

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

(Job Special Provisions shall prevail over General Special Provisions whenever in conflict therewith.)

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	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636
	HORNER & SHIFRIN, INC. 401 S. 18 th St. Suite 400 St. Louis, MO 63103 Certificate of Authority: #000159 Consultant Phone: 314-531-4321
	JOB NUMBER: J1S3359 CALDWELL COUNTY, MO DATE PREPARED: 1/16/2020
Date: 1/16/2020	ADDENDUM DATE:
Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All	

JOB
SPECIAL PROVISIONS

A. General - Federal JSP-09-02E

1.0 Description. The Federal Government is participating in the cost of construction of this project. All applicable Federal laws, and the regulations made pursuant to such laws, shall be observed by the contractor, and the work will be subject to the inspection of the appropriate Federal Agency in the same manner as provided in Sec 105.10 of the Missouri Standard Specifications for Highway Construction with all revisions applicable to this bid and contract.

1.1 This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations, and requires adherence to a schedule of minimum wages as determined by the United States Department of Labor. For work performed anywhere on this project, the contractor and the contractor's subcontractors shall pay the higher of these two applicable wage rates. State Wage Rates, Information on the Required Federal Aid Provisions, and the current Federal Wage Rates are available on the Missouri Department of Transportation web page at www.modot.org under "Doing Business with MoDOT", "Contractor Resources". Effective Wage Rates will be posted 10 days prior to the applicable bid opening. These supplemental bidding documents have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

1.2 The following documents are available on the Missouri Department of Transportation web page at www.modot.org under "Doing Business with MoDOT"; "Standards and Specifications". The effective version shall be determined by the letting date of the project.

General Provisions & Supplemental Specifications

Supplemental Plans to July 2019 Missouri Standard Plans
For Highway Construction

These supplemental bidding documents contain all current revisions to the published versions and have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

B. Contract Liquidated Damages JSP-13-01B

1.0 Description. Liquidated Damages for failure or delay in completing the work on time for this contract shall be in accordance with Sec 108.8. The liquidated damages include separate amounts for road user costs and contract administrative costs incurred by the Commission.

2.0 Period of Performance. Prosecution of work is expected to begin on the date specified below in accordance with Sec 108.2. Regardless of when the work is begun on this contract, all work shall be completed on or before the date specified below. Completion by this date shall be in accordance with the requirements of Sec 108.7.1.

Notice to Proceed: April 6, 2020
Completion Date: July 31, 2020

2.1 Calendar Days. The count of calendar days will begin on the date the contractor starts any construction operations on the project.

Job Number	Calendar Days	Daily Road User Cost
J1S3359	60	\$2,300

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the completion date specified in Section 2.0, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **\$250** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified completion date.

4.0 Liquidated Damages for Road User Costs. Should the contractor fail to complete the work on or before the completion date specified in Section 2.0 the contractor will be charged road user costs in accordance with Sec 108.8 in the amount specified in Section 2.1 for each calendar day, or partial day thereof, that the work is not fully completed. These damages are in addition to the contract administrative damages and any other damages as specified elsewhere in this contract.

C. Work Zone Traffic Management

1.0 Description. Work zone traffic management shall be in accordance with applicable portions of Division 100 and Division 600 of the Standard Specifications, and specifically as follows.

1.1 Maintaining Work Zones and Work Zone Reviews. The Work Zone Specialist (WZS) shall maintain work zones in accordance with Sec 616.3.3 and as further stated herein. The WZS shall coordinate and implement any changes approved by the engineer. The WZS shall ensure all traffic control devices are maintained in accordance with Sec 616, the work zone is operated within the hours specified by the engineer, and will not deviate from the specified hours without prior approval of the engineer. The WZS is responsible to manage work zone delay in accordance with these project provisions. When requested by the engineer, the WZS shall submit a weekly report that includes a review of work zone operations for the week. The report shall identify any problems encountered and corrective actions taken. Work zones are subject to unannounced inspections by the engineer and other departmental staff to corroborate the validity of the WZS's review and may require immediate corrective measures and/or additional work zone monitoring.

1.2 Work Zone Deficiencies. Failure to make corrections on time may result in the engineer suspending work. The suspension will be non-excusable and non-compensable regardless if road user costs are being charged for closures.

2.0 Traffic Management Schedule.

2.1 Traffic management schedules shall be submitted to the engineer for review prior to the start of work and prior to any revisions to the traffic management schedule. The traffic

management schedule shall include the proposed traffic control measures, the hours traffic control will be in place, and work hours.

2.2 The traffic management schedule shall conform to the limitations specified in Sec 616 regarding lane closures, traffic shifts, road closures and other width, height and weight restrictions.

2.3 The engineer shall be notified as soon as practical of any postponement due to weather, material or other circumstances.

2.4 In order to ensure minimal traffic interference, the contractor shall schedule lane closures for the absolute minimum amount of time required to complete the work. Lanes shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed lane is opened to traffic.

2.5 Traffic Congestion. The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of **15 minutes** to prevent congestion from escalating beyond this delay threshold. If disruption of the traffic flow occurs and traffic is backed up in queues equal to or greater than the delay time threshold listed above then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable.

2.5.1 Traffic Safety.

2.5.1.1 Recurring Congestion. Where traffic queues routinely extend to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway, or to within 500 feet of the ROAD WORK AHEAD, or similar, sign on an undivided highway, the contractor shall extend the advance warning area, as approved by the engineer.

2.5.1.2 Non-Recurring Congestion. When traffic queues extend to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet of the ROAD WORK AHEAD, or similar, sign on an undivided highway infrequently, the contractor shall deploy a means of providing advance warning of the traffic congestion, as approved by the engineer. The warning location shall be no less than 1000 feet and no more than 0.5 mile in advance of the end of the traffic queue on divided highways and no less than 500 feet and no more than 0.5 mile in advance of the end of the traffic queue on undivided highways.

3.0 Work Hour Restrictions.

3.1 Except for emergency work, as determined by the engineer, and long term lane closures required by project phasing, all lanes shall be scheduled to be open to traffic during the five major holiday periods shown below, from 12:00 noon on the last working day preceding the holiday until 6:00 a.m. on the first working day subsequent to the holiday unless otherwise approved by the engineer.

Memorial Day
Labor Day

Thanksgiving
Christmas
New Year's Day

The contractor shall not perform any construction operation on the active lanes during restricted periods, holiday periods or other special events specified in the contract documents.

3.1.1 Independence Day. The lane restrictions specified in Section 3.1 shall also apply to Independence Day, except that the restricted periods shall be as follows:

12:00 noon July 2, 2020 – 10:00 p.m. July 5, 2020

3.2 The contractor shall not perform any construction operation on the active lanes during restricted periods or other special events specified in the contract documents.

3.3 Any work requiring closing both lanes of westbound US 36 traffic, such as girder replacement, shall be completed during weekend nighttime hours. Nighttime hours shall be considered to be 7:00 p.m. to 6:30 a.m. for this project.

3.4 The contractor shall not alter the start time or ending time of closures without advance notification and approval by the engineer. The only work zone operation approved to begin 30 minutes prior to a reduction in through traffic lanes or ramp closures is the installation of traffic control signs. Should closure of both westbound lanes be placed or remain in place, prior to the approved starting time or after the approved ending time, 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 delays, with a resulting cost to the traveling public. These damages are not easily computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of **\$250 per 15 minute increment** for each 15 minutes that the closure of both westbound lanes are in place and not open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of unapproved closure time.

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

4.0 Detours and Lane Closures.

4.1 When a changeable message sign (CMS) is provided, the contractor shall use the CMS to notify motorists of future traffic disruption and possible traffic delays one week before traffic is shifted to a detour or prior to lane closures. The CMS shall be installed at a location as approved or directed by the engineer. The CMS shall be capable of communication with the Transportation Management Center (TMC), if applicable, prior to installation on right of way. All messages planned for use in the work zone shall be approved and authorized by the engineer or its designee prior to deployment. When permanent dynamic message signs (DMS) owned and operated by MoDOT are located near the project, they may also be used to provide warning and information for the work zone. Permanent DMS shall be operated by the TMC, and any messages planned for use on DMS shall be approved and authorized by the TMC at least 72 hours in advance of the work.

4.2 At least one lane of traffic Westbound Route 36 shall be maintained at all times except for brief intervals of time required when the movement of the contractor's equipment will seriously hinder the safe movement of traffic, or during girder replacement. At least one lane of traffic in each direction of Route 13 shall be maintained at all times except for brief intervals of time required when the movement of the contractor's equipment will seriously hinder the safe movement of traffic, except during stage 2 single shared lane plan. Periods during which the contractor will be allowed to interrupt traffic will be designated by the engineer.

5.0 Basis of Payment. No direct payment will be made to the contractor to recover the cost of equipment, labor, materials or time required to fulfill the above provisions, unless specified elsewhere in the contract document. All authorized changes in the traffic control plan shall be provided for as specified in Sec 616.

D. Emergency Provisions and Incident Management JSP-90-11

1.0 The contractor shall have communication equipment on the construction site or immediate access to other communication systems to request assistance from the police or other emergency agencies for incident management. In case of traffic accidents or the need for police to direct or restore traffic flow through the job site, the contractor shall notify police or other emergency agencies immediately as needed. The area engineer's office shall also be notified when the contractor requests emergency assistance.

2.0 In addition to the 911 emergency telephone number for ambulance, fire or police services, the following agencies may also be notified for accident or emergency situation within the project limits.

Missouri Highway Patrol 816-632-2245		
City of Hamilton	City of Cameron	
Fire: 816-583-7311	Fire: 816-632-2345	
Police: 816-583-7311	Police: 816-632-6521	
Caldwell County Chief of Police 816-583-2681		

2.1 This list is not all inclusive. Notification of the need for wrecker or tow truck services will remain the responsibility of the appropriate police agency.

2.2 The contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.

3.0 No direct pay will be made to the contractor to recover the cost of the communication equipment, labor, materials or time required to fulfill the above provisions.

E. Project Contact for Contractor/Bidder Questions JSP-96-05

All questions concerning this project during the bidding process shall be forwarded to the project contact listed below.

Richard Orr, P.E. – Project Contact
MoDOT Northwest District
3602 N. Belt Highway
St. Joseph, MO 64506

Telephone Number: 816-387-2483
Email: Richard.Orr@modot.mo.gov

All questions concerning the bid document preparation can be directed to the Central Office-Design – at (573) 751-2876.

F. Supplemental Revisions JSP-18-01H

Stormwater Compliance Requirements

1.0 Description. This provision requires the contractor to provide a Water Pollution Control Manager (WPCM) for any project that includes areas of land disturbance that will total one (1) acre or greater on the project site at any point in time. When a WPCM is required, all sections within this provision shall be applicable, including assessment of specified Liquidated Damages for failure to correct Stormwater Deficiencies, as specified herein.

1.1 Applicability. The project site consists of all areas designated on the plans, including temporary and permanent easements. This provision does not apply to Contractor staging, plant, or borrow areas that are not located on MoDOT right of way (Off-site). The Contractor is responsible for obtaining its own separate land disturbance permit for Off-site areas. This provision is in addition to any other stormwater, environmental, and land disturbance requirements specified elsewhere in the contract.

2.0 Water Pollution Control Manager (WPCM). The Contractor shall designate a competent person to serve as the Water Pollution Control Manager (WPCM) for projects meeting the description in Section 1.0. The Contractor shall ensure the WPCM completes all duties listed in Section 2.1.

2.1 Duties of the WPCM:

- (a) Be familiar with the stormwater requirements including the current MoDOT State Operating Permit for construction stormwater discharges/land disturbance activities; MoDOT's statewide Stormwater Pollution Prevention Plan (SWPPP); the Corps of Engineers Section 404 Permit, when applicable; the project specific SWPPP, the Project's Erosion & Sediment Control Plan; all applicable special provisions, specifications, and standard drawings; and this provision;
- (b) Successfully complete the MoDOT Stormwater Training Course within the last 4 years. The MoDOT Stormwater Training is a free online course available at MoDOT.org;
- (c) Attend the Pre-Activity Meeting for Grading and Land Disturbance and all subsequent Weekly Meetings in which grading activities are discussed;
- (d) Oversee and ensure all work is performed in accordance with the Project-specific SWPPP and all updates thereto, or as designated by the Engineer;

- (e) Review the project site for compliance with the Project SWPPP, as needed, from the start of any grading operations until final stabilization is achieved, and take necessary actions to correct any known deficiencies to prevent pollution of the waters of the state or adjacent property owners prior to the engineer's weekly inspections;
- (f) Review and acknowledge receipt of each MoDOT Inspection Report (Land Disturbance Inspection Record) for the Project within forty eight (48) hours of receiving the report and ensure that all Stormwater Deficiencies noted on the report are corrected within 7 days of the stormwater inspection or any extended period of time granted by the Engineer.

3.0 Pre-Activity Meeting for Grading/Land Disturbance and Required Hold Point. A Pre-Activity Meeting for Grading/Land Disturbance shall be held prior to the start of any land disturbance operations. No land disturbance operations shall commence prior to the Pre-Activity Meeting except work necessary to install perimeter controls and entrances. Discussion items at the pre-activity meeting shall include a review of the Project SWPPP, the planned order of grading operations, proposed areas of initial disturbance, identification of all necessary BMPs that shall be installed prior to commencement of grading operations, and any issues relating to compliance with the Stormwater requirements that could arise in the course of construction activity at the project.

3.1 Hold Point. Following the pre-activity meeting for Grading/land disturbance and subsequent installation of the initial BMPs identified at the pre-activity meeting, a Hold Point shall occur prior to the start of any land disturbance operations to allow the engineer and WPCM the time needed to perform an on-site review of the installation of the BMPs to ensure compliance with the SWPPP is met. Land disturbance operations shall not begin until authorization is given by the engineer.

4.0 Inspection Reports. Weekly and post run-off inspections will be performed by the engineer and each Inspection Report (Land Disturbance Inspection Record) will be entered into a web-based Stormwater Compliance database. The WPCM will be granted access to this database and shall promptly review all reports, including any noted deficiencies, and shall acknowledge receipt of the report as required in Section 2.1 (f.).

5.0 Stormwater Deficiency Corrections. All stormwater deficiencies identified in the Inspection Report shall be corrected by the contractor within 7 days of the inspection date or any extended period granted by the engineer when weather or field conditions prohibit the corrective work. If the contractor does not initiate corrective measures within 5 calendar days of the inspection date or any extended period granted by the engineer, all work shall cease on the project except for work to correct these deficiencies, unless otherwise allowed by the engineer. All impact costs related to this halting of work, including, but not limited to stand-by time for equipment, shall be borne by the Contractor. Work shall not resume until the engineer approves the corrective work.

5.1 Liquidated Damages. If the Contractor fails to complete the correction of all Stormwater Deficiencies listed on the MoDOT Inspection Report within the specified time limit, the Commission will be damaged in various ways, including but not limited to, potential liability, required mitigation, environmental clean-up, fines and penalties. 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 \$2,000 per day for failure to correct one or more of the Stormwater Deficiencies listed on the Inspection Report within the specified time

limit. In addition to the stipulated damages, the stoppage of work shall remain in effect until all corrections are complete.

6.0 Basis of Payment. No direct payment will be made for compliance with this provision.

G. Restrictions for Migratory Birds NJSP-16-06A

1.0 Description. Swallows or other bird species protected by the Migratory Bird Treaty Act may be nesting under the bridge or bridges that will be repaired under this contract.

2.0 Restrictions. To comply with the Migratory Bird Treaty Act, nests of protected species cannot be disturbed when active (eggs or young are present). Generally, nests are active between April 1 and July 31, but active nests can be present outside of these dates.

2.1 MoDOT to Maintain Prior to the Notice to Proceed. The bridge, or bridges, associated with the work for this contract have been evaluated and any inactive nests found have been removed by MoDOT staff. MoDOT staff will maintain the structures to be free of nests until the Notice to Proceed date. At the notice to proceed, the contractor shall be responsible to maintain the structures to be free of nests until the work on the applicable bridge, or bridges, is complete.

3.0 Avoidance Measures. The contractor shall not disturb active nests or destroy adults, eggs or young birds. In an effort to comply with the Migratory Bird Treaty Act, the contractor operations will be limited to the options established in the following sections.

3.1 Inactive or Partially Constructed Nests. If nests are present and MoDOT determines that the nests are inactive or partially constructed, the contractor may remove the nests provided that the colony's inactive or partially constructed nests are completely removed by March 15 and the contractor maintains a nest free condition until the bridge work is complete. Dry removal methods shall be used when practicable. If dry removal is not practicable, hydro cleaning may be used if approved by the Engineer and only if water is free of blasting grit, chemicals, or detergents, and applied using pressure less than 5,000 PSI. Clean water such as that from municipal water treatment plants or wells shall be used. Use of source water from Waters of the State (i.e., streams or lakes), is allowable, if the appropriate methods to prevent the possible spread of invasive aquatic species are implemented.

3.2 Water and Equipment Used for Hydro cleaning. Aquatic invasives such as zebra mussels and some algae species have infested several bodies of water in the United States and can be transported by vessels (barges, boats, tugs, tankers, etc.) and equipment (tanks, tubing, pumps, etc.) that have been used in areas that contain these invasive species. If equipment is not properly inspected and treated to prevent the spread of invasives, these species can be introduced into areas not currently known to have a population. These invasive species are detrimental to existing ecosystems and can outcompete native species. To assist in preventing the introduction and spread of aquatic invasive species through MoDOT projects in Missouri streams and lakes, the following precautions shall be followed.

3.2.1 Use of Water from Streams, Lakes or Ponds. Contractors shall not use water for nest removal from streams, lakes or ponds, unless they have implemented appropriate methods to prevent the possible spread of invasive aquatic species. Water sources from municipal water treatment plants or wells may be used without following these measures provided the equipment to be used has not previously contained waters from streams, lakes or ponds. If the

equipment has previously contained waters from other streams or lakes, the following measures must be implemented prior to use.

3.2.1.1 Equipment Washing. Prior to the use or re-use of equipment following any use with water from streams, lakes or ponds, all equipment shall be washed and rinsed thoroughly with hard spray (power wash) and hot (minimum 120° F) water, for at least one minute.

3.2.1.2 Equipment Treating or Drying. Equipment shall be treated or dried in one of the following manners.

3.2.1.2.1 Equipment interior and/or other surfaces shall be treated with a 10% bleach solution to kill any aquatic nuisance species. This solution must also be run through all intake lines and hoses, to sterilize interior components. When chlorine treatment is used, all chlorine runoff from equipment washing must be collected and properly treated and/or disposed of in accordance with Sec 806.

3.2.1.2.2 Equipment interior and/or other surfaces shall be treated with 140° F water for a minimum of 10 seconds contact on all surfaces. 140 ° F water must also be run through all intake lines and hoses, to purge any standing water.

3.2.1.2.3 Equipment shall be flushed of all non-municipal water, and dried thoroughly, in the sun before using in or transporting between streams and lakes. Dry times will depend on the season the equipment is being used. Equipment must dry a minimum of 7 days for June-September, 18 days for March-May; 18 days for October-November, and 30 days for December-February. The drying method should be reserved as a last resort option.

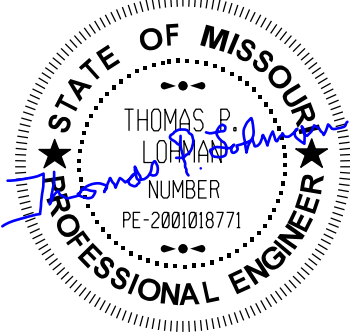
3.2.2 Prior to use of equipment, contractors shall provide the MoDOT inspector written documentation of the equipment's geographic origin (including the water body it was last used in), as well as defining the specified treatment method used to adequately ensure protection against invasive species. The written documentation will include a statement indicating the contractor is aware of these provisions and will also treat the equipment appropriately after completion of the project.

3.3 Active Nests. The contractor may work on the bridge if active nests are present, as long as the work does not impact or disturb the birds and/or nests. At a minimum, work shall not be performed within 10 feet of an active nest; however, the contractor is responsible for ensuring their activities do not impact the nests, eggs, or young.

4.0 Additional Responsibilities. If active bird nests remain after all reasonable avoidance measures have been taken, or if bird nests are observed during project construction, the contractor shall notify the Resident Engineer and contact the MoDOT Environmental Section (573-526-4778) to determine if there are other allowable options.

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	<p>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65101 Phone (888) 275-6636</p>
	<p>Horner & Shifrin, Inc. 401 S. 18th St. St. Louis, MO 63103 314-531-4321 Certificate of Authority #000159</p>
	<p>JOB NO. J1S3359 Caldwell County, MO Date Prepared: 12/9/2019</p>
<p>Date: 12-9-2019</p>	
<p>Only the following items of the Job Special Provisions (Bridge) are authenticated by this seal: A thru J</p>	

JOB SPECIAL PROVISIONS (BRIDGE)

A. CONSTRUCTION REQUIREMENTS

1.0 Description. This provision contains general construction requirements for this project.

2.0 Construction Requirements. Plans and shop drawings for the existing structure are included in the contract in the bridge electronic deliverables zip file for informational purposes only.

2.1 The Contractor shall complete field measurements prior to ordering material.

2.1.1 The contractor shall be responsible for developing all required dimensional adjustments and coordinating the implementation of the dimensional adjustments with all involved fabricators and subcontractors. The contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the dimensions and elevations provided on the plans.

2.2 In order to assure the least traffic interference, the work shall be scheduled so that a lane closure is for the absolute minimum amount of time required to complete the work. A lane shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed lane is opened to traffic.

2.3 Bridge work by contractor forces, including erection, rehabilitation, or demolition, shall not be allowed over traffic unless a bridge platform protection system is installed below the work area except for work performed above a deck that is intact. The protection system shall be capable of catching all falling objects such as tools, overhang brackets or materials. Lifting of objects that are heavier than the capacity of the bridge protection system shall not be allowed.

2.4 Provisions shall be made to prevent any debris and materials from falling onto the roadway. Any debris and materials that falls below the bridge outside the limits mentioned previously and if determined necessary by the engineer, the debris shall be removed as approved by the engineer at the contractor's expense. Traffic under the bridge shall be maintained in accordance with the contract documents.

2.5 Any damage sustained to the remaining structure as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

2.6 Provisions shall be made to prevent damage to any existing utilities. Any damage sustained to the utilities as a result of the contractor's operations shall be the responsibility of the contractor to repair. All costs of repair and disruption of service shall be as determined by the utility owners and as approved by the engineer.

2.7 A washer shall be required under head and nut when any reaming is performed for bolt installation.

2.8 SSPC-SP2 and SSPC-SP-3 surface preparation shall be in accordance with the environmental regulations in [Sec 1081](#) and collection of residue shall be in accordance with [Sec 1081](#) for collection of blast residue. SSPC-SP6, SSPC-SP10 and SSPC-SP-11 surface preparation shall be in accordance with the approved blast media and environmental regulations in [Sec 1081](#) and collection of blast residue shall be in accordance with [Sec 1081](#).

JOB SPECIAL PROVISIONS (BRIDGE)

3.0 Coating Information. The new steel and heat straightened portion of steel shall be coated in accordance with the contract plans.

3.1 Straps Removal. Exposed portions of straps for stay-in-place forms shall be removed prior to surface preparation. Straps need not be removed in areas that are not being painted. Flame cutting will not be permitted. The contractor shall exercise care not to damage the existing structure during removal. Any damage sustained to the remaining structure as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

3.2 Stay-In-Place Forms. The stay-in-place forms shall not be recoated or overcoated or damaged during the painting operation. Any damage sustained as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

3.3 Existing Bridge Information. The informational plans may be used by bidders in determining the amount of existing steel to be cleaned and painted/coated with the full understanding that the State accepts no responsibility for accuracy of the estimated tons of existing steel shown in the table below. The bidder's acceptance and use of the estimate shown below shall be no cause for claim for any final adjustment in the contract unit price for the work involved in repainting. Each bidder is expected to carefully examine the structure, investigate the condition of existing paint and to prepare their own estimate of quantities involved before submitting a bid. Surface preparation and applying field coatings to the structural steel will be based on the contract plan quantities. No final measurements will be made.

Bridge No.	Estimated Tons			Existing Paint System	Lead Based
	Coating System		Total		
	System G	Calcium Sulfonate			
A0010	1	0	1	G	No

3.4 Environmental Contact. Environmental Section may be contacted at the below address or phone number. The Missouri Department of Health may be contacted at 573-751-6102.

- (a) MoDOT - Design Division - Environmental Section
PO Box 270
105 W Capitol Ave, Jefferson City, MO 65102
Telephone (573) 526-4778

3.5 Approved Smelter and Hazardous Waste Treatment, Storage and Disposal Facility. The following is the approved smelter and hazardous waste treatment, storage and disposal facility:

Doe Run Company-Resource Recycling Division-Buick Facility
Highway KK
Boss, MO 65440
Telephone 573-626-4813

4.0 Method of Measurement. No measurement will be made.

JOB SPECIAL PROVISIONS (BRIDGE)

5.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract unit price for other items included in the contract.

B. DEFLECTION AND HAUNCHING

1.0 Description. The contractor shall determine dead load deflections and haunching based on field measurements and/or existing bridge plans and these shall be adjusted based on the difference between the new and existing dead load weights.

2.0 Construction Requirements. In order to properly form the haunches for the new deck, the contractor shall survey top of deck elevations above Beam No. 1 through the limits of Spans 1 and 2 and along each beam line (top or bottom flange) prior to deck removal followed by surveying elevations of the beams (top or bottom flange) after deck removal.

3.0 Method of Measurement. No measurement will be made.

4.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract unit price for other items included in the contract.

C. PARTIAL REMOVAL AND STORAGE OF PEDESTRIAN FENCE

1.0 Description. This provision contains construction requirements for the partial removal and storage of the existing pedestrian fence.

2.0 Construction Requirements. The existing fence shall be removed to the limits as shown on the contract plans.

2.1 The removal shall include the chain link fabric, posts, rails and base plates.

2.2 The Contractor shall carefully remove the fence to avoid damage to any of the components.

2.3 All removed components of the fence shall be stored in a secure manner at a location agreed upon by the Engineer until the fence is ready for re-installation.

2.4 Any damage sustained to the structure that is to remain in place, as a result of the Contractor's operations, shall be repaired or the material replaced as approved by the Engineer at the Contractor's expense.

3.0 Method of Measurement. Measurement will be made to the nearest linear foot.

4.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract unit price for Partial Removal and Storage of Pedestrian Fence.

D. PARTIAL REMOVAL OF SUPERSTRUCTURE

1.0 Description. The existing superstructure shall be removed to the limits shown in Spans 1 & 2 on the contract plans, including safety barrier curb, pedestrian curb, slab, Beam No. 1 and diaphragms.

JOB SPECIAL PROVISIONS (BRIDGE)

2.0 Removal Requirements.

2.1 Removal of the concrete slab shall be in accordance with Sec 216.60.

2.2 Removal shall be by methods such that the structure that is to remain in place is not damaged.

2.2.1 The contractor shall saw cut 1" deep into the slab and barrier to create a clean removal line.

2.2.2 The methods used to remove the superstructure shall prevent any debris being dropped onto the roadway.

2.3 Disposal of materials shall be in accordance with [Sec 202](#).

2.4 Any damage sustained to the structure that is to remain in place, as a result of the Contractor's operations, shall be repaired or the material replaced as approved by the Engineer at the Contractor's expense.

2.5 Where mechanical bar splices are used to connect to existing reinforcing steel, a length of existing reinforcing steel shall be left in place as required for installation of the mechanical bar splices.

2.6 The existing splice plates for Beam No. 1 shall be re-used.

3.0 Method of Measurement. Measurement will be made per square foot of concrete slab to the limits of removal shown on the contract plans.

4.0 Basis of Payment. Payment for the above described work, including all material, equipment, labor, and any other incidental work necessary to complete this item, will be considered completely covered by the contract unit price for Partial Removal of Superstructure.

E. RE-INSTALLATION OF PEDESTRIAN FENCE

1.0 Description. This provision contains construction requirements for re-installation of pedestrian fence.

2.0 Construction Requirements. The existing pedestrian fence that was removed and stored shall be re-installed to the new pedestrian curb.

2.1 All existing components of the fence shall be reinstalled except new U-bolt anchors, nuts and washers shall be installed in accordance with the contract plans.

2.2 Existing base plates shall be used as templates to determine dimensions of the U-bolt anchors.

2.2.1 The use of post-installed anchors will not be allowed.

2.2.2 The contractor shall be solely responsible for making any necessary adjustments to the anchor bolt dimensions to facilitate re-use of the existing base plate.

JOB SPECIAL PROVISIONS (BRIDGE)

3.0 Method of Measurement. Measurement will be made to the nearest linear foot.

4.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract unit price for Re-installation of Pedestrian Fence.

F. PEDESTRIAN CURB

1.0 Description. This provision contains construction requirements for construction of the pedestrian curb.

2.0 Construction Requirements. Pedestrian curb shall be constructed in accordance with the dimensions and details shown on the contract plans and Sec 703.

3.0 Method of Measurement. Measurement will be made to the nearest linear foot.

4.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract unit price for Pedestrian Curb.

G. HEAT STRAIGHTENING OF EXISTING BEAM

1.0 Description. This work shall consist of furnishing the necessary materials, labor, and equipment for heat straightening the damaged portion of Beam No. 3, generally about 10" long located about 23'-0" south of Bent No. 2. This work shall be in accordance with this job special provision and the contract plans.

2.0 Experience Requirements.

2.1 The contractor's organization shall have at least 5 years of experience in conducting heat-straightening repairs for damaged steel structures. During the preceding three year period, the contractor shall have conducted an average of at least 2 heat-straightening projects per year. Experience documentation shall include: date of project, location, bridge owner, number and type of members straightened, and duration of project.

2.2 The contractor's field supervisor shall be a registered professional engineer qualified to practice in one of the following disciplines: structural, metallurgical, or welding engineering.

3.0 Equipment

3.1 Heating shall be with an oxygen-fuel combination. The fuel may be propane, acetylene or other similar fuel as may be selected by the contractor, subjected to the engineer's approval.

3.2 Heat application shall be by single or multiple orifice tips only. The size of the tip shall be proportional to the thickness of the heated material. No cutting torch heads are permitted.

3.3 Jacks, come-alongs or other force application devices shall be gauged and calibrated so that the force exerted by the device may be controlled and measured. No external force shall be applied to the structure by the contractor unless it is measured.

JOB SPECIAL PROVISIONS (BRIDGE)

4.0 Damage Assessment

4.1 The contractor shall identify and document all yield zones, yield lines and associated damage and provide this information to the engineer prior to initiation of heat straightening by either visual inspection or measurements.

4.2 Steel with strains up to 100 times the yield strain may be repaired by heat straightening. For strains greater than this limit, the engineer shall determine if heat straightening may be used.

4.3 Cracks and/or strains exceeding 100 times the yield strain, or other serious defects shall be called to the attention of the engineer.

4.4 The contractor shall prepare and submit a work plan to the engineer for approval prior to beginning repairs.

5.0 Heat Application

5.1 The temperature of the steel during heat straightening shall not exceed the following:

- (a) 650°C (1,200°F) for Carbon Steels.
- (b) 620°C (1,100°F) for A514 and A709 (grades 100 and 100W) steels.
- (c) 565°C (1,050°F) for A709 grade 70W steel.

5.2 The Contractor shall use one or more of the following methods for routine, ongoing, documented temperature verification during heat straightening:

- (a) Temperature sensitive crayons.
- (b) Pyrometer.
- (c) Infrared non-contact thermometer.

5.3 The material should be heated in a single pass following the specified pattern and allowed to cool to below 120°C (250°F) prior to re-heating.

5.4 Heating patterns and sequences shall be selected to match the type of damage and cross section shape.

5.5 Vee heats shall be shifted over the yield zone on successive heating cycles.

5.6 Simultaneous vee heats may be used provided that the clear spacing between vees is greater than the width of the plate element.

5.7 Repair of previously heat-straightened members in the same region of damage may be conducted once. Further repairs shall not be performed without the approval of the engineer.

6.0 Application of Jacking Forces

6.1 Jacks shall be placed so that forces are relieved as straightening occurs during cooling.

JOB SPECIAL PROVISIONS (BRIDGE)

6.2 Magnitude of Jacking Forces

(a) Jacking shall be limited so that the maximum bending moment in the heated zone shall be less than 50 percent of the plastic moment capacity of the member or major bending element. For local damage, the jacking force shall be limited to 50 percent of initial yield of the element.

(b) The jacking force shall be adjusted so that the sum of jacking-induced moments and estimated residual moments shall be less than 50 percent of the plastic moment capacity of the member. As an alternative to considering residual moments, the moment due to jacking forces can be limited to 25 percent of the plastic moment capacity of the member during the first two heating cycles. For additional heating cycles, the limit of 50 percent may again be used.

6.3 The contractor shall determine and document the maximum jacking force for each damage location, and the proposed sequence of jacking and heating. Copies of the documentation shall be submitted to the engineer for acceptance before beginning repairs. Modifications due to changing condition shall be submitted to the engineer. The maximum jacking force may be controlled by measuring the deflection resulting from the jacking force.

6.4 The calibration of jacks and electronic temperature monitoring equipment shall be performed and documented monthly, and load cells used for calibration must be certified within a two year period.

7.0 Field Supervision of Repairs

7.1 Jacking forces shall be monitored to insure that limits are not exceeded.

7.2 Heating patterns shall be approved by the engineer.

7.3 Heating temperatures shall be routinely monitored to insure compliance with specified limits.

8.0 Field Supervision of Repairs

8.1 The dimensions of heat-straightened structural members shall conform to the tolerances specified in Table A1, except as noted below.

Table A1 - Recommended Tolerances for Heat Straightening Repair.

Member Type	Recommended Minimum Tolerance^{1,2}
Beam/Girder overall at impact point	1/2 in over 20 ft 3/4 in over 20 ft
Local Web Deviations	d/100 but not less than 1/4 in
Local Flange Deviations	b/100 but not less than 1/4 in

¹ Units of member depth, d, and flange width, b, are inches

² Tolerances for curved or cambered members should account for the original shape of the member

JOB SPECIAL PROVISIONS (BRIDGE)

8.2 The above tolerance limits may be relaxed at the discretion of the engineer, based on one or more of the following considerations:

- (a) Type and location of damage in the member.
- (b) Time considerations resulting from the nature of traffic congestion during the repair operation.
- (c) Degree of restoration required to restore structural integrity.

8.3 Any suspected cracks developed during the heat straightening of the steel members, shall be called to the attention of the Engineer and shall be inspected by one or more of the following methods as applicable:

- (a) Liquid penetrant examination as described in ASTM E165 (1994 or latest edition).
- (b) Magnetic-Particle testing as described in ASTM E709 (1994 or latest edition).
- (c) Ultrasonic examination as described in section 6, part C of the ANSI/AASHTO/AWS Bridge Welding Code D1.5, American Welding Society (1996 or latest edition).
- (d) Radiographic examination as described in section 6, part B of the ANSI/AASHTO/AWS Bridge Welding Code D1.5, American Welding Society (1996 or latest edition).

9.0 Method of Measurement. No measurement will be made.

10.0 Basis of Payment. Payment for the above described work including all material, labor, tools, equipment, temporary jacks and all incidentals necessary to complete this item of work will be considered completely covered by the contract lump sum price for Heat Straightening of Existing Beam.

H. TEMPORARY SUPPORT

1.0 Description. Beam No. 1 shall be temporarily supported in Span 1 near the splice.

2.0 Construction Requirements.

2.1 Prior to removal of the deck, the Contractor shall install a Temporary Support system to support Beam No. 1 near the field splice.

2.1.1 The Temporary Support shall be installed snug to the beam prior to removal of the deck.

2.2 The Contractor shall be responsible for returning any disturbed ground to its pre-project condition as approved by the Engineer.

3.0 Design Requirements.

3.1 The Temporary Support shall be designed in accordance with AASHTO Guide Design Specifications for Bridge Temporary Works, 2nd Edition and calculations sealed by a Professional Engineer registered in the state of Missouri.

JOB SPECIAL PROVISIONS (BRIDGE)

3.1.1 The Temporary Support shall be capable of supporting an unfactored dead load of 23 kip and 50 psf construction loads.

4.0 Submittal Requirements.

4.1 The Contractor shall submit the sealed design to the Engineer for approval at least 2 weeks prior to construction of the Temporary Support.

4.2 Shop drawings will not be required.

5.0 Method of Measurement. Measurement will not be made.

6.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract lump sum price for Temporary Support.

I. RESET BEARING

1.0 Description. This provision contains requirements for resetting the bearing under Beam No. 1 at Bent No. 2 only.

2.0 Construction Requirements.

2.1 Bearing Inspection and Repair. After the Beam No. 1 is removed and prior to re-installation on to the new beam, the bearing shall be inspected for deterioration. Any or all portions of the deteriorated bearings shall be replaced as determined by the engineer. When required to remove a bearing, removal of the bearing shall cause no damage to the existing anchor bolts in the concrete beam. Prior to removal or disassembly, all bearings shall be match marked for reassembly at ends of each piece by stamping an identification number in the metal with a steel stencil. All existing bearing material determined to be replaced shall be disposed of by the contractor in accordance with [Sec 202](#).

2.2 Attachment to New Beam. The bearing shall be attached to the new beam using new bolts of the same size as the existing bolts. Holes in the bottom flange of the beam may be field drilled to match the location of the bearing holes.

2.3 Cleaning, Lubricating and Coating. Bearings shall be cleaned in accordance with [Sec 1081](#). After cleaning and just prior to resetting the bearings, contact surfaces between the bearing pin and cradle shall be given a heavy coat of a graphite grease with a minimum of twenty percent graphite. After bearings are reset, the bearings shall receive a final cleaning and a prime coat. The final coat shall be applied when the existing structural steel is coated. Coating of bearings shall be as indicated for coating existing steel as specified in the contract documents.

3.0 Method of Measurement. Measurement will not be made.

4.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract lump sum price for Reset Bearing.

JOB SPECIAL PROVISIONS (BRIDGE)

J. STRUCTURAL STEEL REQUIREMENTS

1.0 Description. This provision contains general structural steel requirements for this project.

2.0 Material. All material shall be in accordance with Division 1000, Material Details, and specifically as shown below. The gray epoxy-mastic primer (non-aluminum) shall be compatible with concrete and produce a dry film thickness of no less than 3 mils (75 µm).

Item	Section
Structural Steel Construction	712
Gray Epoxy-Mastic Primer (non-aluminum)	1045
Structural Steel Fabrication	1080
Coating of Structural Steel	1081

3.0 Construction Requirements.

3.1 Before fabrication of new metalwork, the Contractor shall make the necessary measurements in the field to verify dimensions of the existing structure where new members are affected. Any deviation of the dimensions shown on the plans shall be called to the engineer's attention. The Contractor shall be responsible for developing all required dimensional adjustments and coordinating the implementation of the dimensional adjustments with all involved fabricators and subcontractors.

3.2 Prior to erection of the new structural steel, the steel that is to remain shall be carefully inspected for irregularities. If such irregularities are found, the irregularities shall be brought to the attention of the engineer.

3.3 Holes in the new diaphragm connection plates and angles may be used as a template for drilling the holes in the existing material.

3.4 A minimum edge distance shall be maintained for all field drilled holes. The minimum edge distance for bolts shall be as shown in table below measured from the centerline of holes.

Bolt Diameter	Minimum Edge Distance
inch (mm)	inch (mm)
3/4 (19.0)	1-1/4 (32)
7/8 (22.2)	1-1/2 (38)
1 (25.4)	1-3/4 (45)

3.5 The surfaces of existing steel that will become faying surfaces for new connections shall be cleaned according to the manufacturer's recommendation and with a minimum of SSPC-SP-3 surface preparation and coated with one prime coat of Gray Epoxy-Mastic Primer (non-aluminum) in accordance with [Sec 1081](#).

4.0 Method of Measurement. No measurement will be made.

5.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract unit price for the structural steel items included in the contract. No payments or adjustments will be made where new members are affected due to any deviation of the dimensions shown on plans or shop drawings.