts/members as directed by the Engineer. As many existing members as possible listed in Repair Detail A shall be cleaned and re-used. The estimated weight of Structural Steel includes replacement of all the members listed in Repair Detail A. Connection of the new members to the existing members shall be made with rivets. The size, number, and location of the rivets shall match the existing rivets. Care should be given when removing the members to prevent damage to the portions of the member to remain in place. Cutting of structural members shall be avoided unless advanced written authorization is given by the Engineer. Any damage that is not necessary for the member replacement, and was not agreed to by the Engineer prior to occurring, shall be repaired by the Contractor with no additional cost to the Owner.

Materials shall be in accordance with the following:  
Steel shall be ASTM A709 Grade 50 in accordance with Section 711.

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RIVETS

Any rivets missing or removed from the existing bridge and that are to be part of the restored structure shall be replaced with new rivets. New rivets shall match the size and location of the existing. The rivet steel used in the restored structure and handrail shall have a minimum yield strength of 36 ksi and shall bend cold through 180 degrees flat on itself without cracking on the outside of the bent portion. The rivet head shall flatten, while hot, to a diameter 2 ½ times the diameter of the shank without cracking at the edges. The rivets shall be true to form, concentric, and should be made in a workmanlike manner.

Rivets will be measured by the pound. Pay weight will be based on a theoretical weight of 490 lb/cu ft. The weight of Rivets to be paid is included in the weight of Structural Steel.

Rivets for the Railing Repair will not be measured for payment and are included in the pay item Railing Repair.

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STEEL GRID FLOOR

The steel grid flooring system shall be filled with concrete within the limits shown on the plans. The limits shall be 4'-6" from the bridge openings above the beam seats. The concrete shall completely fill the depth of the steel grid. The material and installation shall be per the manufacturer's specifications.

Method of Measurement

Steel grid floor will be measured by the square foot installed. The concrete fill will not be measured for payment.

Basis of Payment

All materials, equipment, and hardware to construct and install the steel grid floor with the concrete fill shall be paid for under the steel grid floor pay item. Payment will be made under:

Pay Item	Pay Unit Symbol
Grid Floor, Steel, 3 in.	SFT

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TRUSS BEARING REPLACEMENT

This work shall consist of the replacement of the existing

truss bearings as shown on the Plans. Adequate bracing and/or temporary shoring, in accordance with the Standard Specifications for Jacking and Supporting Trusses, shall be provided prior to truss bearing replacement to insure the integrity of the existing structure is maintained. The existing bearings at both abutments shall be removed, and replaced in kind. The existing bearings are expansion at Abutment No. 1 and fixed at Abutment No. 2. The bearing assemblies consist of but not limited to masonry plates, anchor bolts and nuts, support angles, roller pins, vertical bearing plates, bearing pins and nuts, and other attachments as required to provide support for the truss. Replacement bearing assemblies shall match the existing as close as possible. Rivet size and spacing shall match the existing. Shop drawings for the proposed bearing assemblies along with digital photographs of the existing bearing assemblies shall be submitted to the engineer for approval prior to fabrication. Care should be given when removing the existing bearing pin and nuts to prevent damage to the low chord and end post members. Cutting of structural members shall be avoided unless advanced written authorization is given by the Engineer. Any damage that is not necessary for the truss bearing replacement, and was not agreed to by the Engineer prior to occurring, shall be repaired by the Contractor with no additional cost to the Owner. New members shall have flush fit prior to riveting and shall be brush painted to match the color and specifications of the paint on the rest of the structure.

Materials shall be in accordance with the following:

Steel for Truss Bearing Replacements shall be ASTM A588 Grade 50W in accordance with Section 711. Paint shall be in accordance with Section 619. Paint color shall be approved by the Engineer, prior to application.

This work shall be measured per Each Bearing Assembly.

Payment will be made under:

- Bearing Assembly, Expansion.....EACH
- Bearing Assembly, Fixed.....EACH

The cost of this work shall include the cost of furnishing all labor, materials, tools, equipment and incidentals necessary for the execution of the work described.

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Nameplates

**Description**

*The Contractor shall replicate the original nameplates for the Alley Ford Bridge. The drawing prepared by the designer is based on photographic documentation and therefore will need to be scaled to the actual dimensions by the contractor prior to fabrication.*

**Basis of Payment**

*The plate design, material, fabrication, installation and hardware for installation will be paid for under the nameplate pay item.*

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit Symbol</b>
Plate.....	EACH