



**SPECIAL PROVISIONS
FOR
TEMPORARY DETOUR BRIDGE**

**Butler County
BRS-SWAP-C012(113)--FF-12**

**Effective Date
March 21, 2023**

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

152069.01 DESCRIPTION.

Work under this item consists of designing, furnishing, installing, inspecting, maintaining, and removing a two lane bi-directional temporary detour bridge carrying County Highway T55 Detour over West Fork Cedar River. Traffic on County Highway T55 over West Fork Cedar River shall be maintained at all times during construction of the permanent bridge.

152069.02 DESIGN AND MATERIALS.

A. Design.

The temporary detour bridge is to be designed in accordance with the AASHTO LRFD Bridge Design Specification, 7th Edition by a Professional Engineer licensed in the State of Iowa. Fatigue does not need to be considered. The design vehicular live load shall be HL-93 and the bridge shall only be used for legal loads.

Refer to the bridge plans and notes for the detour bridge layout requirements.

1. Superstructure.

- a. The work for the superstructure includes assembly, erection, and disassembly.
- b. Prefabricated superstructure units shall be furnished by Butler County to the project site prior to the commencement of construction by the Contractor. The prefabricated units will be superstructure units 50 feet in length (bearing to bearing).
- c. The bridge shall be erected to the proposed centerline gradeline shown on the temporary detour bridge situation plan.
- d. Schematics detailing the dimensions, reinforcing layout, railing, installation details, design, and etc. of the superstructure units are available on request from the Engineer.
- e. Contractor shall take care not to damage superstructure units.
- f. Superstructure shall be designed to account for possible overtopping during design (Q_{50}) flood events.

2. Substructure.

- a. The substructure shall be of the Contractors choosing and design.
- b. The substructure shall be designed to accommodate the provided superstructure units.
- c. The work shall include design, furnishing, installing and removing of abutment and pier foundations as required to sufficiently support the superstructure and retain the approaches as required.

- d. The Contractor shall retain a Professional Engineer licensed in the State of Iowa to determine the bearing capacity. Pile bent piers and abutments are allowed. Shallow foundations, such as spread footings, are not allowed.
- e. Four subsurface soil borings (Borings 1 through 4) are included in the bridge plans. This boring data can be used to design the foundation system. All available laboratory data sheets for hollow stem auger samples taken from Borings 1 through 4 are accessible to the Contractor in the plans for aid in designing the substructure. If additional borings are required by the Contractor's design engineer, the cost of furnishing the additional borings shall be included in the lump sum price for Temporary Detour Bridge Substructure.

3. Submittals.

The submittals requiring written approval from the Engineer are as follows:

- a. Temporary detour bridge plans containing the following:
 - 1) General notes sheet including all materials and design criteria.
 - 2) Site specific proposed bridge elevation and cross section depicting the proposed low chord elevation in relation to the design stage elevation.
 - 3) Bridge width.
 - 4) Plan sheets showing span lengths, stationing, alignment and grades.
 - 5) Foundation layout sheet including pier stationing and pile spacing.
 - 6) Pile data table showing pile type, size, capacity and estimated lengths.
 - 7) Substructure details including all reinforcing and elevations of the abutment and pier footings and caps.
 - 8) Bearing details as necessary.
 - 9) Connection details.
 - 10) A parts list as required.
- b. Complete assembly and erection plans including installation procedures. This shall include procedures and methods to be used including crane capacity and location, equipment, tools, devices, etc.
- c. Complete set of design calculations for the substructure.

Submittals shall be made electronically via DocExpress in accordance with Article 1105.03 of the Standard Specification. The Engineer's review time is 30 calendar days.

B. Materials.

1. General.

The Contractor may use timber, steel, concrete or any other material or combination of materials that are in sound condition, capable of safely carrying the specified loads, and meet the approval of the Engineer. All materials not specifically listed shall be in accordance with the requirements of the Standard Specifications.

152069.03 CONSTRUCTION.

A. General.

- 1. Do not commence construction until the submittals as described above are approved by the Engineer.
- 2. The Contractor shall ensure the stability of the temporary detour bridge during erection, removal, and at all times.
- 3. Excavation required for construction of the temporary detour bridge is to be considered incidental to other work.

B. Inspection and Maintenance.

- 1. Work under this item includes the furnishing of skilled personnel; tools and equipment required to inspect, repair and maintain the temporary detour bridge.

2. This work will be considered incidental to the lump sum price for Temporary Detour Bridge.
3. Prior to putting the temporary detour bridge into service, the Contractor shall inspect the bridge with a representative from Butler County to ensure correct assembly and erection. While the temporary detour bridge is in service, the Contractor shall perform regular inspections as required to ensure the bridge and components are in safe operating condition.
4. Repair, replace or otherwise maintain all components of the temporary detour bridge as required to keep the bridge in safe operating condition.
5. Tighten or replace all loose and missing fasteners as required.
6. The Contractor shall be on call at all times during the temporary detour bridge's service to make emergency repairs that may be required as a result of accidents or storms.
7. Repairs shall be made within 24 hours of inspection or discovery of defect.
8. The Contractor shall notify the Engineer one week prior to inspection in order for the Engineer or representative to accompany the Contractor during their inspection.
9. The Contractor shall prepare reports of inspection, maintenance and repair activities and submit to the Engineer. The reports shall itemize the following:
 - a. The date and time of the inspection.
 - b. General condition of the deck, superstructure, substructure, etc.
 - c. Repair and maintenance work performed.
 - d. Materials used.
10. Any damage caused by the Contractor, shall be repaired by the Contractor at no additional cost to Butler County. Other damages caused by traffic or conditions beyond the Contractor's control shall be repaired by the Contractor, as directed by the Engineer, and will be paid for according to Article 1109.03, B of the Standard Specifications.

C. Bridge Removal.

Remove the temporary detour bridge in accordance with Section 2401 of the Standard Specifications when it is no longer required for traffic. The Contractor shall re-grade and restore the site to its original condition, as directed by the Engineer. The Contractor shall return superstructure units to the Butler County laydown area approximately 0.5 miles south of project site at the corner of County Highways C55 and T55.

152069.05 METHOD OF MEASUREMENT.

Temporary Detour Bridge is Lump Sum.

152069.06 BASIS OF PAYMENT.

- A. Payment for Temporary Detour Bridge will be the Lump Sum contract price. Payment will be full compensation for assembling, erecting, disassembling, inspecting, maintaining and returning the superstructure units. All costs for equipment, labor and materials needed to complete, make use of and remove the Temporary Detour Bridge shall be included in the contract price.
- B. For estimating partial payments, the Contractor will be paid 65% of the lump sum price for Temporary Detour Bridge when the temporary detour bridge is installed and open to traffic. The remaining 35% of the lump sum price for these items will be considered for payment upon the restoration of the site as described above.