Addendum No. 1
To
Contract Documents, Specifications, and Drawings
For
STP 9900(948) - St. Robert I-44 Pedestrian Bridge and Sidewalks
St. Robert, Missouri

To whom it may concern:

The Contract Documents, Specifications, and Drawings covering the construction of the St. Robert I-44 Pedestrian Bridge and Sidewalks – STP 9900(948) are hereby amended as follows:

BID DOCUMENTS

A. DBE Submittal Form paragraph (A) modified to confirm 10% DBE goal. Remove existing and replace with one (1) new page.

F. JOB SPECIAL PROVISION - PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE SUPERSTRUCTURE

A. Replace previous specification section with the attached revised version. Total of eight (8) pages shall be replaced. Summary of changes are as follows:

1. Modify paragraph 2.2 to reference two additional pre-approved manufacturers: Art Thureson, Inc. and Pioneer Bridges.

2. Modify paragraph 3.1.3.1 to reference a 42" steel railing within the bridge.

3. Modify paragraph 3.7 related to structural steel materials used to construct the bridge.

4. Added paragraph 4.5 Bridge Construction Plan and corresponding requirements.

G. JOB SPECIAL PROVISION – LIQUIDATED DAMAGES SPECIFIED JSP-93-28

A. Replace previous specification section with the attached revised version. Total of one (1) page shall be replaced. Summary of changes are as follows:

1. Add paragraph 2.1 related to potential I-44 lane closures during Concrete Deck Placement on the bridge. All costs associated with these closures must be included in the Contractor's base bid.

Bidder shall acknowledge receipt of this addendum by completing the acknowledgement space provided in the Bid Form.

Date: February 24, 2014

Archer-Elgin
Engineering, Surveying & Architecture
Rolla, Missouri

DBE Submittal Forms

(6) DBE Submittal Forms: This form must be submitted by 4 p.m. three (3) business days after bid opening.

(A) DBE Contract Goal: By submitting this bid, the bidder certifies that the bidder is familiar with the DBE Program Requirements in this contract. The contract DBE goal for the amount of work to be awarded is 10% of the total federal project price. The bidder shall also complete the DBE Submittal Form in accordance with the program requirements.

(B) DBE Participation: The bidder certifies that it will utilize DBE's as follows:

10 % OF TOTAL FEDERAL CONTRACT

NOTE: Bidder must fill in the above blank. If no percentage is specified, the bidder certifies that it agrees to, and will comply with the contract goal. If a percentage below the contract goal is specified, then the bidder must submit complete documentation of good faith efforts to meet the DBE contract goal, immediately below.

(C) Certification of Good Faith Efforts to Obtain DBE Participation: By submitting its signed bid, the bidder certifies under penalty of perjury and other provisions of law, that the bidder took each of the following steps to try to obtain sufficient DBE participation to achieve the Commission's proposed DBE Contract Goal: (Attach additional sheets if necessary).

F. PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE SUPERSTRUCTURE

1.0 General.

1.1 Contract Drawings. The contract drawings contain the minimum requirements for the prefabricated bridge and are hereby made a part of this specification and the contract documents. The pre-manufactured bridge must meet all dimensions and criteria listed. Related Specification Sections include but are not necessarily limited to:

Division 00 – Procurement and Contracting Information.
Division 01 - General Requirements.

1.2 Description of Work. Following are requirements related to design, fabrication and delivery of the bridge.

1.2.1 At the bridge location shown in the contract Drawings, provide one (1) fully engineered, prefabricated, single span bridge of painted steel construction meeting the requirements of this specification including drawings and calculations sealed by a Registered Professional Engineer in the State of Missouri.

1.2.1.1 The contractor shall cause bridge superstructure and all subassemblies specified under this section to be furnished by one manufacturer who shall be responsible for the adequacy and compatibility of all components. This requirement shall not relieve the contractor of overall responsibility for this portion of the work.

1.2.1.2 The arrangement shown on the drawings is based upon the best available information at the time of design and is not intended to show exact dimensions particular to any specific bridge superstructure unless otherwise indicated. Therefore, it may be anticipated that the structural supports, foundations, wingwalls, etc. in part or in whole may have to be modified in order to accommodate the supplied bridge superstructure. No additional payments shall be made for such changes.

1.2.2 Include bridge bearing plates and/or bearing pads.

1.2.3 Include galvanized steel form deck.

1.2.4 Include all splice materials, diaphragms, bolts, shims, etc., needed for erection.

1.2.5 Design and include steel reinforcing in concrete bridge deck.

1.2.6 Design and include joint seal material between abutment back walls and end of deck.

1.2.7 Design and include handrails in accordance with AASHTO requirements.

1.2.8 Deliver bridge and all components to the project site.

1.2.9 The Contractor will be responsible to unload, store, and set the bridge superstructure according to the manufacturer's specific written procedures. Adequate crane(s) and/or lifting devices must be used to safely maneuver the superstructure.

1.2.10 Design and include plastic coated chain link fencing for the top and each side of the bridge. Fence color to be selected by Owner.

1.2.11 Design and include plastic coated chain link fencing to be mounted on abutment wing walls with panels to match those on the bridge structure.

1.3 Related Items Not Included with Prefabricated Bridge. Items are as follows.

1.3.1 Concrete for cast-in-place deck and deck reinforcing.

1.3.2 Accessories for cast-in-place deck

1.3.3 Unloading materials at the construction site.

2.0 Qualified Bridge Manufacturers.

2.1 These specifications are for a fully engineered clear span bridge of welded steel construction and shall be regarded as minimum standards for design and fabrication.

2.2 Pre-Approved Manufacturers.

CONTECH Construction Products Inc.
9025 Centre Pointe Dr., Suite 400
West Chester, OH 45069
1-800-526-3999

Echo Bridge, Inc.
P.O. Box 89
Elmira, NY 14902
1-888-327-4343

EXCEL Bridge Manufacturing Co.
12001 Shoemaker Ave.
Santa Fe Springs, CA 90670
1-800-548-0054

U.S. Bridge
201 Wheeling Avenue
Cambridge, OH 43725
1-888-872-7434

Wheeler Lumber, LLC
9330 James Avenue South
Bloomington, MN 55431
1-800-328-3986

Art Thureson, Inc
4000 West Walton
Waterford, MI 48329
1-248-623-8599

Big R Bridge
P.O. Box 1290
Greeley, CO 80632-1290
1-800-234-0734

Pioneer Bridges
119 40th Street NE
Fort Payne, AL 35967
1-866-708-5778

Or Approved Equal

2.3 Suppliers other than those listed above may be used provided the owner's agent evaluates the proposed supplier and approves the supplier prior to bid.

2.3.1 The contractor must supply the following documentation, for any proposed alternative Supplier at least fourteen (14) days prior to bid. Product Literature; All documentation to ensure substitution will be in compliance with these specifications, including project specific representation drawings for bridge projects listed above with material and design code references, warranty information, AISC Shop Certification, and welder qualifications.

2.3.2 Proposed suppliers must have at least five (5) years experience designing and fabricating

similar structures and a minimum of five (5) successful bridge projects, of similar style and construction as written in these specifications and drawings. List the location, bridge size, owner, and a contact for reference for each project.

2.3.3 The Engineer will evaluate and verify accuracy of the submittal prior to bid. If the Engineer determines that the qualifying criteria have not been met, the contractor's proposed supplier will be rejected. This ruling will be final.

3.0 Bridge Criteria.

3.1 Superstructure Features.

3.1.1 Single span truss-type bridge: H-Style, Closed-Box or Underhung. Provide superstructure camber as necessary to match proposed profile grade.

3.1.2 Bridge deck shall be a minimum of 10'-0" wide by 6" thick non-composite reinforced concrete deck placed in galvanized steel stay-in-place forms. Deck shall have curb at its extents to direct storm water runoff parallel to the bridge, away from the interstate travelled way. 10'-0" clear width shall be maintained between all bridge elements over the entire length of the bridge.

3.1.3 Bridge shall include a 42" high steel railing on each side to meet the American Association of State Highway and Transportation Officials (AASHTO) requirements. This railing may be attached to the bridge in the shop or in the field, as determined by the Bridge Manufacturer's requirements.

3.1.4 At each end of the bridge a 42" high, galvanized steel fence with plastic coated panels (to match those attached to bridge) shall extend onto the abutment wing walls as shown on the contract plans. This fence shall not be connected to the bridge railing at the bridge ends. Design of this fence is the responsibility of the Contractor and/or bridge manufacturer and included in the cost of the bridge.

3.1.5 Each end of the bridge shall have a permanently affixed, non-corrosive name plate, placed near the top of the vertical member, stating: manufacturer's name, address, date of manufacture, uniform live load limit, and vehicle load limit.

3.1.5 Bridge must be designed and installed to maintain a minimum of 10'-0" clear distance inside the bridge from the top surface of the concrete deck to the bottom surface of the top chord of the superstructure.

3.1.6 Bridge shall be designed with mounting areas to accommodate two permanently affixed signs with overall dimensions of 5'-0" height and 10'-0" width at the locations specified in the plans. Fencing shall be framed around the mounting areas so as not to obstruct the view of the signs.

3.2 Design.

3.2.1 The design (steel, concrete and railings) of the bridge shall be in accordance with the AASHTO Guide Specifications for Design of Pedestrian Bridges, 2nd Edition and AASHTO LRFD Bridge Design Specifications, 6th Edition, 2012 and all applicable interim revisions.

3.2.2 The minimum vertical clearance from any point of the Interstate 44 roadway below is 17'-6".

The Contractor and/or bridge manufacturer is responsible for ensuring the final bridge design and installation meets this requirement.

3.2.3 Design entire width and length of bridge shown to support the following minimum loads. Design shall be by load resistance factor design methods.

3.2.3.1 Dead load.

3.2.3.2 Live load: Pedestrian live load of 90 psf. AASHTO H5 live load design vehicle.

3.2.3.3 Wind load per AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals.

3.2.3.3.1 Wind importance factor equal to 1.15.

3.2.3.3.2 Height exposure factor equal to 1.0.

3.2.3.3.3 Gust factor equal to 1.14.

3.2.3.3.4 Drag coefficient equal to 1.75.

3.2.3.4 Seismic load: Seismic performance Zone 1. Acceleration coefficients as stated on the plans.

3.2.3.5 Longitudinal thermal load based on high temperature of 125 degrees F and low temperature of -15 degrees F. The setting temperature shall be representative of the anticipated construction/erection schedule.

3.2.3.6 Combination of loads shall be in accordance with AASHTO LRFD Bridge Specifications.

3.2.3.7 Bridge (including bridge deck) shall be designed and manufactured to meet all grades and elevations shown and described in the contract drawings and documents.

3.4 Deflection Criteria.

3.4.1 Load Service I allowable deflection per AASHTO LRFD Bridge Specification, T3.4.1-1:

3.4.1.1 Unfactored pedestrian load allowable deflection: L/360.

3.4.1.2 Unfactored horizontal wind allowable deflection: L/360

3.4.2 The bridge shall be cambered for the theoretical calculated dead load deflection, including the concrete slab, plus any camber shown on the contract drawings.

3.4.3 Welding design shall comply with the latest edition of the "Bridge Welding Code, D1.5" as published by the American Welding Society.

3.4.4 Concrete Deck.

3.4.4.1 Bridge manufacturer shall design a reinforced normal-weight concrete deck (6" minimum concrete thickness) to support the above described loads and provide details and specifications necessary for construction. Light weight concrete shall not be used.

3.4.4.2 Contractor shall provide non-epoxy reinforcing steel in the deck.

3.4.4.3 Design reinforced concrete deck to be non-composite. Metal decking provided for forming only and not used as composite with concrete deck. Design shall include all details of the connection of metal decking to the bridge superstructure.

3.4.4.4 Galvanized steel form deck shall be 22 gage (minimum) and designed to the requirements of the Steel Deck Institute "Specifications and Commentaries for Non-Composite Steel Form Deck" including loads, allowable stresses, and permissible deflections.

3.5 Bridge Anchorage.

3.5.1 Design and provide the bridge anchor bolts specifying quantity, diameter, shape, grade, locations and projection. Coordinate location and size of anchor bolts with abutment construction.

3.5.2 Design the bridge bearing seat and expansions joints and provide all materials necessary. Coordinate all details, including elevations with abutment construction.

3.6 Design Qualifications.

3.6.1 Design and drawings of the pedestrian bridge, concrete bridge deck, and railings shall be completed by a Registered Professional Engineer in the State of Missouri.

3.7 Materials.

3.7.1 All structural members shall have a minimum thickness of material in accordance with AASHTO.

3.7.2 Steel shall be fabricated from ASTM A709 Grade 50 steel for plates and structural shapes. Square and rectangular steel tubular sections may be fabricated from ASTM A500 Grade B steel, provided they are a minimum of 1/4" thickness and meet the requirements of AASHTO LRFD 6.6.2 relating to Charpy V-Notch (CVN) fracture toughness and all other AASHTO requirements pertaining to the design of steel tubular members. Note that all steel tubular members shall be either completely sealed to the atmosphere or be hot-dip galvanized with appropriate drain holes. Minimum yield (Fy) shall be in accordance with the grades specified above.

3.7.3 All steel bridge components shall be shop painted with Tnemec Hydroflon Series 700 finish coat paint in accordance with the manufacturer's written instructions. Bridge manufacturer is responsible for submitting to the Engineer for approval the proposed primer and intermediate coating system and recommended mil thicknesses to be shop applied, based upon recommendations and data provided by the manufacturer. Color is to be determined by the Owner during the submittal process.

3.7.4 All shop and field bolted connections shall utilize High Strength ASTM A325 Type 3 bolts.

3.7.5 Bearing Plates / Pads shall be compatible with grades shown on contract drawings.

3.7.6 Welding materials shall be in strict accordance with the American Welding Society (AWS) Structural welding code, D1.1. for tubular members and ANSI/AASHTO/AWS D1.5 Bridge welding code for structural steel members.

3.7.7 Form deck shall comply with ASTM A653 and galvanized to a minimum G90 coating weight.

3.7.8 Reinforcing steel shall conform to ASTM A615, Grade 60. Reinforcing steel in the deck shall not be epoxy coated.

3.7.9 Provide all formwork for concrete floor: side forms and end dams along with deck pans. Concrte is to be Class B1, f'c=4,000 psi.

3.8 Abutments.

3.8.1 The Contractor shall submit sealed plans for the prefabricated bridge superstructure, concrete bridge deck and separate railings attached to abutment wing walls, to the Engineer for review and approval. The plans shall clearly identify the manufacturer, style, section, reactions, abutment seat requirements, expansion joints and bearing assembly geometry. It may be anticipated that the structural supports, foundations, wingwalls, etc. in part or in whole may have to be modified in order to accommodate the supplied bridge superstructure. No additional payments shall be made for such changes. Contractor shall not proceed with construction of abutments or fabrication of superstructure until receipt of engineer approval of submittal.

4.0 Execution.

4.1 Fabrication.

4.1.1 Fabrication shall be in accordance with the latest edition of the AISC "Code of Standard Practice for Steel Buildings and Bridges."

4.1.2 Welding shall be in accordance with AWS "D1.5 Bridge Welding Code."

4.2 Quality Assurance.

4.2.1 The bridge manufacturer shall be certified under the AISC "Quality Certification Program for Simple Steel Bridge Structures" or for "Major Steel Bridges."

4.2.2 Bridge manufacturer shall be certified by the American Institute of Steel Construction to have the personnel, organization, experience, capability, and commitment to produce fabricated structural steel for Conventional Steel Structures.

4.2.3 To ensure consistently high levels of quality fabrication, bridge manufacturer shall be the designer and supplier of the bridge and shall not assign, sublet, or subcontract any part of bridge fabrication.

4.2.4 Bridge manufacturer shall maintain a full-time Certified Welding Inspector (CWI) on staff for inspection of bridge fabrication, maintaining accurate records, and other necessary aspects of bridge fabrication to ensure consistently high levels of quality fabrication. Manufacturer shall provide inspection records for review upon request by the engineer.

4.2.5 Workmanship, fabrication, and shop/field connections shall be in accordance with AASHTO Specifications.

4.2.6 Welders are to be AWS certified per AWS QC7 standard. Code of acceptance shall be

AWS bridge welding code D1.5 and qualifications range shall include the processes, positions, filler and base metal type as the work requires. A copy of the welders' certifications from AWS shall be provided to the engineer for review. Engineer may require recertification if there is a specific reason to questions the welders' ability.

4.2.7 All welding shall utilize E70 or E80 series electrodes. The weld process used shall be Flux Core Arc Welding (FCAW) or Gas Metal Arc Welding (GMAW) or Shielded Manual Arc Welding (SMAW) per AWS D1.1 or ANSI/AASHTO/AWS D1.5 "Bridge Welding Code."

4.2.8 All welds shall be visually inspected by a Certified Welding Inspector. All complete penetration chord member welds shall receive Magnetic Particle (MT) inspection and 10% of all other welds shall receive MT inspection. A copy of all weld testing reports shall be submitted to the engineer for review and acceptance.

4.3 Submittals.

4.3.1 Refer to Section 01330. The Contractor shall submit sealed shop drawings for the prefabricated bridge, concrete bridge deck and railings to the Engineer for review and approval. The shop drawings shall clearly identify the manufacturer, style, section, reactions, abutment seat requirements, expansion joints and bearing assembly geometry.

4.3.2 Provide a minimum of five (5) copies of the following items for the Engineers review and approval prior to fabrication:

4.3.2.1 Shop Drawings and design calculations showing member sizes and design, critical member and bridge dimensions, connections, shipping weight, bridge reactions for all design loads, camber and general notes. Drawings and design calculations shall be signed and sealed by a professional engineer registered in the State of Missouri.

4.3.2.2 Details including dimensional information of bearing plates or pads, guardrails, diaphragms, anchor bolts, expansion joints, fencing and railings on the bridge and on the concrete abutments.

4.3.2.3 Details and specifications for cast-in-place reinforced concrete non-composite bridge deck including reinforcing, concrete strength requirements, joints (if any), finish, etc. A slab pouring sequence plan shall be submitted if concrete is to be placed in multiple phases.

4.3.2.4 Complete erection procedures including: lifting procedure, splice details (if required), sequencing, alignment and placement.

4.3.2.5 Field welder certifications.

4.3.2.6 Inspection and maintenance requirements.

4.3.2.7 Provide Load Rating calculations and a Load Rating Summary for the Bridge superstructure, signed and sealed by a Missouri registered Professional Engineer.

4.4 Delivery and Erection.

4.4.1 Prior to shipment the bridge and railings shall be photographed from all sides and photographs shall be sent to the Engineer for review. The Engineer reserves the right to visit the fabrication facility at any time during normal working hours to verify the fabrication is being executed

per the contract requirements.

4.4.2 Bridge and components shall be delivered by truck to the project site. Hauling permits and freight charges are the responsibility of the Contractor.

4.4.3 A pre-erection meeting will be required between the contractor/erector, manufacturer, engineer, owner's representative(s) and MoDOT at a date and location to be coordinated by the contractor. The focus of this meeting shall be to coordinate erection of bridge superstructure.

4.4.4 The bridge manufacturer will advise the Contractor in writing of the actual lifting weights, attachment points and all necessary information to install the bridge. Unloading, splicing, bolting, and proper lifting equipment is the responsibility of the Contractor. This information shall be made available to the Engineer for review upon request.

4.4.5 A manufacturer's representative must be named and be present at the project site during erection of bridge and any incidental cost from the manufacturer shall be included in bid price for the pedestrian bridge.

4.5 Bridge Construction Plan.

4.5.1 Contractor shall submit a Bridge Construction Plan that includes the following components.

4.5.1.1 Proposed bridge erection sequence and timeline, including crane/hoisting requirements.

4.5.1.2 Staging plan for all major deliveries, including identification of proposed staging areas and delivery times.

4.5.1.3 Contingency plan in the event that erection of the bridge takes more than two nights during the allowable closure times. This includes any proposed safety and/or traffic control measures.

4.5.1.4 Sealed calculations and drawings for any temporary shoring and falsework required for bridge erection.

4.5.1.5 Concrete deck placement plan that includes proposed temporary protection and/or traffic control measures to ensure interstate traffic will not be adversely impacted.

4.5.2 These items are subject to approval by the Engineer and MoDOT. A coordination meeting must be held by the contractor at least one month prior to delivery of the bridge. At a minimum, this meeting shall include representatives from the general contractor, crane subcontractor, Engineer, City of St. Robert and MoDOT.

5.0 Basis of Payment.

5.1 Payment for labor, materials, and equipment to fulfill the requirements of this provision will be paid for in accordance with the pay items listed in specification section 01270.

G. LIQUIDATED DAMAGES SPECIFIED JSP-93-28

1.0 Description. If I-44 is not open to two lanes of traffic in each direction within the time periods described elsewhere in this special provision, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of $2,700 per each whole hour or each partial hour that I-44 is not open to two lanes of traffic in each direction in excess of the limitation as specified elsewhere in this special provision. For example, if the road is not opened to two lanes of traffic in each direction at 4:01 AM, liquidated damages will be charged for a full hour and likewise for the following hours. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

1.1 The said liquidated damages specified will be assessed regardless of whether it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction, as amended elsewhere in this contract.

2.0 Allowable I-44 Closure Period During Bridge Erection. The period of road closure on I-44 for bridge erection is expected to be two days, and shall be scheduled to occur during off-peak traffic hours on Monday and/or Tuesday nights from 10 PM to 4 AM in order to alleviate any traffic delays due to construction that might have otherwise occurred. Any proposed deviations from the aforementioned period of road closures must be submitted by the Contractor in writing and approved by MoDOT and the Engineer prior to implementation. However, neither MoDOT nor the Engineer bears any obligation to approve this request.

2.1 Allowable I-44 Closure Period for Concrete Deck Placement. The Contractor is responsible for evaluating all feasible construction methods to determine the most effective way to place concrete in the bridge deck. If the Contractor determines it necessary to close any lanes on I-44 during placement, this closure shall take place during the hours of 10 PM to 4 AM on Monday and/or Tuesday nights as prescribed above. The proposed closure shall be requested as part of the Bridge Construction Plan submittal as referenced in section 4.5 of the PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE SUPERSTRUCTURE JSP. No additional payments will be made to the contractor for implementation of traffic control measures for the concrete deck placement; all costs associated with the concrete deck placement, including traffic control, shall be included in the Contractor's base bid.