

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

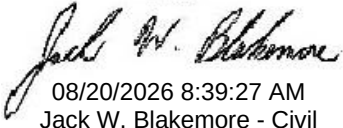
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Job No.: JSL0038

Route: I-44

County: Franklin

|                                                                                                                                                                                                                                                  |                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <br><br>08/20/2026 8:39:27 AM<br>Jack W. Blakemore - Civil<br>MO PE 2000155321 | <b>MISSOURI HIGHWAYS AND<br/>TRANSPORTATION COMMISSION</b><br>105 W. CAPITOL AVE.<br>JEFFERSON CITY, MO 65102<br>Phone 1-888-275-6636 |
|                                                                                                                                                                                                                                                  | <b>CRAWFORD, MURPHY &amp; TILLY, INC.</b><br><i>One Memorial Drive, Suite 500<br/>St. Louis, MO 63102</i>                             |
|                                                                                                                                                                                                                                                  | Certificate of Authority: 000631<br>Consultant Phone: 314-436-5500                                                                    |
|                                                                                                                                                                                                                                                  | If a seal is present on this sheet, JSP's<br>have been electronically sealed and<br>dated.                                            |
|                                                                                                                                                                                                                                                  | JOB NUMBER: JSL0038<br>FRANKLIN COUNTY, MO<br>DATE PREPARED: 8/19/26                                                                  |
| ADDENDUM DATE:                                                                                                                                                                                                                                   |                                                                                                                                       |
| Only the following items of the Job Special Provisions (Roadway) are<br>authenticated by this seal: All                                                                                                                                          |                                                                                                                                       |

JOB  
SPECIAL PROVISION

A. General - Federal JSP-09-02M

**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](http://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](http://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 2026 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- 13-01E

**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.

**1.1 Subproject Identification.** Portions of the Contract are hereby identified as subprojects with the following assignment of Bridge Number, Route, or other location of work. This identification is done for the purpose of setting time limits for completion of each subproject and to allow partial acceptance of the work for maintenance as subprojects are completed.

**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 on all projects 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: October 22, 2026  
Contract Completion Date: August 25, 2028

**2.1 Calendar Days.** Completion of the project is required as specified herein. The count of calendar days will begin on the date the contractor starts any construction operations on the project.

|         |               |                      |
|---------|---------------|----------------------|
| Project | Calendar Days | Daily Road User Cost |
| JSL0038 | N/A           | \$7,600              |

**3.0 Liquidated Damages for Contract Administrative Costs.** Should the contractor fail to complete the work on or before the contract completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with [Sec 108.8](#) in the amount of **\$3,000** 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 specified contract completion date or calendar days.

**4.0 Liquidated Damages for Road User Costs.** Should the contractor fail to complete the work on or before the contract completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, 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.

**5.0 Liquidated Damages for Winter Months.** Delete Sec 108.8.1.3 (a)

Liquidated damages for failure to complete the work on time shall not be waived from December 15 to March 15, both dates inclusive.

C. Work Zone Traffic Management JSP-02-06N

**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.

**2.5.1 Traffic Congestion – Interstate & Non-Signalized Multi-Lane Roadways.** 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 **10 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 that generate text and/or email notifications where available. The engineer monitoring 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. When a Work Zone Analysis Spreadsheet is provided, the contractor will find it in the electronic deliverables on MoDOT's Online Plans Room. The contractor may refer to the Work Zone Analysis Spreadsheet for detailed information on traffic delays.

**2.5.2 Traffic Congestion – Two Lane Roadways.** 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 10 minutes to prevent congestion from escalating to 15 minute or above threshold. If disruption of the traffic flow occurs and traffic is backed up in queues of 15 minute delays or longer, 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 that generate text and/or email notifications where available. The engineer monitoring 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.

### **2.5.3 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.

**2.6 Transportation Management Plan.** The contractor Work Zone Specialist (WZS) shall review the Transportation Management Plan (TMP), found as an electronic deliverable on MoDOT's Online Plans Room and discuss the TMP with the engineer during the preconstruction conference. Throughout the construction project, the WZS is responsible for updating any changes or modifications to the TMP and getting those changes approved by the engineer a minimum of two weeks in advance of implementation. The WZS shall participate in the post construction conference and provide recommendations on how future TMPs can be improved.

**2.7 Traffic Management Center (TMC) Coordination.** The Work Zone Specialist (WZS) or their designee shall contact by phone the MoDOT Traffic Management Center (KC Scout TMC at #816-347-2250 or Gateway Guide TMC at #314-275-1513) within five minutes of a lane or ramp closure beginning and within five minutes of a lane or ramp closure being removed. The WZS shall make this phone call 24 hours a day, 365 days of the year since the MoDOT Traffic Management Centers are always staffed.

### **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

**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:

| <b>When Independence Day falls on:</b> | <b>The Holiday is Observed on:</b> | <b>Halt Lane Closures beginning at:</b> | <b>Allow Lane Closures to resume at:</b> |
|----------------------------------------|------------------------------------|-----------------------------------------|------------------------------------------|
| Sunday                                 | Monday                             | Noon on Friday                          | 6:00 a.m. on Tuesday                     |
| Monday                                 | Monday                             | Noon on Friday                          | 6:00 a.m. on Tuesday                     |
| Tuesday                                | Tuesday                            | Noon on Monday                          | 6:00 a.m. on Wednesday                   |
| Wednesday                              | Wednesday                          | Noon on Tuesday                         | 6:00 a.m. on Thursday                    |
| Thursday                               | Thursday                           | Noon on Wednesday                       | 6:00 a.m. on Friday                      |
| Friday                                 | Friday                             | Noon on Thursday                        | 6:00 a.m. on Monday                      |
| Saturday                               | Friday                             | Noon on Thursday                        | 6:00 a.m. on Monday                      |

**3.2** The contractor shall not perform any construction operation on the roadway, roadbed or active lanes, including the hauling of material within the project limits, during restricted periods, holiday periods or other special events specified in the contract documents.

**3.3** The contractor shall be aware that traffic volume data indicates construction operations on the roadbed between the following hours will likely result in traffic queues greater than 15 minutes. Based on this, the contractor's operations will be restricted accordingly unless it can be successfully demonstrated the operations can be performed without a 15 minute queue in traffic. It shall be the responsibility of the engineer to determine if the above work hours may be modified. Working hours for evenings, weekends and holidays will be determined by the engineer. Any work requiring a reduction in the number of through lanes will not be allowed at the following locations and times:

I-44 Eastbound:

5:00 am – 8:00 pm (all days except Sunday)

5:00 am – 9:00 pm (Sunday)

I-44 Westbound:

5:00 am – 8:00 pm (all days except Friday)

5:00 am – 9:00 pm (Friday)

Route D:

5:00 am – 7:00 pm (all days)

Route AF:

5:00 am – 7:00 pm (all days)

Route W/JJ:

No restrictions (all days)

Route 30:

7:00 am – 9:00 am (all days)

3:00 pm – 6:00 pm (all days)

N. Service Rd.:



6:00 am – 8:00 am (all days)

3:00 pm – 5:00 pm (all days)

Shoulder Closure (all roadways):

No restrictions if there is no impact to traffic (all days)

**3.4** The contractor shall not alter the start time, ending time, or a reduction in the number of through lanes of traffic or ramp 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 lane closures 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 **\$1,000 per 15 minute increment** for each 15 minutes that the temporary lane closures 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. If a CMS with Communication Interface is required, then the CMS shall be capable of communication 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.

#### **5.0 Interchange Exit Ramp Traffic Flow.**

The contractor is required to pay special attention at all times to the traffic flow on the interchange exit ramps at the following interchanges when work is actively taking place and/or roadway restrictions are in place related to work on this project.

I-44 at Route D (Sullivan)

I-44 at Route AF (Sullivan)

I-44 at Route W/JJ (Stanton)

I-44 at Route 30 (St. Clair)

If at any time the traffic queue along any of the exit ramps at these interchanges exceeds 75% of the storage distance to the pavement gore point from the start of the ramps, immediate corrective action shall be required to modify traffic flow in order to avoid further backup along the ramps which could result in a traffic safety issue. Immediate corrective action means work may need to be abruptly halted to open traffic lanes and/or provide more traffic flow resulting in a reduction of the traffic queue on the ramps. Work will not be allowed to proceed, or restrictions reinstalled until such time as the traffic queue on the exit ramps is reduced to 25% of the storage length of the ramps to the pavement gore point at the start of the ramps, or at the discretion of the Engineer.

## **6.0 Allowable Work Zone Posted Speed Reductions**

**6.1** The current posted speed limit shall be used for erection and placement of all work zone temporary traffic control measures.

**6.2** The Contractor shall be allowed to reduce the posted speed limit by 10 miles per hour in segments of the project approved by the Engineer.

**7.0 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-90-11A**

**1.0** The contractor shall have communication equipment on the construction site or immediate access to other communication systems to request assistance from law enforcement or other emergency agencies for incident management. In case of traffic accidents or the need for law enforcement to direct or restore traffic flow through the job site, the contractor shall notify law enforcement 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 law enforcement services, the following agencies may also be notified for accident or emergency situation within the project limits.

**Transportation Management Center**

314-275-1500

**Missouri State Highway Patrol (Troop C)**

636-300-2800

**City of Sullivan**

Police: 573-468-8001

Fire Protection District: 573-468-6161

**City St. Clair**

Police: 636-629-1313

Fire Protection District: 636-629-2727

**Franklin County Sheriff**

636-583-2560

**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 law enforcement agency.

**2.2** The contractor shall notify law 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 law 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-96-05A**

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

Aaron J. Groff, Project Contact  
St. Louis District  
1590 Woodlake Drive  
Chesterfield, MO 63017

Telephone Number: 314-453-1876  
Email: [Aaron.Groff@modot.mo.gov](mailto:Aaron.Groff@modot.mo.gov)

**1.1** All questions concerning the bid document preparation can be directed to the Central Office – Design as listed below.

Telephone Number: (573) 751-2876  
Email: [BCS@modot.mo.gov](mailto:BCS@modot.mo.gov)

**2.0** Upon award and execution of the contract, the successful bidder/contractor shall forward all questions and coordinate the work with the engineer listed below:

Christine Redhage, Resident Engineer  
St. Louis District  
3595 Plass Road  
Festus, MO 63028

Telephone Number: 314-435-5018  
Email: [christine.redhage@modot.mo.gov](mailto:christine.redhage@modot.mo.gov)

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

**F. Supplemental Revisions JSP-18-01KK**

- Compliance with [2 CFR 200.216 – Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment](#).

The Missouri Highways and Transportation Commission shall not enter into a contract (or extend or renew a contract) using federal funds to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as substantial or as critical technology as part of any system where the video surveillance and telecommunications equipment was produced by Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

- Stormwater Compliance Requirements

**1.0 Description.** This provision requires the contractor to provide a Water Pollution Control Manager (WPCM) for any project that includes land disturbance on the project site and the total area of land disturbance, both on the project site, and all Off-site support areas, is one (1) acre or more. Regardless of the area of Off-site disturbance, if no land disturbance occurs on the project site, these provisions do not apply. 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. This provision is in addition to any other stormwater, environmental, and land disturbance requirements specified elsewhere in the contract.

**1.1 Definitions.** The project site is defined as all areas designated on the plans, including temporary and permanent easements. The project site is equivalent to the “permitted site”, as defined in MoDOT’s State Operating Permit. An Off-site area is defined as any location off the project site the contractor utilizes for a dedicated project support function, such as, but not limited to, staging area, plant site, borrow area, or waste area.

**1.2 Reporting of Off-Site Land Disturbance.** If the project includes any planned land disturbance on the project site, prior to the start of work, the contractor shall submit a written report to the engineer that discloses all Off-site support areas where land disturbance is planned, the total acreage of anticipated land disturbance on those sites, and the land disturbance permit number(s). Upon request by the engineer, the contractor shall submit a copy of its land disturbance permit(s) for Off-site locations. Based on the total acreage of land disturbance, both on and Off-site, the engineer shall determine if these Stormwater Compliance Requirements shall apply. The contractor shall immediately report any changes to the planned area of Off-site land disturbance. The contractor is responsible for obtaining its own separate land disturbance permit for Off-site areas.

**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 as soon as possible, but no later than stated in Section 5.0.

**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.

- **Delete Sec 106.9 in its entirety and substitute the following:**

**106.9 Buy America Requirements.**

Buy America Requirements are waived if the total amount of Federal financial assistance applied to the project, through awards or subawards, is below \$500,000.

**106.9.1 Buy America Requirements for Iron or Steel Products.**

The contractor's attention is directed to Title 23 CFR 635.410 *Buy America Requirements*. Where articles, materials or supplies that consist wholly or predominantly of iron or steel or a combination of both are to be permanently incorporated into the contract work, steel and iron material shall be manufactured, from the initial melting stage through the application of coatings, in the USA except for "minimal use" as described herein. Predominantly of iron or steel or a combination of both means that the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. Under a general waiver from FHWA the use of pig iron and processed, pelletized, and reduced iron ore manufactured outside of the USA will be permitted in the domestic manufacturing process for steel or iron material.

**106.9.1.1** Any sources other than the USA as defined will be considered foreign. The required domestic manufacturing process shall include formation of ingots and any subsequent process. Coatings shall include any surface finish that protects or adds value to the product.

**106.9.1.2** "Minimal use" of foreign steel, iron or coating processes will be permitted, provided the cost of such products does not exceed 1/10 of one percent (0.1 percent) of the total contract cost or \$2,500.00, whichever is greater. If foreign steel, iron, or coating processes are used, invoices to document the cost of the foreign portion, as delivered to the project, shall be provided and the engineer's written approval obtained prior to placing the material in any work.

**106.9.1.3** Buy America requirements include a step certification for all fabrication processes of all steel or iron materials that are accepted per Sec 1000. The AASHTO Product Evaluation and Audit Solutions compliance program verifies that all steel and iron products fabrication processes conform to 23 CFR 635.410 Buy America Requirements and is an acceptable standard per 23 CFR 635.410(d). AASHTO Product Evaluation and Audit Solutions compliant suppliers will not be required to submit step certification documentation with the shipment for some selected steel and iron materials. The AASHTO Product Evaluation and Audit Solutions compliant supplier shall

maintain the step certification documentation on file and shall provide this documentation to the engineer upon request.

**106.9.1.3.1** Items designated as Category 1 will consist of steel girders, piling, and reinforcing steel installed on site. Category 1 items require supporting documentation prior to incorporation into the project showing all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements. This includes the Mill Test Report from the original producing steel mill and certifications documenting the manufacturing process for all subsequent fabrication, including coatings. The certification shall include language that certifies all steel and iron materials permanently incorporated in this project was procured and processed domestically and all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410.

**106.9.1.3.2** Items designated as Category 2 will include all other steel or iron products not in Category 1 and permanently incorporated in the project. Category 2 items shall consist of, but not be limited to items such as fencing, guardrail, signing, lighting and signal supports. The prime contractor is required to submit a material of origin form certification prior to incorporation into the project from the fabricator for each item that the product is domestic. The Certificate of Materials Origin form ([link to certificate form](#)) from the fabricator must show all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements and be signed by a fabricator representative. The engineer reserves the right to request additional information and documentation to verify that all Buy America requirements have been satisfied. These documents shall be submitted upon request by the engineer and retained for a period of 3 years after the last reimbursement of the material.

**106.9.1.3.3** Any minor miscellaneous steel or iron items that are not included in the materials specifications shall be certified by the prime contractor as being procured domestically. Examples of these items would be bolts for sign posts, anchorage inserts, etc. The certification shall read "I certify that all steel and iron materials permanently incorporated in this project during all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements procured and processed domestically in accordance with CFR Title 23 Section 635.410 Buy America Requirements. Any foreign steel used was submitted and accepted under minor usage". The certification shall be signed by an authorized representative of the prime contractor.

**106.9.1.4** When permitted in the contract, alternate bids may be submitted for foreign steel and iron products. The award of the contract when alternate bids are permitted will be based on the lowest total bid of the contract based on furnishing domestic steel or iron products or 125 percent of the lowest total bid based on furnishing foreign steel or iron products. If foreign steel or iron products are awarded in the contract, domestic steel or iron products may be used; however, payment will be at the contract unit price for foreign steel or iron products.

**106.9.2 Buy America Requirements for Construction Materials other than iron or steel products.**

Construction materials mean articles, materials, or supplies that consist of only one of the items listed. Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material. Upon request by the engineer, the contractor shall submit a domestic certification for all construction materials listed that are

incorporated into the project.

- (a) Non-ferrous metals
- (b) Plastic and Polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables)
- (c) Glass (including optic glass)
- (d) Fiber optic cable (including drop cable)
- (e) Optical fiber
- (f) Lumber
- (g) Engineered wood
- (h) Drywall

### **106.9.3 Buy America Requirements for Manufactured Products.**

Manufactured products mean articles, materials or supplies that have been processed into a specific form and shape, or combined with other articles, materials or supplies to create a product with different properties than the individual articles, materials or supplies. If an item is classified as an iron or steel product, an excluded material, or other product category as specified by law or in 2 CFR part 184, then it is not a manufactured product. However, an article, material or supply classified as a manufactured product may include components that are iron or steel products, excluded materials, or other product categories as specified by law or in 2 CFR part 184. Mixtures of excluded materials delivered to a work site without final form for incorporation into a project are not a manufactured product.

**106.9.3.1** Produced in the United States, in the case of manufactured products, means:

(A) For projects obligated on or after October 1, 2025, the product was manufactured in the United States; and

(B) For projects obligated on or after October 1, 2026, the product was manufactured in the United States and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product.

**106.9.3.2** (i) With respect to precast concrete products that are classified as manufactured products, components of precast concrete products that consist wholly or predominantly of iron or steel or a combination of both shall meet the requirements of paragraph (b) of this section. The cost of such components shall be included in the applicable calculation for purposes of determining whether the precast concrete product is produced in the United States.

(ii) With respect to intelligent transportation systems and other electronic hardware systems that are installed in the highway right of way or other real property and classified as manufactured products, the cabinets or other enclosures of such systems that consist wholly or predominantly of iron or steel or a combination of both shall meet the requirements of paragraph (b) of this section. The cost of cabinets or other enclosures shall be included in the applicable calculation for purposes of determining whether systems referred to in the preceding sentence are produced in the United States.

### **106.9.4 Waiver for De Minimis Costs for Manufactured and Construction Materials other than iron or steel products.**

"The total value of the non-compliant products is no more than the lesser of \$1,000,000 or 5% of total applicable costs for the project." The contractor shall submit to the engineer any non-domestic materials and their total material cost to the engineer. The contractor and the engineer will both track these totals to assure that the minimal usage allowance is not exceeded.



- Third-Party Test Waiver for Concrete Aggregate

**1.0 Description.** Third party tests may be allowed for determining the durability factor for concrete pavement and concrete masonry aggregate.

**2.0 Material.** All aggregate for concrete shall be in accordance with Sec 1005.

**2.1** MoDOT personnel shall be present at the time of sampling at the quarry. The aggregate sample shall be placed in an approved tamper-evident container (provided by the quarry) for shipment to the third-party testing facility.

**2.2** AASHTO T 161 Method B Resistance of Concrete to Rapid Freezing and Thawing, shall be used to determine the aggregate durability factor. All concrete beams for testing shall be 3-inch wide by 4-inch deep by 16-inch long or 3.5-inch wide by 4.5-inch deep by 16-inch long. All beams for testing shall receive a 35-day wet cure fully immersed in saturated lime water prior to initiating the testing process.

**2.3** Concrete test beams shall be made using a MoDOT approved concrete pavement mix design.

**3.0 Testing Facility Requirements.** All third-party test facilities shall meet the requirements outlined in this provision.

**3.1** The testing facility shall be AASHTO accredited.

**3.1.1** For tests ran after January 1, 2025, accreditation documentation shall be on file with the Construction and Materials Division prior to any tests being performed.

**3.1.2** Construction and Materials Division may consider tests completed prior to January 1, 2025, to be acceptable if all sections of this provision are met, with the exception of 3.1.1. Accreditation documentation shall be provided with the test results for tests completed prior to January 1, 2025. No tests completed prior to September 1, 2024, will be accepted.

**3.2** The testing facility shall provide their testing process, list of equipment, equipment calibration documentation, and testing certifications or qualifications of technicians performing the AASHTO T 161 Procedure B tests. The testing facility shall provide details on their freezing and thawing apparatus including the time and temperature profile of their freeze-thaw chamber. The profile shall include the temperature set points throughout the entirety of the freeze-thaw cycle. The profile shall show the cycle time at which the apparatus drains/fills with water and the cycle time at which the apparatus begins cooling the specimens.

**3.3** Results, no more than five years old, from the third-party test facility shall compare within  $\pm 2.0$  percent of an independent test from another AASHTO accredited test facility or with MoDOT test records, in order to be approved for use (e.g. test facility results in a durability factor of 79, MoDOT's recent durability test factor is 81; this compared within +2 percent). The independent testing facility shall be in accordance with this provision. The comparison test can be from a different sample of the same ledge combination.

**3.4** When there is a dispute between the third party durability test results and MoDOT durability test results, the MoDOT durability test result shall govern.

**3.5** Test results shall be submitted to MoDOT's Construction and Materials division electronically for final approval. Test results shall include raw data for all measurements of relative dynamic modulus of elasticity and percent length change for each individual concrete specimen. Raw data shall include initial measurements made at zero cycles and every subsequent measurement of concrete specimens. Raw data shall include the cycle count and date each measurement was taken. Test results shall also include properties of the concrete mixture as required by AASHTO T 161. This shall include the gradation of the coarse aggregate sample. If AASHTO T 152 is used to measure fresh air content, then the aggregate correction factor for the mix determined in accordance with AASHTO T 152 shall also be included.

**4.0 Method of Measurement.** There is no method of measurement for this provision. The testing requirements and number of specimens shall be in accordance with AASHTO T 161 Procedure B.

**5.0 Basis of Payment.** No direct payment will be made to the contractor or quarry to recover the cost of aggregate samples, sample shipments, testing equipment, labor to prepare samples or test samples, or developing the durability report.

- ***Delete paragraph 15.0 of the General Provision Disadvantaged Business Enterprise (DBE) Program Requirements and substitute the following:***

**15.0 Bidder's List Quote Summary.** MoDOT is a recipient of federal funds and is required by 49 CFR 26.11 to provide data about its DBE program. All bidders who seek to work on federally assisted contracts must submit data about all DBE and non-DBEs in accordance with Sec 102.7.9. MoDOT will not compare the submitted Bidder's List Quote Summary to any other documents or submittals, pre or post award. All information will be used by MoDOT in accordance with 49 CFR 26.11 for reporting to USDOT and to aid in overall DBE goal setting.

- ***Add Sec 102.7.9 to include the following:***

**102.7.9 Bidder's List Quote Summary.** Each bidder shall submit with each bid a summary of all subcontractors, material suppliers, and service providers (e.g. hauling) considered on federally funded projects pursuant to 49 CFR 26.11. The bidder will provide the firm's name, the corresponding North American Industry Classification System (NAICS) code(s) the firm(s) were considered for, and whether or not they were used in the bid. The information submitted should be the most complete information available at the time of bid. The information shall be disclosed on the Bidder's List Quote Summary form provided in the bidding documents and submitted in accordance with Sec 102.10. Failure to disclose this information may result in a bid being declared irregular.

G. Utilities JSP-93-26F

**1.0** For informational purposes only, the following is a list of names and contact details for the known utility companies in the area of the construction work limits:

| <u>Utility Name</u>                                                                                                 | <u>Known<br/>Required<br/>Adjustment</u> | <u>Type</u>           |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----------------------|
| <b>Lumen</b><br>Rich Obremski<br>Phone: (314) 378-9931<br>Email: Richard.Obremski@lumen.com                         | Yes                                      | Communications<br>2.0 |
| <b>Att Distribution</b><br>Justin Courtosie<br>Phone: (314) 277-4708<br>Email: Jc660s@att.com                       | None                                     | Communications        |
| <b>Spectrum Mid-Amereica, LLC</b><br>Donald Hatfield<br>Phone: (314) 341-4450<br>Email: Donald.Hatfield@charter.com | None                                     | Communications        |
| <b>Ameren</b><br>Julie King<br>Phone: (314) 243-0236<br>Email: JKing9@ameren.com                                    | None                                     | Electric              |
| <b>Spire</b><br>Ryan Rzaadca<br>Phone: (314) 575-5087<br>Email: Ryan.Rzaadca@spireenergy.com                        | Yes                                      | Gas<br>3.0            |
| <b>City of St. Clair</b><br>Jason Ivie<br>Phone: (314) 435-3910<br>Email: publicworks@stclairmo.us                  | None                                     | Water & Sewer         |

**1.1** The existence and approximate location of utility facilities known to exist, as shown on the plans, are based upon the best information available to the Commission at this time. This information is provided by the Commission "as-is" and the Commission expressly disclaims any representation or warranty as to the completeness, accuracy, or suitability of the information for any use. Reliance upon this information is done at the risk and peril of the user, and the Commission shall not be liable for any damages that may arise from any error in the information. It is, therefore, the responsibility of the contractor to verify the above listing information indicating existence, location, and status of any facility. Such verification includes direct contact with the listed utilities.

**2.0 Lumen's fiber optic cable conduit** and pull boxes will need to be relocated prior to the grading and construction of the on and off ramps to and from the converted eastbound I-44 weigh scale house to tractor trailer parking lot. Lumen will have the fiber optic cable, conduit, and pull box facilities adjusted prior to the construction and grading of the eastbound on and off ramp improvements.

**3.0 Spire Gas** has a 6" gas main crossing I-44 near centerline station 726+00.48. The construction plans also show the placement of guardrail post, a 15 inch group A pipe, and drainage structure 17 in the general vicinity of where the 6" gas main is situated in the northside greenspace of westbound I-44 and the southside of the north outer roadway. The contractor shall pot hole the 6" gas main prior to the construction and placement of the guardrail, 15 inch group A pipe, and drainage structure 17, so to adjust location of the above mentioned proposed roadway features to avoid impacts to the gas main. Please refer to JSP RRR for additional advisement of pot holing of utility facilities in the project limits.

**4.0** Please refer to JSP RRR for additional information on the pot holing of utility facilities during the placement of new guardrail and sign post locations as needed protection to avoid damage to existing utility facilities within the project limits.

**5.0 If utility facilities are discovered**, the contractor shall contact the MoDOT Area Utility Coordinator (Michael Quadrini: 314-648-4079 or Michael.Quadrini@modot.mo.gov). The engineer will determine whether relocation of the utility is necessary to accommodate construction or if the work can be installed in accordance with Missouri Standard Plans for Highway Construction for the specified item of work.

**5.0 Basis of Payment:** No direct payment will be made for complying with this provision.

#### H. Liquidated Damages Specified JSP-93-28A

**1.0 Description.** If the I-44 westbound rest area work is not complete and open to traffic within 75 consecutive calendar days from the first day of work at this location, 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 \$1000 per day for each full calendar day that the I-44 westbound rest area is not complete and 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 excess closure time. Calendar days will begin accumulating once the contractor initiates the closure of the I-44 westbound rest area.

**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.

I. Contractor Quality Control NJSP-15-42

**1.0** The contractor shall perform Quality Control (QC) testing in accordance with the specifications and as specified herein. The contractor shall submit a Quality Control Plan (QC Plan) to the engineer for approval that includes all items listed in Section 2.0, prior to beginning work.

**2.0 Quality Control Plan.**

- (a) The name and contact information of the person in responsible charge of the QC testing.
- (b) A list of the QC technicians who will perform testing on the project, including the fields in which they are certified to perform testing.
- (c) A proposed independent third-party testing firm for dispute resolution, including all contact information.
- (d) A list of Hold Points, when specified by the engineer.
- (e) The MoDOT Standard Inspection and Testing Plan (ITP). This shall be the version that is posted at the time of bid on the MoDOT website ([www.modot.org/quality](http://www.modot.org/quality)).

**3.0 Quality Control Testing and Reporting.** Testing shall be performed per the test method and frequency specified in the ITP. All personnel who perform sampling or testing shall be certified in the MoDOT Technician Certification Program for each test that they perform.

**3.1 Reporting of Test Results.** All QC test reports shall be submitted as soon as practical, but no later than the day following the test. Test data shall be immediately provided to the engineer upon request at any time, including prior to the submission of the test report. No payment will be made for the work performed until acceptable QC test results have been received by the engineer and confirmed by QA test results.

**3.1.1** Test results shall be reported on electronic forms provided by MoDOT. Forms and Contractor Reporting Excel2Oracle Reports (CRE2O) can be found on the MoDOT website. All required forms, reports and material certifications shall be uploaded to a Microsoft SharePoint® site provided by MoDOT, and organized in the file structure established by MoDOT.

**3.2 Non-Conformance Reporting.** A Non-Conformance Report (NCR) shall be submitted by the contractor when the contractor proposes to incorporate material into the work that does not meet the testing requirements or for any work that does not comply with the contract terms or specifications.

**3.2.1** Non-Conformance Reporting shall be submitted electronically on the Non-Conformance Report form provided on the MoDOT Website. The NCR shall be uploaded to the MoDOT SharePoint® site and an email notification sent to the engineer.

**3.2.2** The contractor shall propose a resolution to the non-conforming material or work. Acceptance of a resolution by the engineer is required before closure of the non-conformance report.

**4.0 Work Planning and Scheduling.**

**4.1 Two-week Schedule.** Each week, the contractor shall submit to the engineer a schedule that outlines the planned project activities for the following two-week period. The two-week

schedule shall detail all work and traffic control events planned for that period and any Hold Points specified by the engineer.

**4.2 Weekly Meeting.** When work is active, the contractor shall hold a weekly project meeting with the engineer to review the planned activities for the following week and to resolve any outstanding issues. Attendees shall include the engineer, the contractor superintendent or project manager and any foreman leading major activities. This meeting may be waived when, in the opinion of the engineer, a meeting is not necessary. Attendees may join the meeting in person, by phone or video conference.

**4.3 Pre-Activity Meeting.** A pre-activity meeting is required in advance of the start of each new activity, except when waived by the engineer. The purpose of this meeting is to review construction details of the new activity. At a minimum, the discussion topics shall include: safety precautions, QC testing, traffic impacts, and any required Hold Points. Attendees shall include the engineer, the contractor superintendent and the foreman who will be leading the new activity. Pre-activity meetings may be held in conjunction with the weekly project meeting.

**4.4 Hold Points.** Hold Points are events that require approval by the engineer prior to continuation of work. Hold Points occur at definable stages of work when, in the opinion of the engineer, a review of the preceding work is necessary before continuation to the next stage.

**4.4.1** A list of typical Hold Point events is available on the MoDOT website. Use of the Hold Point process will only be required for the project-specific list of Hold Points, if any, that the engineer submits to the contractor in advance of the work. The engineer may make changes to the Hold Point list at any time.

**4.4.2** Prior to all Hold Point inspections, the contractor shall verify the work has been completed in accordance with the contract and specifications. If the engineer identifies any corrective actions needed during a Hold Point inspection, the corrections shall be completed prior to continuing work. The engineer may require a new Hold Point to be scheduled if the corrections require a follow-up inspection. Re-scheduling of Hold Points require a minimum 24-hour advance notification from the contractor unless otherwise allowed by the engineer.

**5.0 Quality Assurance Testing and Inspection.** MoDOT will perform quality assurance testing and inspection of the work, except as specified herein. The contractor shall utilize the inspection checklists provided in the ITP as a guide to minimize findings by MoDOT inspection staff. Submittal of completed checklists is not required, except as specified in 5.1.

**5.1** Inspection and testing required in the production of concrete for the project shall be the responsibility of the contractor. Submittal of the 501 Concrete Plant Checklist is required.

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

J. Special Provisions for Protection of BNSF Railway Company Interest

To Report an Emergency on the railroad call: (800) 832-5452  
Franklin County. Rte. W, USDOT# 664386J milepost 62.303 on BNSF Cuba Subdivision in Stanton, MO. Current FRA data shows 1 daytime train, 1 nighttime train and 0 passenger trains daily.

## **1.0 Authority of Railroad Engineer and Commission's Representative.**

**1.1** The authorized representative of BNSF Railway Company, herein called "Railroad Engineer", shall have final authority in all matters affecting the safe maintenance and operation of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks.

**1.2** The authorized representative of the Missouri Highways and Transportation Commission, herein called "Engineer", shall have authority over all other matters as prescribed herein and in the project specifications.

## **2.0 Contractor's indemnity Obligations to the Railroad.**

**2.1** The term "contractor" as used in this special provision includes any and all subcontractors. The contractor shall indemnify, defend and hold harmless the Railroad from and against any and all loss, damage, claims, demands, causes of action, costs and expenses of whatsoever nature arising out of injury to or death of persons whomsoever, or out of damage to or destruction of property whatsoever, including, without limitation, damage to fiber optic, communication and other cable lines and systems, where such injury, death, damage or destruction results from any cause arising out of work performed by the contractor pursuant to the agreement between Railroad and the Commission for the project, and shall also release the Railroad from and shall waive any claims for injury or damage to equipment or other property, which may result from the construction, maintenance and operation of railroad tracks, wire lines, fiber optic cable, pipe lines and other facilities on said right of way of the Railroad by the contractor. **THE LIABILITY ASSUMED BY THE CONTRACTOR WILL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DAMAGE, DESTRUCTION, INJURY, DEATH, CAUSE OF ACTION OR CLAIM WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF THE RAILROAD, THE RAILROAD'S AGENTS, SERVANTS, EMPLOYEES OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROVEN BY ANY CLAIMANT TO HAVE BEEN PROXIMATELY CAUSED BY THE INTENTIONAL MISCONDUCT OR SOLE OR GROSS NEGLIGENCE OF THE RAILROAD.** The contractor's indemnity shall include loss of profits or revenue arising from damage or destruction to fiber optic, communication and other cable lines and systems.

**2.2** In addition to the indemnity obligations contained in the preceding paragraph, the contractor shall indemnify, defend and hold harmless the Railroad from any claims, expenses, costs, actions, demands, losses, fines, penalties, and fees, of whatsoever nature arising from, related to or connected, in whole or in part, with the following:

- (a) The removal of the contractor's agents, servants, employees or invitees from the Railroad's property for safety reasons.
- (b) Contractor's compliance or failure to comply with the provision of applicable law in connection with the performance of contractor's work.

## **3.0 Notice of Starting Work.**

**3.1** The contractor shall not commence any work on Railroad's right of way until the contractor has complied with the following conditions:

- (a) The contractor shall be required to apply for, execute and comply with all provisions of a permit obtained by accessing the following link: <http://bnsf.railpermitting.com>

**3.2** The Railroad's written authorization to proceed with the work, with a copy to the Engineer, will include the names, addresses and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

#### **4.0 Interference with Railroad Operations.**

**4.1** The contractor shall arrange and conduct all work so that there shall be no interference with the Railroad's operations, including train, signal, telephone and telegraphic services; or damage to the Railroad's property; poles, wires and other facilities of tenants, licensees, easement grantees and invitees on the Railroad's right of way. Whenever work may affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the contractor from liability. Any work to be performed by the contractor that requires flagging service or inspection service shall be deferred by the contractor until the flagging service required by the Railroad is available at the job site.

**4.2** Whenever work within the Railroad's right of way is of such a nature that impediment to the Railroad's operations is unavoidable, such as use of runaround tracks or necessity for reduced speed, the contractor shall schedule and conduct these operations so that such impediment is reduced to the absolute minimum.

**4.3** Should conditions arising from, or in connection with the work require that immediate and unusual provisions be made to protect the Railroad's operations and property, the contractor shall make such provisions. If in the judgment of the Railroad Engineer, or the Engineer if the Railroad Engineer is absent, such provision is insufficient, the Railroad Engineer or Engineer may require or provide such provisions as deem necessary. In any event, such provisions shall be at the contractor's expense and without cost to the Railroad or the Commission.

**4.4** The contractor shall be responsible for any damage to the Railroad as a result of work on the project, which shall include but not be limited to interference with the normal movement of trains caused exclusively by the work performed by the contractor. The contractor shall be responsible for damages for the Railroad's train delays that are caused exclusively by the contractor. The Railroad agrees not to perform any act to unnecessarily cause any train delay. The damages for train delays per freight hour will be billed at an average rate per hour as determined from the Railroad's records. These records shall be provided by the Railroad, upon request, to the Commission or the Commission's contractor.

#### **5.0 Track Clearances.**

**5.1** The minimum track clearances to be maintained by the contractor during construction are shown on the project plans. However, before undertaking any work within Railroad's right of way, or before placing any obstruction over any track, the contractor shall:

- (a) Notify the Railroad Engineer at least 72 hours in advance of the work.
- (b) Receive assurance from the Railroad Engineer that arrangements have been made for flagging service as may be necessary.



- (c) Receive permission from the Railroad Engineer to proceed with the work.
- (d) Ascertain that the Engineer has received copies of notice to the Railroad and of the Railroad's response.

**5.2** The contractor shall fully comply with any horizontal and vertical clearance requirements imposed by Missouri state statutes and regulations and Federal statutes and regulations regarding the placement of structures or equipment near or over railroad tracks.

## **6.0 Construction Procedures.**

**6.1 General.** Construction work on the Railroad's property shall be:

- (a) Subject to the inspection and review of the Railroad.
- (b) In accordance with the Railroad's written outline of specific conditions.
- (c) In accordance with this special provision.
- (d) Care shall be taken to avoid damage to concrete crossing panels. Milling within two (2) feet of concrete crossing planks shall be done manually or using specific machinery for fine mill work such as a milling attachment on a skid-steer or other means and methods approved by the engineer.**

**6.2 Excavation.** The subgrade of an operated track shall be maintained with the berm edge at least 12 feet from centerline of track and not more than 26 inches below top of the rail. The contractor will not be required to make existing section meet this specification if substandard, in which case the existing section will be maintained. The contractor shall cease all work and notify the Railroad immediately before continuing excavation in the work area if obstructions are encountered which do not appear on the drawings. If the obstruction is a utility and the owner of the utility can be identified, then the contractor shall also notify the owner immediately. If there is any doubt about the location of underground cables or lines of any kind, no work shall be performed until the exact location has been determined. There will be no exceptions to these instructions. Additionally, all excavations shall be conducted in compliance with applicable Occupational Safety and Health Act regulations and, regardless of depth, shall be shored where there is any danger to tracks, structures or personnel. Any excavations, holes or trenches on the Railroad's property shall be covered, guarded and/or protected when not being worked on. When leaving work site areas at night and over weekends, the areas shall be secured and left in a condition that will ensure that Railroad's employees and other personnel who may be working or passing through the area are protected from all hazards. All excavations shall be back filled as soon as possible.

**6.3 Excavation for Structure.** The contractor shall be required to take special precaution and care in connection with excavating, shoring pits and in driving piles for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which the tracks carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material. The procedure for doing such work, including need of and plans for shoring, shall be approved by the Railroad Engineer before work is performed, but such approval shall not relieve the contractor from liability. Before submission of plans to the Railroad

Engineer for approval, the Engineer will first review such plans in accordance with the Missouri Standard Specifications for Highway Construction, hereinafter called "Standard Specifications". The responsibility for the design and construction of the sheeting rests solely with the contractor. The temporary shoring along the railroad tracks shall be designed for the Cooper E80 loading. The design shall insure that the shoring is braced or substantially secure to prevent movement. The contractor shall submit plans for the temporary shoring that shall be signed, sealed, and stamped in accordance with the laws relating to Architects and Professional Engineers, Chapter 327, RSMo. and then submitted for review by the Engineer.

**6.4 Demolition of Existing Structures.** The contractor shall be required to take special precaution and care in connection with demolition of existing structures. The procedure for doing such work, including need of and plans for temporary falsework, shall first be approved by Railroad Engineer before work is performed, but such approval shall not relieve the contractor from liability. Before submission of plans to the Railroad Engineer for approval, the Engineer will first review such plans.

**6.5 Falsework.** The contractor shall be required to take special precaution and care to prevent any material from falling on the Railroad's right of way. The procedure for preventing material from falling, including need of and plans for temporary falsework, shall first be approved by the Railroad Engineer, but such approval shall not relieve the contractor from liability. Before submission of plans to the Railroad Engineer for approval, the Engineer will first review such plans.

## **6.6 Blasting.**

**6.6.1** The contractor shall obtain advance approval of the Railroad Engineer and the Engineer for use of explosives on or adjacent to the Railroad's property. If permission for use of explosives is granted, the contractor shall be required to comply with the following:

- (a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the contractor.
- (b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.
- (c) No blasting shall be done without the presence of the Railroad Engineer. At least 72 hours advance notice to the person designated in the Railroad's notice of authorization to proceed as mentioned in Section 2.2 of this job special provision, the contractor shall be required to arrange for the presence of the Railroad Engineer and such flagging as the Railroad may require.
- (d) The contractor shall have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting, at contractor's expense, any track misalignment or other damage to the Railroad's property resulting from the blasting as directed by the Railroad Engineer. If contractor's actions result in delay of trains, the contractor shall bear the entire cost thereof.

**6.6.2** The Railroad Engineer will:

(a) Determine the approximate location of trains and advise the contractor the approximate amount of time available for the blasting operation and clean-up.

(b) Have the authority to order discontinuance of blasting if blasting is too hazardous or is not in accordance with this special provision.

**6.7 Maintenance of Railroad Facilities.** The contractor shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from contractor's operations. The contractor shall promptly repair eroded areas within Railroad's right of way and repair any other damage to the Railroad's property, tenants, licensees, easement grantees and invitees. All such maintenance and repair of damages due to the contractor's operations shall be done at the contractor's expense.

**6.8 Storage of Materials and Equipment.**

**6.8.1** The contractor shall not store or stockpile construction materials or equipment closer than 25 feet to the centerline of the nearest railroad track or on the Railroad's property not covered by construction easement, contractor's permit, lease or agreement. Additionally, the contractor shall not store or leave materials or equipment within 250 feet of the edge of any highway/rail at-grade crossings. Further, both sides of a main track shall remain unobstructed for a distance of 10 feet from the exterior edge of the track at all times to allow for stopped train inspection.

**6.8.2** Machines or vehicles shall not be left unattended with the engine running. Parked machines or equipment shall be in gear with brakes set and with blade, pan or bucket lowered to the ground if so equipped. All grading or construction machinery that is left parked near the track unattended shall be effectively immobilized so that unauthorized persons cannot move such equipment.

**6.9 Cleanup.** Upon completion of the work, the contractor shall remove from within the limits of the Railroad's right of way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the contractor, and leave said right of way in a neat condition satisfactory to the Railroad Engineer.

**6.10 Buried Cable and Other Buried Facilities.**

**6.10.1** The contractor is placed on notice that fiber optic, communication and other cable lines and systems, collectively the "Lines", owned by various telecommunications companies may be buried on Railroad's property or right of way. The locations of the buried Lines, pipelines or utility facilities have been included on the plans based on information from the telecommunications companies, pipeline operators, or utilities, as the case may be. The contractor shall be responsible for contacting the Railroad Engineer, the Railroad's 24-hour information number (1-800-533-2891), the telecommunications companies, pipeline operators and utilities and notifying them of any work that may damage the buried Lines, pipelines, utility facilities and/or interfere with their service. The contractor shall verify the location of all buried Lines, pipelines and utility facilities shown on the plans or marked in the field in order to establish their exact locations prior to or while doing work on the Railroad's property or right of way. The contractor shall also use all reasonable methods when working on the Railroad's property or right of way to determine if any other buried Lines, pipelines or utility facilities exist on the Railroad's property or right of way.

**6.10.2** Failure to mark or identify the buried Lines, pipelines or utility facilities will be sufficient cause for the Railroad Engineer to stop construction at no cost to the Commission or Railroad

until these items are completed. The contractor shall be responsible for the rearrangement of any buried facilities, Lines, pipelines or utility facilities determined to interfere with the construction. The contractor shall cooperate fully with any telecommunications companies, pipeline operators and utility facility owners in performing such rearrangements.

**7.0 Damages.** The Railroad will not assume liability for any damages to the contractor, contractor's work, employees, servants, equipment and materials caused by railroad traffic. Any cost incurred by the Railroad for repairing damages to Railroad's property or to property of the Railroad's tenants, licensees, easement grantees and invitees caused by or resulting from the contractor's operations shall be paid directly to the Railroad by contractor.

## **8.0 Flagging Services.**

**8.1 When Required.** Under the terms of the agreement between the Commission and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect the Railroad's operations. In general, the requirements of such services will be whenever the contractor's personnel or equipment are, or are likely to be, working on the Railroad's right of way within 25 feet of the centerline of any track, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging, or reasonable probability of accidental hazard to Railroad's operations or personnel. Normally, the Railroad will require one flagger per project; but in some cases, more than one may be necessary, such as yard limits where 3 flaggers may be required. However, if the contractor works within distances that violate instructions given by the Railroad Engineer or performs work that has not been scheduled with the Railroad Engineer, flaggers may be required full time until the project has been completed.

## **8.2 Scheduling and Notification.**

**8.2.1** Not later than the time that approval is initially requested to begin work on the Railroad's right of way (30 days), contractor shall furnish to the Railroad and the Commission a schedule for all work required to complete the portion of the project within Railroad's right of way and arrange for a job site meeting between the contractor, the Engineer, and the Railroad Engineer. Flaggers may not be scheduled until the job site meeting has been conducted and the contractor's work scheduled.

**8.2.2** The contractor shall be required to give the Railroad Engineer at least 30 days of advance written notice of intent to begin work within Railroad's right of way in accordance with this special provision. Once begun, if such work is then suspended at any time, or for any reason, the contractor shall be required to give the Railroad Engineer at least 5 working days of advance notice before resuming work on Railroad's right of way. Such notices shall include sufficient details of the proposed work to enable the Railroad Engineer to determine if flagging will be required. If such notice is in writing, the contractor shall furnish the Engineer a copy; if notice is given verbally, the notice shall be confirmed in writing with copy to the Engineer. If flagging is required, no work shall be undertaken until the flagger or flaggers are present at the job site. Obtaining a flagger or flaggers may take up to 30 days to obtain initially from the Railroad or an approved third Party Flagging Company. When flagging begins, the flagger is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and cannot be called for on a spot basis. If flagging becomes unnecessary and is suspended, obtaining a flagger or flaggers may take up to 30 days to again obtain from the Railroad. Due to Railroad

labor agreements, 10 working days notice may be necessary before flagging services may be discontinued and responsibility for payment stopped. Notification for flagging should be addressed to:

Mr. Joseph Wontor  
BNSF Railroad  
708-518-6284  
[joseph.wontor@bnsf.com](mailto:joseph.wontor@bnsf.com)

And

[BNSFScheduling@wilsonco.com](mailto:BNSFScheduling@wilsonco.com)

**8.2.3** If, after the flagger is assigned to the project site, emergencies arise which require the flagger's presence elsewhere, then the contractor shall delay work on the Railroad's right of way until such time as the flagger is again available. Any additional costs resulting from such delay shall be borne by the contractor and not the Railroad.

### **8.3 Payment.**

**8.3.1** The Contractor will pay the Railroad or appropriate flagging contractor directly for the cost of flagging services associated with the project and notify the MoDOT Resident Engineer of such payments.

**8.3.2** The Contractor shall be responsible for arranging needed flagging services as required by the Railroad to accomplish the highway improvement.

**8.3.3** The cost of flagging service is estimated at approximately \$1,600 per day based on an 8-hour work day and a 40-hour work week. This cost includes the base pay for the flagger, overhead, and per diem charge for travel expenses, meals and lodging.

If flagging is provided by an approved Third-Party Flagging Company, rates and billing will be governed by the agreement set up between the Contractor and the Third-Party Flagging Company at the time the services are provided. It is the responsibility of the Contractor to ensure that billing complies with applicable provisions of Volume 1, Chapter 4, §3 and Volume 6, Chapter 6 §2, Subsection 1 of the Federal-Aid Highway Program Manual issued by the Federal Highway Administration, including all current amendments.

If flagging is provided by the Railroad, the charge to the contractor by the Railroad will be the actual cost based on the rate of pay for the Railroad's employees who are available for flagging service at the time the service is required. Work by a flagger in excess of 8 hours per day or 40 hours per week but not more than 12 hours a day will result in overtime pay at 1 1/2 times the appropriate rate. Work by a flagger in excess of 12 hours per day will result in overtime pay at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2 1/2 times the normal rate. Railroad expenses incurred preparing and handling invoices will also be charged to the contractor and/or the Commission. Charges to the contractor and/or the Commission by the Railroad shall be in accordance with applicable provisions of Volume 1, Chapter 4, §3 and Volume 6, Chapter 6, §2, Subsection 1 of the Federal-Aid Highway Program Manual issued by the Federal Highway Administration, including all current amendments. Flagging costs are subject to change. The above estimates of flagging cost are provided for information only and are not binding in any

way. Each time a flagger is called, the minimum period for billing will be the 8 hour basic day unless the flagger can be assigned to other Railroad work during the work day.

**8.3.4** In addition to the hours of providing flagging at the construction site, the flagger hours will include, but is not limited to, travel time to and from the project, time to complete paperwork for the flagging operations and time for setting warning signs/flags for the train traffic.

#### **8.4 Verification.**

**8.4.1** Any complaints concerning a flagger shall be resolved in a timely manner. If need for a flagger is questioned, please contact the Railroad Engineer and Mr. Jacob D Rzewnicki, Manager of Public Projects at 913-551-4275. All verbal complaints shall be confirmed in writing by the contractor within 5 working days with copy to the Railroad Engineer and Engineer. All written correspondence shall be addressed to the BNSF Manager of Public Projects as shown in Section 2.1 of this job special provision.

**8.4.2** The Railroad flagger assigned to the project will be responsible for notifying the Engineer upon arrival at the job site on the first day, or as soon thereafter as possible, that flagging services begin and on the last day that flagger performs such services for each separate period that services are provided. The Engineer will document such notification in the project records.

#### **9.0 Haul Across Railroads.**

**9.1** Where the plans show or imply that materials of any nature must be hauled across the Railroad's tracks, unless the plans clearly show that the Commission has included arrangements for such haul in the agreement with the Railroad, the contractor shall be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad's tracks. The contractor shall be required to bear all costs incidental to such crossings, including flagging, whether services are performed by contractor's own forces or by Railroad's personnel.

**9.2** No crossing may be established for use of the contractor for transporting materials or equipment across the tracks of the Railroad unless specific authority for the installation, maintenance, necessary watching and flagging thereof and removal, all at the expense of the contractor, is first obtained from the Railroad Engineer.

**10.0 Work for the Benefit of the Contractor.** All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans, and are included in the agreement between the Commission and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the Commission and/or the Railroad. Should the contractor desire any changes in addition to the above, then contractor shall make separate arrangements with the Railroad for same to be accomplished at the contractor's expense.

**11.0 Cooperation and Delays.** The contractor shall arrange a schedule with the Railroad for accomplishing staged construction involving work by the Railroad or tenants, licensees, easement grantees and invitees of the Railroad. In arranging a schedule, the contractor shall ascertain, from the Railroad, the lead time required for assembling crews, materials and make due allowance. No charge of claims of the contractor against the Railroad will be allowed for hindrance or delay on account of railway traffic for any work done by the Railroad, other delay incident to or

necessary for safe maintenance of railway traffic, or for any delays due to compliance with this special provision.

**12.0 Trainman's Walkways.** Along the outer side of each exterior track of multiple operated track and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains shall be maintained extending to a line not less than 12 feet from centerline of track. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while Railway's protective service is provided shall be removed before the close of each workday. Any excavation near the walkway, the contractor shall install a handrail with a 12 feet minimum clearance from centerline of track.

**13.0 Insurance.** The amount of work to be performed upon, over or under Railroad's right of way is estimated to be 1 percent of the contractor's total bid for the project.

**13.1** In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, Contractor must, at its sole cost and expense, procure and maintain during the life of this Agreement the following insurance coverage:

(a) Commercial General Liability insurance. This insurance shall contain broad form contractual liability with a combined single limit of a minimum of \$2,000,000 each occurrence and an aggregate limit of at least \$6,000,000 but in no event less than the amount otherwise carried by the contractor. Coverage must be purchased on a post 2004 ISO occurrence form or equivalent and include coverage for, but not limit to the following:

- Bodily Injury and Property Damage
- Personal Injury and Advertising Injury
- Fire legal liability
- Products and completed operations

This policy must also contain the following endorsements, which must be indicated on the certificate of insurance:

- The definition of insured contract must be amended to remove any exclusion or other limitation for any work being done within 50 feet of railroad property.
- Waiver of subrogation in favor of and acceptable to Railway.
- Additional insured endorsement in favor of and acceptable to Railway.
- Separation of insureds.
- The policy shall be primary and non-contributing with respect to any insurance carried by Railway.

It is agreed that the workers' compensation and employers' liability related exclusions in the Commercial General Liability insurance policy(s) required herein are intended to apply to employees of the policy holder and shall not apply to Railway employees.

No other endorsements limiting coverage as respects obligations under this Agreement may be included on the policy with regard to the work being performed under this agreement.

(b) Business Automobile Insurance. This insurance must contain a combined single limit of at least \$1,000,000 per occurrence, and include coverage for, but not limited to the following:

- Bodily injury and property damage
- Any and all vehicles owned, used or hired

The policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

- Waiver of subrogation in favor of and acceptable to Railway.
- Additional insured endorsement in favor of and acceptable to Railway.
- Separation of insureds.
- The policy shall be primary and non-contributing with respect to any insurance carried by Railway.

(c) Workers Compensation and Employers Liability insurance including coverage for, but not limited to:

- Contractor's statutory liability under the worker's compensation laws of the state(s) in which the work is to be performed. If optional under State law, the insurance must cover all employees anyway.
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.

This policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

- Waiver of subrogation in favor of and acceptable to Railway.

(d) Railroad Protective Liability insurance naming only the Railway as the Insured with coverage of at least \$2,000,000 per occurrence and \$6,000,000 in the aggregate. The policy Must be issued on a standard ISO form CG 00 35 10 93 and include the following:

- Endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93)
- Endorsed to include the Limited Seepage and Pollution Endorsement.
- Endorsed to remove any exclusion for punitive damages.
- No other endorsements restricting coverage may be added.
- The original policy must be provided to the Railway prior to performing any work or services under this Agreement

In lieu of providing a Railroad Protective Liability Policy, Licensee may participate in Licensor's Blanket Railroad Protective Liability Insurance Policy available to contractor.

### **13.2 Other Requirements:**



**13.2.1** All policies (applying to coverage listed above) must not contain an exclusion for punitive damages and certificates of insurance must reflect that no exclusion exists.

**13.2.2** Contractor agrees to waive its right of recovery against Railway for all claims and suits against Railway. In addition, its insurers, through the terms of the policy or policy endorsement, waive their right of subrogation against Railway for all claims and suits. The certificate of insurance must reflect the waiver of subrogation endorsement. Contractor further waives its right of recovery, and its insurers also waive their right of subrogation against Railway for loss of its owned or leased property or property under contractor's care, custody or control.

**13.2.3** Contractor is not allowed to self-insure without the prior written consent of Railway. If granted by Railway, any deductible, self-insured retention or other financial responsibility for claims must be covered directly by contractor in lieu of insurance. Any and all Railway liabilities that would otherwise, in accordance with the provisions of this Agreement, be covered by contractor's insurance will be covered as if contractor elected not to include a deductible, self-insured retention or other financial responsibility for claims.

**13.2.4** Prior to commencing the Work, contractor must furnish to Railway an acceptable certificate(s) of insurance including an original signature of the authorized representative evidencing the required coverage, endorsements, and amendments and referencing the contract audit/folder number if available. Contractor shall notify Railway in writing at least 30 days prior to any cancellation, non-renewal, substitution or material alteration. Upon request from Railway, a certified duplicate original of any required policy must be furnished. Contractor should send the certificate(s) to the following address:

Railroad:

BNSF Railway Company  
P.O. Box 140528  
Kansas City, MO 64114  
Toll Free: 877-576-2378  
Fax number: 817-840-7487  
Email:  
www.certfocus.com

Commission:

Ms. Brandi Baldwin  
State Construction and Materials Engineer  
MoDOT  
P.O. Box 270  
Jefferson City, MO 65102  
BNSF@certfocus.com

**13.2.5** Any insurance policy must be written by a reputable insurance company acceptable to Railway or with a current Best's Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the service is to be provide.

**13.2.6** Contractor represents that this Agreement has been thoroughly reviewed by contractor's insurance agent(s)/broker(s), who have been instructed by contractor to procure the insurance coverage required by this Agreement. Allocated Loss Expense must be in addition to all policy limits for coverages referenced above. Not more frequently than once every five years, Railway may reasonably modify the required insurance coverage to reflect then-current risk management practices in the railroad industry and underwriting practices in the insurance industry.

**13.2.7** If any portion of the operation is to be subcontracted by contractor, contractor must require that the subcontractor provide and maintain the insurance coverages set forth herein, naming Railway as an additional insured, and requiring that the subcontractor release, defend and indemnify Railway to the same extent and under the same terms and conditions as contractor is required to release, defend and indemnify Railway herein.

**13.2.8** Failure to provide evidence as required by this section will entitle, but not require, Railway to terminate this Agreement immediately. Acceptance of a certificate that does not comply with this section will not operate as a waiver of contractor's obligations hereunder.

**13.2.9** The fact that insurance (including, without limitation, self-insurance) is obtained by contractor will not be deemed to release or diminish the liability of contractor including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railway will not be limited by the amount of the required insurance coverage.

**13.2.10** For purposes of this section, Railway means "Burlington Northern Santa Fe LLC", "BNSF RAILWAY COMPANY" and the subsidiaries, successors, assigns and affiliates of each.

**13.2.11** Railroad will not accept binders as evidence of insurance, the original policy shall be provided. The named insured, description of the work and designation of the job site to be shown on the Policy are as follows:

(a) Named Insured: BNSF Railway Company

(b) Description and Designation:

Resurfacing (Resurfacing mill/fill) up to crossing of the west side.

Franklin County Rte. W

Job No. JSL0038

USDOT# 664386J MP 62.303 Cuba Sub in Stanton, MO.

**13.2.12** The contractor must notify BNSF Manager of Public Projects at [jacob.rzewnicki@bnsf.com](mailto:jacob.rzewnicki@bnsf.com) when applying for railroad insurance coverage.

**13.3** If any part of the work is sublet, similar insurance and evidence thereof in the same amounts as required of the prime contractor, shall be provided by or in behalf of the subcontractor to cover the subcontractor's operations. Endorsements to the prime contractor's policies specifically naming subcontractors and describing their operations will be acceptable for this purpose.

**13.4** All Insurance hereinbefore specified shall be carried until all work required to be performed under the terms of the contract has been satisfactorily completed within the limits of the Railroad's right of way as evidenced by the formal acceptance by the Commission. Insuring Companies may cancel insurance by permission of the Commission and Railroad or on 30 days written notice to the Railroad and Commission.

**14.0 Hazardous Materials Compliance and Reporting.** Contractor shall be responsible for complying with all applicable federal, state and local governmental laws and regulations, including, but not limited to environmental laws and regulations (including but not limited to the Resource Conservation and Recovery Act, as amended; the Clean Water Act, as amended; the Oil Pollution Act, as amended; the Hazardous Materials Transportation Act, as amended; and the Comprehensive Environmental Response, Compensation and Liability Act, as amended), and health and safety laws and regulations. In addition to the liability provisions contained elsewhere in this job special provision, the contractor hereby indemnifies, defends and holds harmless the Railroad for, from and against all fines or penalties imposed or assessed by federal, state and local governmental agencies against the Railroad which arise out of contractor's work under this special provision. Notwithstanding the preceding sentence, the contractor will not be liable for pre-existing hazardous materials or hazardous substances discovered on Railroad's property or

right of way so long as such hazardous materials or hazardous substances were not caused by (in whole or in part) contractor's work, acts or omissions. If contractor discovers any hazardous waste, hazardous substance, petroleum or other deleterious material, including but not limited to any non-containerized commodity or material, on or adjacent to Railroad's property, in or near any surface water, swamp, wetlands or waterways, while performing any work under this special provision, the contractor shall immediately:

- (a) Notify the Railroad's Resource Operations Center at (800) 832-5452, of such discovery.
- (b) Take safeguards necessary to protect employees, subcontractors, agents and/or third parties.
- (c) Exercise due care with respect to the release, including the taking of any appropriate measure to minimize the impact of such release

**15.0 Personal Injury Reporting.** The Railroad is required to report certain injuries as a part of compliance with Federal Railroad Administration ("FRA") reporting requirements. Any personal injury sustained by any employee of the contractor, subcontractor or contractor's invitees while on the Railroad's property shall be reported immediately, by phone or mail if unable to contact in person, to the Railroad's representative in charge of the project. The Non-Employee Personal Injury Data Collection Form is to be completed and sent by Fax to the Railroad at (817) 352-7595 and to the Railroad's Project Representative no later than the close of shift on the date of the injury.

**16.0 Failure to Comply.** In the event the contractor violates or fails to comply with any of the requirements of this special provision, the below orders will be applied. Any such orders shall remain in effect until the contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

- (a) The Railroad Engineer may require that the contractor to vacate the Railroad's property.
- (b) The Engineer may withhold all monies due to the contractor until contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

**17.0 Payment for Cost of Compliance.** No separate payment will be made for any extra cost incurred on account of compliance with this special provision. All such cost shall be included in the contract unit price for other items included in the contract. Railroad will not be responsible for paying the contractor for any work performed under this special provision.

K. Airport Requirements JSP-15-09

**1.0 Description.** The project is located near a public use airport or heliport or is more than 200 feet above existing ground level, which requires adherence to Federal Aviation Regulation Part 77 (FAA Reg Part 77). "Near" to a public use airport or heliport is defined as follows:

- 20,000 feet (4 miles) from an airport with a runway length of at least 3,200 feet
- 10,000 feet (2 miles) from an airport with runway length less than 3,200 feet
- 5,000 feet (1 mile) from a public use heliport

**2.0** The maximum height of the improvement and the equipment operating while performing the improvements was assumed to be 35.0 feet above the current travelway during the process of evaluating the project for compliance with FAA Reg Part 77.

**2.1** If the contractor's height of equipment or if the improvement itself is beyond the assumed height as indicated in Sec 2.0, the contractor will work with the resident engineer to fill out the Form 7460-1, or revise the original Form 7460-1 based upon the proposed height and resubmit, if necessary, for a determination by FAA on compliance with FAA Reg Part 77. Further information can be found in MoDOT's Engineering Policy Guide 235.8 Airports. If the Form 7460-1 must be filed, the associated work shall not be performed prior to the FAA determination, which could take up to 45 days.

**2.2** If the contractor's height of equipment and the improvement itself is below the assumed height as indicated in Sec 2.0, no further action is necessary to fulfill the requirements set forth in FAA Reg Part 77.

**3.0 Basis of Payment.** There will be no direct payment for any work associated with this provision. Contract time extension will be given for the time necessary to obtain or revise the FAA permit. Any delays or costs incurred in obtaining the revised permit will be noncompensable.

L. Winter Months Requirements JSP-15-07A

**1.0 Description.** This project contains work which spans the winter months.

**2.0 Work to be Completed.** When the contractor ceases operations for the winter months, any paving operation performed by the contractor shall not result in a lane height differential between adjacent lanes.

**3.0 Maintenance of Pavement Marking.** Prior to ceasing operations for winter months, a permanent or temporary stripe shall be provided on any completed length to the point that the original stripe was obliterated or obscured by the contractors' operation. Temporary striped areas shall be re-striped with the remaining route upon performance of the final striping.

**4.0 Winter Related Maintenance Activities.** The contractor shall have the project in a condition as not to interfere with the plowing of snow. The contractor shall also provide a taper at the end of his paving that will not be damaged by the plowing of snow.

**5.0 Basis of Payment.** There will be no direct pay for compliance with this provision.

M. 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.

**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.

#### N. Clean Water Act Requirements

**1.0 Description.** The Contractor shall be aware that any work within streams, wetlands, or special aquatic sites requires a Section 404 permit from the Corps of Engineers.

**2.0** The project meets the conditions of the following listed permits with no pre-construction notification to the Corps of Engineers:

Section 404 Nationwide Permit 14 (Linear Transportation Projects)

**3.0** The Contractor shall abide by all general conditions of Section 404 and 401 Permits, and specific conditions of the following listed Nationwide Permit found in the General Provisions and Supplemental Specifications to the current Missouri Standard Specifications for Highway Construction referenced in this contract.

Section 404 Nationwide Permit 14 (Linear Transportation Projects)

**3.1** If there are any changes to the scope or limits to the project, the Contractor must notify the Engineer who will then notify the MoDOT Environmental Section to verify that the project still meets permit conditions.

**3.2** No additional time will be added to the contract for the contractor to obtain any permits.

**4.0 Basis of Payment.** There will be no direct payment for compliance with this provision.

O. Project Staging

**1.0 Description.** The project staging shall be as follows:

**1.1 Stage 1.**

Complete all work on the WB I-44 weigh station site. No work, except for clearing and grubbing, may begin on Stage 2, Stage 3 or Stage 4 until all work on the WB I-44 weigh station is complete and the weigh station is open. Stage 2, Stage 3 and Stage 4 clearing and grubbing may be completed concurrently with Stage 1 as long as no facilities (ramps, shoulders, acceleration lanes, deceleration lanes, parking lots, sidewalks, etc.) closures area required.

Contractor shall notify MoDOT, Missouri State Highway Patrol (MSHP) and PrePass (all contacts listed below) one month in advance of completing Stage 1 so they can prepare to remove their respective items at the EB I-44 weigh station and move their operations over to the WB I-44 weigh station.

Once the Contractor opens the WB I-44 weigh station, the EB I-44 weigh station shall be closed with the appropriate temporary traffic control devices as shown in the plans. The contractor shall be aware that MoDOT, Missouri Highway Patrol and PrePass have work to complete and items to remove at the EB I-44 weigh station site after it is closed. After the EB I-44 weigh station is closed, the contractor shall conduct their work at the EB I-44 weigh station site so as not to interfere with or hinder the progress or completion of the work being performed by the other three entities. Contractor shall coordinate his/her work with the other three entities to ensure all work is completed in smoothly and in a timely fashion.

Known work items to be completed by:

- MoDOT:
1. Remove weigh station open/closed sign, sign supports and aluminum signs.
  2. Rework fiber from EB to WB weigh stations.
  3. Cut and cap water and sewer in the scale building and shut outside valve.
  4. Remove lane control mast arm and post.
  5. Remove two light poles at scale building.
  6. Disconnect electric to buildings.
  7. Disconnect and demo sanitary sewer lift station and control panel.

- PrePass:
1. Remove signs, sign supports and concrete footings.
  2. Remove control cabinets and concrete pads.
  3. Remove pull boxes and concrete surrounds.
  4. Remove mast arms, poles and concrete footings.
  5. Remove associated wiring.
  6. Coordinate with power company to have meters/poles removed.

- MSHP:
1. Remove items necessary to move operations over to I-44 WB weigh station.

MoDOT: Larry Joedicke  
Facility Operations Supervisor  
Email: [Lawrence.Joedicke@modot.mo.gov](mailto:Lawrence.Joedicke@modot.mo.gov)  
Phone #: (314) 343-9505

Allen Lane  
General Services Manager  
Email: [Allen.Lane@modot.mo.gov](mailto:Allen.Lane@modot.mo.gov)  
Phone #: (314) 581-0137

MSHP: Captain Kevin Kelley  
Director – MSHP Commercial Vehicle Enforcement Division  
Email: [kevin.kelley@mshp.dps.mo.gov](mailto:kevin.kelley@mshp.dps.mo.gov)  
Phone #: (573) 526-6128

PrePass: Terry Maple  
PrePass  
Email: [Terry@PrePassAlliance.org](mailto:Terry@PrePassAlliance.org)  
Phone #: (785) 224-3374

## **1.2 Stage 2.**

Complete all work on EB I-44 weigh station site. Excess excavated material from the EB I-44 weigh station site suitable for fill shall be hauled to embankment locations at the rest area site. Stage 3 may be constructed concurrently with Stage 2. Portions of Stage 4 that will not require the closures of any the EB I-44 rest area facilities (ramps, shoulders, acceleration lane, deceleration lane, parking lot, sidewalks, etc.) may be constructed concurrently with Stage 2.

## **1.3 Stage 3.**

Complete all work on the WB I-44 rest area site.

## **1.4 Stage 4.**

Complete all work on the EB I-44 rest area site. The EB I-44 rest area site may not be closed until all work is completed on Stage 2 and the EB I-44 truck parking facility is open.

## **1.5 Stage 5.**

Complete all work on the I-44 mainline site. Stage 5 may be completed concurrently with any/all the other four stages.

**2.0 Basis of Payment.** There will be no direct payment for compliance with this provision.

## **P. Coordination with Other Projects**

**1.0 Description.** The contractor shall coordinate traffic management between this project and any other projects on I-44, and projects which affect I-44, including future projects. Each Contractor shall conduct their work so as not to interfere with or hinder the progress or completion of the work being performed by other Contractors. In case of dispute, the Engineer shall be the referee and the Engineer's decision shall be final and binding on all.



**2.0 Coordination.** The Contractor shall coordinate all limits of the project with the Missouri Department of Transportation related to the following projects:

- I-44 (from St. Clair Rest Area to St. Clair Weigh Station) – installation of CCTV cameras along various routes in the MoDOT St. Louis District (Job No. JSL0184 – March 20, 2026 letting)

This list of projects is not all inclusive. The contractor shall be aware that there may be other projects including, but not limited to, utility, county, municipality, private, MoDOT maintenance, permit, or other projects that may impact project construction or traffic control in the vicinity of this project. It shall be the responsibility of the contractor to determine what, if any, projects other than the ones listed above may impact this project and work to coordinate construction and traffic management efforts between this project and any other project involved.

**4.0 Site Construction.** The Contractor shall arrange the work and shall place and dispose of the materials being used so as not to interfere with the operations of the other contractor.

**5.0 Basis of Payment.** No direct payment will be made to the contractor to recover the cost of the equipment, labor, materials, or time required to for this coordination with other projects.

Q. No Open Burning NJSP 21-05

**Delete Sec 201.2.5.1 and substitute with the following:**

**201.2.5.1 No Open Burning.** The contractor is encouraged to harvest marketable timber, utilize mulched timber for erosion control and utilize excess mulch for composting. Open burning of trees and other brushy material shall not be allowed on the project site or on a tract immediately adjacent to the project site. No additional payment will be made for compliance with this provision.

R. Tree Clearing Restriction JSP-07-05C

**1.0 Description.** The project is within the known range of the federally endangered Indiana bat, northern long-eared bat, and proposed endangered tricolored bat. These bats are known to roost in trees with suitable habitat characteristics during summer months.

**1.1** MoDOT has determined that suitable trees for one or more of these bat species exist within the project area.

**1.2** To avoid negative impacts to these bat species, removal of any trees/limbs greater than three (3) inches in diameter shall only occur between October 16 and March 31.

**2.0 Basis of Payment.** No direct pay shall be provided for any labor, equipment, time, or materials necessary to complete this work.

S. Trimming Tree Branches at EB I-44 Weigh Station

**1.0 Description.** The contractor shall trim all tree branches overhanging the right of way line on the backside (south side) of the EB I-44 weigh station parking lot.

**2.0 Basis of Payment.** All costs incurred for complying with this provision shall be considered completely covered by the contract unit price for Item No. 201-30.00, Clearing and Grubbing, per acre.

| Item No.  | Units | Description           |
|-----------|-------|-----------------------|
| 201-30.00 | Acre  | Clearing and Grubbing |

T. Existing Pull Box Removal

**1.0 Description.** Prior to removing any pull boxes, the contractor shall verify that all wires running through the pull boxes are not active and will no longer be needed by MoDOT and Prepass.

**2.0 Basis of Payment.** All costs incurred for complying with this provision shall be considered completely covered by the contract unit price for Item No. 202-20.10, Removal of Improvements, per lump sum.

| Item No.  | Units | Description             |
|-----------|-------|-------------------------|
| 202-20.10 | L.S.  | Removal of Improvements |

U. Wire and Conduit Removal

**1.0 Description.** All wire to be abandoned and no longer needed shall be removed from all conduit runs. Abandon conduit runs may be left in place except stub-ups shall be removed a minimum of 12 inches below finished grade or natural ground.

**2.0 Basis of Payment.** All costs incurred for complying with this provision shall be considered completely covered by the contract unit price for Item No. 202-20.10, Removal of Improvements, per lump sum.

| Item No.  | Units | Description             |
|-----------|-------|-------------------------|
| 202-20.10 | L.S.  | Removal of Improvements |

V. Benches and Picnic Tables

**1.0 Description.** Benches and picnic tables at the rest areas within the limits of the project that will interfere with operations shall be removed by the contractor before work is begun. Benches and picnic tables shall be stored in a safe area and shall be properly reset by the contractor at their original locations before final acceptance of the work by the Commission. Benches and picnic tables damaged by the contractor shall be replaced by the contractor at the contractor's expense.

**2.0 Basis of Payment.** No direct payment will be made for the removal, relocation, storage, resetting or replacement of benches and picnic tables.

W. Existing Edge of Pavement Along I-44

**1.0 Description.** The existing concrete lanes along I-44 were constructed back in the 1940's and 1950's. The original concrete lanes have been overlaid numerous times since they were originally constructed. Locating the actual edge of pavement along I-44 is difficult due to the numerous overlays. The contractor shall be responsible for locating the actual edge of pavement which is considered the edge of the original concrete lanes. The pavement structure of the new acceleration/deceleration lane extensions at the rest areas and weigh stations shall butt up to the existing edge of the original I-44 concrete pavement.

**2.0 Basis of Payment.** No direct payment will be made to complete this work.

X. MoDOT Retained Existing Temporary Traffic Barrier

**1.0 Description.** Six sections of existing temporary traffic barrier removed from this project shall become the property of MoDOT and shall be transported to the following location:

Commission's St. Clair Maintenance Building  
2273 N. Service Rd.  
St. Clair, MO 63077

Mr. Dave Herzog, Maintenance Superintendent  
Phone: (314) 435-9430

**2.0** The contractor shall call the number listed above 1 week prior to delivery of the existing temporary traffic barrier. The contractor shall exercise reasonable care in the handling of the existing temporary traffic barrier during removal and transportation.

**3.0** The Engineer, or their designee, shall determine which six pieces of existing temporary traffic barrier will become the property of MoDOT. Any remaining existing temporary traffic barrier items shall become the property of the Contractor and shall be disposed of in accordance with Sec 202.

**4.0 Basis of Payment.** All costs incurred for complying with this provision shall be considered completely covered by the contract unit price for Item No. 202-20.10, Removal of Improvements, per lump sum.

| Item No.  | Units | Description             |
|-----------|-------|-------------------------|
| 202-20.10 | L.S.  | Removal of Improvements |

Y. CXT Tioga, Precast Double Vault Restroom with Chase

**1.0 Description.** This work shall consist of furnishing and installing a CXT Tioga, precast double vault restroom with chase at the location shown on the plans or as directed by the

engineer. The following options shall be included with the CXT Tioga, precast double vault restroom with chase:

- a. Chase option
- b. Hand sanitizer dispenser: 2 each
- c. Conduit junction box (chase only)
- d. Electric light package (chase only)
- e. Two-tone color: Walls = Natural Honey; Roof = Mocha Carmel
- f. Toilet paper holders: 2-roll stainless steel
- g. Deadbolt lock
- h. Signage: Unisex & Accessible
- i. Wall vent location: Rear

**2.0 Material.** All building materials shall be as specified by the manufacturer. Electrical material required to provide power to the precast double vault restroom shall be as specified in Sec 901.3.

### **3.0 Construction Requirements.**

**3.1** Installation of the CXT Tioga, precast double vault restroom with chase shall be as specified by the manufacturer.

**3.2** Contractor shall provide power to the CXT Tioga, precast double vault restroom with chase from nearby existing electrical panel (about 40 feet away) in accordance with Sec 901. Electrical cable size from the existing electrical panel to the CXT Tioga, precast double vault restroom with chase shall be as recommended by the restroom building manufacturer. All electrical cable from the existing electrical panel to the electrical panel in the CXT Tioga, precast double vault restroom with chase shall be in appropriately sized rigid conduit. Electric cable/conduit from existing electric panel to CXT Tioga, precast double vault restroom with chase shall be run underground. Contractor shall remove and replace a portion of the existing concrete pad (about 2.5 feet) around the existing electric panel as needed to install the new conduit run underground.

**4.0 Basis of Payment.** Payment for furnishing and installing the CXT Tioga, precast double vault restroom with chase shall include all excavation, materials, equipment, tools, labor, and work incidental thereto, and shall be considered to be completely covered by the contract unit price for the following:

| Item No.  | Units | Description                                         |
|-----------|-------|-----------------------------------------------------|
| 202-99.02 | Each. | CXT Tioga, Precast Double Vault Restroom with Chase |

**4.1** No direct payment will be made for:

- a. Excavation, trenching and backfilling.
- b. Electrical cable and rigid conduit.
- c. Existing concrete pad removal and replacement around existing electric panel to install new conduit run underground.
- d. Incidental work and material necessary to furnish and install the CXT Tioga, precast

double vault restroom with chase.

**Z. Cut and Cap Existing Water Line and Existing Sanitary Sewer Line at EB I-44 Weigh Station**

**1.0 Description.** The contractor shall cut and cap the existing water line and the existing sanitary sewer line at various locations at the EB I-44 weigh station site during removal of the buildings and the sanitary lift station.

**2.0 Basis of Payment.** All costs incurred for complying with this provision shall be considered completely covered by the contract unit price for Item No. 202-99.50, Demolition and Removal of Buildings, per lump sum.

| Item No.  | Units | Description                         |
|-----------|-------|-------------------------------------|
| 202-99.50 | L.S.  | Demolition and Removal of Buildings |

**AA. Modified Subgrade**

**1.0 Description.** This work shall consist of modifying a subgrade to improve stability. This work shall be performed as specified in the contract or at the direction of the engineer.

**2.0 Material.** All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

**2.1** The modifying material shall be hydrated lime or quicklime.

**2.2** The contractor shall furnish or require the supplier to furnish with each load certification that the product is in accordance with AASHTO M 216.

**3.0 Construction Requirements.** Construction requirements shall be as specified in Sec 205.3 except as herein modified.

**3.1** The project geotechnical report indicates that highly plastic soils (fat clay) are present at pavement subgrade elevations along sections of the alignment. The highly plastic subgrade soil shall be stabilized to a minimum depth of 12 in. below the base rock by incorporating hydrated lime (4 to 6 percent by dry weight as a minimum). The contractor shall complete laboratory testing to determine the applicable lime dosage using ASTM D6276.

**3.2** In order to better determine the highly plastic soil areas within the project limits, the contractor shall also complete laboratory Atterberg limits testing in accordance with AASHTO T 90 to supplement information contained in the project geotechnical report.

**3.3** An estimated quantity of modified subgrade is included in the contract based off information contained in the project geotechnical report.

**3.4** The engineer shall approve all subgrade areas to be modified.

**3.5** The hydrated lime or quicklime shall be thoroughly and uniformly blended into the soil.

**3.6** The lime-treated soil shall be allowed to cure before it is compacted. The cure time shall be determined during construction and, depending on the soil temperature, range from 4 to 24 hours.

**3.7** Highly plastic clays having greater than 40 percent sand and gravel content have less expansive potential and modification is not required. The subgrade shall be evaluated for gravel content at the time of construction to determine if the gravelly soils should be modified.

**3.8** The highly plastic clays may be used as fill material without being modified if placed one foot or deeper below the bottom of the base rock. The highly plastic clays used as fill material within one foot of the bottom of the base rock shall be modified.

**4.0 Method of Measurement.** Measurement of modified subgrade shall be as specified in Sec 205.4.

#### **5.0 Basis of Payment.**

**5.1** Payment for modified subgrade will be made per square yard of modified subgrade at the contract unit price. No direct payment will be made for the required hydrated lime or quicklime.

**5.2** Reimbursement for transition areas will be made at the contract unit price per square yard for ½ the area of transition.

**5.3** Reimbursement will be limited to modified areas, the width of the pavement and shoulder, plus 18 inches on each side.

**5.4** Only one payment for modified subgrade will be made for any area, regardless of the depth of stabilized material, number of applications or other circumstances.

| Item No.  | Units | Description       |
|-----------|-------|-------------------|
| 205-10.10 | S.Y.  | Modified Subgrade |

#### **BB. Modified Linear Grading**

**1.0 Description.** Modified Linear Grading shall consist of any necessary clearing and grubbing in accordance with Sec 201, preparing the subgrade by excavating, compacting, fine-grading, and shaping existing shoulder and ditch fore-slope, conforming to the typical section shown on the plans. It may be necessary to haul material and involve work on high banks, side hills, and rock outcroppings.

**2.0 Construction Requirements.** The shoulder shall be excavated and graded as shown on the typical section with minimal disturbance of the existing sub-grade and fore-slope. Density shall be obtained from reasonable compactive efforts consisting of no less than three passes with a roller until no further visible compaction can be achieved, or by other methods approved by the Engineer. Subgrade preparation and compaction shall also be in accordance with Sections 209 and 210.

**2.1** All ditches shall be graded to drain and maintain existing flow capacity, unless approved by the engineer. If fill material for the widening work impacts the ditch capacity, the contractor shall re-grade the backslope to maintain the flow capacity of the ditch. Fore slopes and back slopes

shall be constructed no steeper than the existing slopes with a maximum slope of 3:1 unless approved otherwise by the engineer.

**2.2** It may be necessary to go outside the limits of the right of way to obtain additional material or to dispose of excess material. All costs for providing additional material or disposing of excess material shall be included at the contract unit price for pay item 207-99.09, Modified Linear Grading. All contractor furnished material shall be approved by the Engineer prior to being incorporated into the project. Quarry screenings will not be considered an approved contractor furnished material.

**2.3** Included in this work is any pavement edge treatment that might be necessary in order to stay in compliance with the Standard Plans. The need for edge treatment is determined by the contractor's method of operations.

**2.4** This work may require excavation activities on rock outcroppings. No separate pay will be made for rock excavation needed to conform to the typical section as shown on the plans.

**2.5** Any grading and ditch work that exists as a property owner's frontage that has been mowed and maintained by the property owner will be finish graded to a smooth and mowable surface free of rocks and debris.

**3.0 Method of Measurement.** Measurement will be made in accordance with Sec 207.

**4.0 Basis of Payment.** Payment for Modified Linear Grading shall be made and considered completely covered by the contract unit price bid for:

| Item No.  | Units | Description             |
|-----------|-------|-------------------------|
| 207-99.09 | Sta.  | Modified Linear Grading |

CC. Shaping Slopes Class III (Modified Material Requirements)

**Delete Sec 215.1.3 and 215.1.3.1 and substitute the following:**

**215.1.3** Shaping Slopes, Class III, shall consist of providing rock fill material and shaping slopes to construct additional shoulder width for the installation of guardrail and Type A crashworthy end terminals in accordance with Missouri Standard Plans for Highway Construction. The rock fill material used shall meet the requirements specified in Sec 215.1.3.1. The shoulder surface shall be finished smooth such that it is traversable and without significant voids or depressions.

**215.1.3.1 Material Requirements.** Rock fill material used for Shaping Slopes, Class III, shall consist of a durable crushed stone, shot rock or broken concrete, with a predominant size of 4 inches minus. Acceptance by the engineer will be made by visual inspection.

**215.4 Basis of Payment.** The accepted quantity, complete in place, will be paid at the contract unit bid price for:

| Item No.  | Units   | Description                                               |
|-----------|---------|-----------------------------------------------------------|
| 215-99.10 | 100 Ft. | Shaping Slopes Class III – Modified Material Requirements |

DD. Asphalt Millings

**1.0 Description.** This work shall consist of furnishing and placing asphalt millings in the quantity and locations shown in the contract document or as directed by the engineer.

**2.0 Material.** Asphalt millings shall be obtained from any bituminous pavement coldmilling operation. The maximum milling material size shall be no greater than 2 inches in diameter. At the contractor's option, Gravel (A) or Crushed Stone (B) may be used in lieu of the asphalt millings to complete this work.

**3.0 Construction Requirements.**

**3.1 General.** The contractor shall furnish, haul and spread the asphalt millings on the existing aggregate shoulders and crossovers to bring them up to the elevation of the newly overlaid roadways. The existing aggregate shoulders and crossovers shall be reshaped and rolled as directed by the engineer to remove any irregularities before the asphalt millings are placed. The volume of asphalt millings may be varied at the discretion of the engineer, depending on how much material is needed to bring the existing aggregate shoulders and crossovers up to grade. The contractor shall uniformly unload and distribute the required quantity of asphalt millings throughout each station.

**3.2 Surface Requirements.** Asphalt millings shall be spread to a fairly uniform thickness over the existing aggregate shoulders and crossovers and shaped as shown on the plans or as directed by the engineer until the surface is free from ruts and waves. The asphalt milling shall be compacted with a roller to the satisfaction of the engineer. Maintenance of the asphalt millings shall continue until final project acceptance is made.

**4.0 Method of Measurement.** Final measurement of the completed asphalt milling surface area will not be made except for authorized changes during construction, or where appreciable errors are found in the contract quantity. Where required, measurement of asphalt milling surface areas, complete in place, will be made to the nearest square yard. The revisions or correction will be computed and added to or deducted from the contract quantity.

**5.0 Basis of Payment.** The accepted quantities of asphalt millings will be paid for at the contract unit price.

| Item No.  | Units | Description      |
|-----------|-------|------------------|
| 310-99.05 | S.Y   | Asphalt Millings |

EE. Type 5 Aggregate for Base (12 In. Thick)

**1.0 Description.** This work shall consist of furnishing and placing one or more courses of Type 5 aggregate on a prepared subgrade in accordance with these specifications, and as shown on the plans or as directed by the engineer. The thickness of the Type 5 aggregate shall be 12 inches for the locations specified on the plans.

**2.0 Material.** Material for Type 5 aggregate shall be as specified in Sec 304.2.



**3.0 Construction Requirements.** Construction requirements for Type 5 aggregate shall be as specified in Sec 304.3.

**4.0 Placing.** Placing Type 5 aggregate for base shall be as specified in Sec 304.3.3.

**4.0 Quality Control/Quality Assurance (QC/QA).** Quality Control/Quality Assurance for Type 5 aggregate shall be as specified in Sec 304.4.

**5.0 Method of Measurement.** The quantity of Type 5 Aggregate for Base (12 In. Thick) will be measured in accordance with Sec 304.5.

**6.0 Basis of Payment.** The accepted quantity of 12 in. thick Type 5 aggregate base course, complete in place, will be paid for at the contract unit price for:

| Item No.  | Units | Description                              |
|-----------|-------|------------------------------------------|
| 304-99.05 | S.Y.  | Type 5 Aggregate for Base (12 In. Thick) |

**6.1** Payment will be considered full compensation for water used in performing this work.

FF. HiMod Asphalt Mixture Requirements JSP-25-02C

**1.0 Description.** This work shall consist of the design and placement of an asphalt mixture in accordance with Sec 403 that meets the minimum Highly Modified Asphalt Mixture (HiMod Asphalt) requirements as described herein. The nominal aggregate size shall be either 095 or 125, as defined in Sec 403.1.

**2.0 Binder Requirements.** The binder shall be in accordance with AASHTO M 332 Grade MSCR PG 76E-28 with a minimum 90 percent Recovery, and shall meet the requirements in Table 1:

**Table 1. Binder Requirements**

| Property                                         |                         | Test Method:<br>AASHTO<br>(T) | 76E-28 (HiMod) |
|--------------------------------------------------|-------------------------|-------------------------------|----------------|
| Original                                         |                         |                               |                |
| Flash Point, ° C                                 |                         | T48                           | 230 min.       |
| Rotational Viscosity,<br>Pa-s                    | 135° C                  | T316                          | 5.0 max.       |
| Dynamic Shear, kPa<br>(G*/sin δ, 10<br>rad./sec) | At Grade<br>Temperature | T315                          | 1.00 min.      |
| RTFO Residue                                     |                         | T240                          |                |
| Mass Change, %                                   |                         | T240                          | 1.00 max.      |
| MSCR Test Tempreature                            |                         | T350                          | 76° C          |
| MSCR, J <sub>nr</sub> @ 3.2kPa, max.             |                         |                               | 0.1            |

|                                                                    |                        |      |                            |
|--------------------------------------------------------------------|------------------------|------|----------------------------|
| MSCR, % Recovery @ 3.2kPa. Min                                     |                        |      | 90                         |
| PAV Residue                                                        |                        | R28  | 100° C, 20 hrs.,<br>300psi |
| Dynamic Shear, kPa<br>( $G^* \times \sin \delta$ , 10<br>rad./sec) | At Test<br>Temperature | T315 | 28° C                      |
|                                                                    |                        |      | 6,000 max.                 |
| Creep Stiffness, Mpa                                               | At Test<br>Temperature | T313 | -18° C                     |
|                                                                    |                        |      | 300 max.                   |
| M-Value                                                            |                        |      | 0.300 min.                 |

**2.0 Binder Requirements.** Asphalt binders shall be modified by polymer modification only. Polyphosphoric acid (PPA) or other grade modifying agents shall not be used.

**3.0 Mix Design Requirements.** The mix design shall be in accordance with Sec 403 except as otherwise stated herein. The mix design shall be 50 gyrations with air voids in the range of 0.5 to 1.5 percent. Use a minimum total asphalt binder content in accordance with Table 2.

**Table 2. Minimum Total Asphalt Binder Content**

| Minimum Asphalt Binder Content                  |                                      |
|-------------------------------------------------|--------------------------------------|
| Combined Aggregate Bulk Specific Gravity<br>Gsb | Minimum Asphalt<br>Binder Content %* |
| 2.375 - 2.424                                   | 6.8                                  |
| 2.425 - 2.474                                   | 6.7                                  |
| 2.475 - 2.524                                   | 6.6                                  |
| 2.525 - 2.574                                   | 6.5                                  |
| 2.575 - 2.624                                   | 6.3                                  |
| 2.625 - 2.674                                   | 6.2                                  |
| 2.675 - 2.724                                   | 6.1                                  |
| > 2.724                                         | 6.0                                  |
| * Percent of total mix.                         |                                      |

**3.3 Binder Replacement.** A maximum of 15 percent virgin binder replacement may be used in the mixture. Recycled asphalt shingles are prohibited.

**3.4 Dust to Binder Ratio.** The ratio of minus No. 200 material to effective asphalt binder (Pbe) shall be between 0.8 and 1.4.

**3.5 Draindown.** AASHTO T 305, Draindown Test, shall be performed on all mixtures prior to job mix approval. The mixture shall be stabilized in such a way that the draindown of the asphalt binder shall not exceed 0.3 percent by weight of mixture.

**3.6 Aggregate.** Virgin material containing river gravel or natural sands shall not be used in the mixture.

**3.7 Performance Testing for Mix Design.** Acceptable test results meeting the performance requirements for CTIndex and Hamburg Wheel Track (HWT) shall be submitted with the mix design for approval. RTIndex test results shall be submitted with the mix design as informational only. All performance test specimens shall be compacted to an air content of  $4.0 \pm 0.5$  percent.

**3.7.1 Hamburg Wheel Track (HWT) Testing.** HWT testing will be completed in accordance with AASHTO T324 at a test temperature of  $50 \pm 1$  C and 2.44-inch specimen height. The maximum rut depth shall be 7.0 mm after 20,000 passes.

**3.7.2 Rutting Tolerance Index (RTIndex) Testing.** The RTIndex testing shall be completed in accordance with ASTM D8360 and at a test temperature of  $50 \pm 1$  C, and shall be provided for information only.

**3.7.3 Cracking Tolerance Index (CTIndex) Testing.** The CTIndex testing shall be completed in accordance with ASTM D8225 and at a test temperature of  $25 \pm 0.5$  C. The minimum CTIndex shall be 135.

**4.0 Construction Requirements.** Construction requirements shall be in accordance with Sec 403 except as otherwise stated herein.

**4.1 Density.** The target in-place density of the mat shall be  $96.5 \pm 2.5$  percent of Theoretical Maximum Specific Gravity. The target for in-place longitudinal joints is 94.0 percent of Theoretical Maximum Specific Gravity.

**4.2 Voids in Mineral Aggregate (VMA).** The VMA shall be within -0.5 and +2.0 percent of the approved mix design at  $N_{des}$  gyrations.

**4.3 Air Voids.** Air voids shall be within 0.5 to 2.5 percent at  $N_{des}$  gyrations.

**4.4 Hamburg Wheel Track (HWT).** HWT testing will be completed in accordance with AASHTO T324 at test temperature of  $50 \pm 1$  C and 2.44-inch specimen height. HWT test specimens shall be compacted to an air content of  $4.0 \pm 0.5$  percent. The maximum rut depth shall be 9.5 mm after 20,000 passes. HWT shall be sampled once at one every 10,000 tons.

**4.5 Informational Performance Testing.** The CTIndex testing shall be completed in accordance with ASTM D8225, at a test temperature of  $25 \pm 0.5$  C. The RTIndex testing shall be completed in accordance with ASTM D8360, at a test temperature of  $50 \pm 1$  C. CTIndex and RTIndex Test specimens shall be compacted to an air content of  $4.0 \pm 0.5$  percent. This testing shall be completed every 10,000 tons for informational purposes only.

**5.0 Thick Lift Paving.** Any smoothness corrections to the surface course of the pavement shall be by diamond grinding only. Micro-milling, as approved by the engineer, will only be allowable on base courses. Coldmilling of any course of new pavement to correct smoothness shall not be allowed.

**5.1 Micro-Milling.** Equipment for Micro-milling shall be in accordance with [Sec 622.10.2](#); except as modified herein.

- (a) The milling operation shall establish profile grades along each edge of the machine within 1/8-inch.

- (b) The maximum spacing between the cutting bits on the mill drum shall be 5/16-inch.
- (c) The accuracy on depth of milling shall be within 1.6 mm or less.
- (d) The maximum Ridge-To-Valley Depth (RTD) shall be 3.2 mm.
- (e) The maximum milling speed shall be 20 feet per minute.

**6.0 Removal of Material.** All lots of material with a PFT less than 50.0 shall be removed and replaced with acceptable material by the contractor. Any subplot of material with a percent of theoretical maximum density of less than 93.0 percent or greater than 99.5 percent shall be removed and replaced with acceptable material by the contractor. Any subplot of material with air voids in the compacted specimens less than 0.5 percent shall be evaluated with Hamburg testing and removed and replaced with acceptable material by the contractor if the rut depth is greater than 9.5 mm at 20,000 passes. No additional payment will be made for such removal and replacement. The replaced material will be tested at the frequencies listed in [Sec 403.19](#). Pay for the material will be determined in accordance with the applicable portions of [Sec 403.23](#) based on the replacement material.

**7.0 Small Quantities.** Small quantities are defined in [Sec 403.19.3.2.1](#). Unless the contractor has elected to use the normal evaluation in the Bituminous QC Plan for small quantities, the following shall apply for each separate mixture qualifying as a small quantity:

(a) QLA and PWL shall not apply.

(b) Mixtures shall be within the specified limits for VMA, Va, AC and density. In addition to any adjustments in pay due to profile, the contract unit price for the mixture represented by each set of cores will be adjusted based on actual field density above or below the specified density using the following schedule:

| Field Density                                    |  | Pay Factor                       |
|--------------------------------------------------|--|----------------------------------|
| (Percent of Laboratory Max. Theoretical Density) |  | (Percent of Contract Unit Price) |
| <b>For all SP mixtures other than SMA:</b>       |  |                                  |
| 93.5 to 99.5 inclusive                           |  | 100                              |
| 93.0 to 93.4                                     |  | 10% Deduction                    |
| Above 99.5 or Below 93.0                         |  | Remove and Replace               |

**8.0 Method of Measurement.** HiMod Asphalt Mixture shall be measured to the nearest 0.1 ton.

**9.0 Basis of Payment.** Payment for HiMod Asphalt Mixture will be made at the contract unit price for 403-99.10, SP125B HiMod Asphalt Mixture PG76E-28, per ton.

| Item No.  | Units | Description                           |
|-----------|-------|---------------------------------------|
| 403-99.10 | Ton   | SP125B HiMod Asphalt Mixture PG76E-28 |

GG. Non-Tracking Tack Coat JSP-24-02A

**1.0 Description.** This work requires application of tack in accordance with Sec 407 and prevention of tack loss from the surface as specified herein. Tack loss prevention shall be

accomplished with successful usage of a MoDOT-approved non-tracking tack, or other acceptable non-tracking means, as approved by the engineer.

**2.0 MoDOT-Approved Non-Tracking Tack.** A list of MoDOT-approved non-tracking tack products is available at MoDOT.org under the Materials Qualified List. Upon request from the contractor, the MoDOT Division of Construction & Materials will consider allowance of other non-tracking products. To be approved, the contractor must successfully demonstrate that the proposed product meets the non-tracking requirements specified in section 3.0. The location of a contractor demonstration will only be allowed in areas approved by the engineer. The engineer will make final determination of product acceptance based on observation of the results of the contractor's demonstration.

**2.1** Products on the Qualified List have demonstrated successful non-tracking performance on previous projects; however, the Commission does not endorse nor guarantee success of any of the listed products. Success is dependent on the contractor choosing a product that can achieve the desired results while also taking into consideration all factors, including, but not limited to, cure time, weather conditions, surface prep, surface type, material properties, and adherence to manufacturer's instructions. The contractor is responsible for monitoring adherence of the tack to the pavement surface and shall cease operations when tack first begins to show signs of not meeting the requirements of Section 3.0. Corrective action shall be made prior to resuming tacking operations.

**3.0 Non-Tracking Requirements.** Non-tracking tack shall remain adhered to the pavement surface when exposed to any wheeled or tracked vehicles. The tack shall not track off the surface within 30 minutes of being applied, and shall not stick to the tires, tracks or other parts of paving equipment or vehicles such that the underlying surface becomes visible or void of tack prior to the placement of the hot mix asphalt. The tack shall not track onto any adjacent lanes, pavement markings, driveways, sideroads, etc.

**3.1** The contractor shall be responsible for cleaning all tracked tack from adjacent lanes, driveways, sideroads, etc., and shall replace all pavement markings that become coated with tracked tack. This cleaning and replacement requirement applies to both approved and proposed non-tracking products.

**4.0 Basis of Payment.** Measurement and payment shall be in accordance with Sec 407. The accepted quantity of non-tracking tack coat will be paid for per gallon at the contract unit price for 407-10.07 Tack Coat – Non-Tracking, per gallon. No additional payment will be made for the cost to demonstrate proposed products, for cleaning surfaces due to tracking of tack, or for replacement of pavement marking damaged by tracked tack.

| Item No.  | Units | Description              |
|-----------|-------|--------------------------|
| 407-10.07 | Gal.  | Tack Coat – Non-Tracking |

HH. Asphalt Pavement Grinding Sealer

**1.0 Description.** This work consists of furnishing and applying a spray-applied liquid preservation agent on the N. Service Road at the location of the pavement grinding completed for the removal of the temporary pavement marking lines as specified herein or as directed by the

engineer. The asphalt pavement grinding sealer shall be applied to the grinding locations and allowed to cure prior to installing the final pavement markings.

**2.0 Material.** Asphalt pavement grinding sealer shall be an agricultural oil seal and preservation agent that is non-toxic, biobased and includes polymers to strengthen the asphalt matrix, improving viscosity, ductility, and maintain friction safety.

- a. Appearance: Brown to black thin liquid.
- b. pH: 3.5 - 5.0
- c. Specific Gravity: 0.8820 - 0.88920
- d. Flash Point: 210 degrees Fahrenheit+ Tag Closed Cup
- e. Shelf Life: 3 years in sealed manufacturer's container
- f. Cure Time: Generally, within 15 – 30 minutes

**3.0 Surface Preparation.** Asphalt pavement must be dry and swept clear of debris with a broom or mechanical blower. The surface temperature shall be above 40 degrees Fahrenheit. Zero to low humidity is recommended. Surface and ambient temperatures shall be between 40 degrees Fahrenheit and 130 degrees Fahrenheit. The optimal ambient and surface temperature range is between 70 degrees Fahrenheit and 80 degrees Fahrenheit. Asphalt below 40 degrees Fahrenheit will increase cure times. Asphalt about 90 degrees Fahrenheit may be softer and increase or decrease cure times.

**4.0 Application.** Sealer shall be applied pre-mixed as recommended by the manufacturer and shall not be diluted. Sealer shall be applied using a computer-controlled, truck mounted spray system. Application rate shall be 0.015 – 0.020 gallons per square yard on pavements with a PCI of 60% (good) or above. Application rates shall be increased to 0.020 – 0.030 on pavements showing more degradation as determined by the engineer. When applying to rumble strips or centerline joints, application rate shall be 0.025 – 0.03 gallons per square yard. Sealer generally cures with 15 – 30 minutes. Sealer may accept traffic at the discretion of the contractor and with the approval of the engineer after 30 minutes. Sealer shall not be applied if rain has occurred within the last 12 hours or if surface has retained moisture. Rain events may occur 5 minutes after cure. Sealer shall not be applied in high winds. Overapplication shall be avoided as it will soften the pavement and take longer to cure. Contractor shall repair all potholes and seal all cracks within the application area prior to applying the sealer. Sealer shall not be applied to pavements exhibiting excessive degradation as determined by the engineer.

**5.0 Safety/Handling.** Sealer safety and handling shall be in accordance with manufacturer's recommendations.

**6.0 Storage.** Sealer storage shall be in accordance with manufacturer's recommendations.

**7.0 Disposal/Cleaning.** Sealer disposal and cleaning shall be in accordance with manufacturer's recommendations.

**8.0 Method of Measurement.** Measurement of asphalt pavement grinding sealer, complete in place and accepted by the engineer, will be made to the nearest lineal foot, regardless of the width of the grinding area. Sealer applied to the grinding area of double yellow centerlines will be measured as one area, regardless of the width, along the centerline of the roadway.

**9.0 Basis of Payment.** Payment for furnishing all labor, equipment, materials, and incidentals necessary to apply asphalt pavement grinding sealer shall be completely covered by the contract unit price for the following pay item.

| Pay Item Number | Description                      | Unit |
|-----------------|----------------------------------|------|
| 413-99-03       | Asphalt Pavement Grinding Sealer | L.F. |

## II. Water Service Line and Appurtenances

**1.0 Description.** This work shall consist of furnishing and installing a water service line, a curb stop valve with small curb box and a freezeless yard hydrant as shown on the plans or as directed by the engineer. This includes all work required to locate the existing 2 inch water line, abandon a portion of the existing 2 inch water line, and to connect to the existing 2 inch water line and extend a new 2 inch water line to the location of the curb stop valve/yard hydrant as shown on the plans. The water service line and appurtenances shall meet the following requirements:

- a. Water line shall be new 2 inch Type K copper pipe.
- b. Freezeless yard hydrant valve body must be buried at least six inches below the maximum frost line in the area to prevent freezing. Hydrant must be designed to drain automatically when shut off to prevent freezing. Hydrant must be of sturdy construction for year-round use. Hydrant shall have a brass valve body and stainless-steel operating rods for corrosion resistance and structural integrity. Hydrant shall be capable of flowing water in sub-zero conditions. Hydrant shall have a locking handle, threaded nozzle for hose attachment, and the ability to connect to contractor pumps if needed. The contractor shall submit a drawing/brochure of the freezeless yard hydrant to the engineer for approval.
- c. The curb stop valve shall be 2 inches, fabricated of brass and shall be provided with outlets suitable for copper connections. Curb stops shall be of the round-way type. Curb stop boxes shall be cast or ductile iron. Curb stop and box shall be located adjacent to freezeless yard hydrant or as directed by the engineer. The contractor shall submit a drawing/brochure of the curb stop with small curb box to the engineer for approval.

**2.0 Material.** All material shall be as specified in Sec 603.2.

**3.0 Service Connection.** Service connection shall be as specified in Sec 603.2.1.

**4.0 Material Acceptance.** Material acceptance shall be as specified in Sec 603.2.2.

**5.0 Construction Requirements.** Construction requirements shall be as specified in Sec 603.3.

**6.0 Construction and Installation.** Construction and installation shall be as specified in Sec 603.3.1.

**7.0 Inspection and Acceptance.** Inspection and acceptance shall be as specified in Sec 603.3.2.

**8.0 Appurtenance Installation.** Appurtenance installation shall be as specified in Sec 603.3.3.

**9.0 Abandoned Water Service Lines.** Abandoning water service lines shall be as specified in Sec 603.3.4.

**10.0 Backfilling.** Backfilling shall be as specified in Sec 603.3.6.

**11.0 Disinfection.** Disinfection shall be as specified in Sec 603.3.7.

**12.0 Method of Measurement.**

**12.1** Measurement of curb stop valves with small curb box will be made per each, complete in place.

**12.2** Measurement of freezeless yard hydrants will be made per each, complete in place.

**12.3** Measurement of water service line, 2 in., complete in place, will be made to the nearest lineal foot along the geometrical center of the pipe with no exceptions for valves or fittings.

**13.0 Basis of Payment.** Accepted water line items will be paid for at the contract unit price for each of the pay items listed below. No direct payment will be made for excavation or backfill except in accordance with Secs 206.6.3.3 and 603.4.2. No direct payment will be made for fitting regardless of the type of fittings used. Accessories required for fittings will be considered part of the fitting. No direct payment will be made for incidental construction items including, but not limited to, reaction backing, plugging and sealing of abandoned water lines, and for disinfecting of water lines.

| Item No.  | Units | Description                                 |
|-----------|-------|---------------------------------------------|
| 603-99.02 | Each  | Water - Curb Stop Valve with Small Curb Box |
| 603-99.02 | Each  | Water - Freezeless Yard Hydrant             |
| 603-99.03 | L.F.  | Water Service Line, 2 In.                   |

**JJ. Adjust to Grade Utility Structures**

**1.0 Description.** This work shall consist of adjusting utility structures (water valves, water meters, fire hydrants, sewer valves, curb boxes, clean outs, etc.) to grade that are within the proposed construction limits as shown on the plans. The contractor shall verify the type of frame and cover in the field before performing the work. The adjustments shall be made to match the final proposed grade.

This work shall also consist of adjusting to grade existing ITS, signal, and lighting pull boxes as shown in the plans or as directed and approved by engineer. If it is unfeasible to adjust the existing pull box to grade, the contractor shall replace the pull box while maintaining all existing fiber and electrical connections. All pull box adjustments to grade shall be completed where indicated on drawings and directed by Engineer. Pull boxes within the pedestrian access route shall be placed at grades compliant with ADA. If the pull box to be adjusted is within a proposed



curb ramp, the pull box shall be relocated outside the curb ramp limits. Relocation of these pull boxes is included in this adjust to grade pay item.

**2.0 Material.** All materials shall be as specified in Division 1000.

### **3.0 Construction Requirements.**

**3.1** Adjustments, extensions, and/or lowering of utility structures and any related excavation and backfill shall be constructed as approved by the Engineer. For MoDOT owned facilities, adjustments shall conform to current Missouri Standard Specifications for Highway Construction. Adjustments shall be completed so that any finished sidewalk, ramp, approach, or pavement meets current ADA standards.

**3.2** Adjusting to grade pull boxes shall consist of furnishing and installing, complete in place. All the following shall be considered part of this work: ITS, connections, maintaining ITS network, grounding, electrical connections, wiring, foundations, covers, connectors, etc. required to complete the pull box adjust to grade. All construction shall be completed according to Missouri Department of Transportation standards.

**4..0 Basis of Payment.** Payment for furnishing all labor, equipment, materials, and incidentals necessary to adjust to grade utility structures shall be completely covered by the contract unit price for the following pay item.

| <b>Pay Item Number</b> | <b>Description</b>                 | <b>Unit</b> |
|------------------------|------------------------------------|-------------|
| 604-99.02              | Adjust to Grade Utility Structures | Each        |

There shall be No Direct Pay for adjusting ITS connections, electrical connections, wiring, or other adjustments to the ITS, signal, and lighting infrastructure except as identified by other pay items within this contract.

## **KK. Remove and Relocate Fence Posts**

**1.0 Description.** This work shall consist of removing and relocating fence posts as shown on the plans or as directed by the engineer. The contractor shall be responsible for all existing fence posts to be relocated. During construction, if any fence post to be relocated is lost, stolen, or damaged in any way, the contractor shall be responsible for all costs.

**2.0 Construction Requirements.** The contractor shall remove the existing fence posts prior to initiating construction, remove any existing concrete from the posts and store them in a safe place until it is time to re-erecting them. After construction and final grading is completed in the area, the fence posts shall be re-erected at approximately the same location as they were removed and the contractor shall ensure that the existing cable used to close the driveway is of sufficient length to continue to be utilized in the same manner. Final fence re-erection location shall be approved by the engineer. Any footings/foundations for the posts shall match in-kind the existing footings/foundations prior to removal. All work shall be completed in accordance with the construction requirements of Sec 607.

**3.0 Method of Measurement.** Measurement will be made per each for removing and relocating existing fence posts. No measurement will be made for concrete footings, post hole excavation or for excavation and embankment necessary to smooth the area around the fence post.

**4.0 Basis of Payment.** All costs incurred for removing and relocating existing fence posts to the locations shown on the plans, complete in place, will be paid for at the contract unit price for the following bid item noted below. Payment for all other labor, equipment, material, and incidental items will be considered completely covered by the bid items included in the contract.

| Item No.  | Units | Description                    |
|-----------|-------|--------------------------------|
| 607-99.02 | Each  | Remove and Relocate Fence Post |

**LL. ADA Compliance and Final Acceptance of Constructed Facilities JSP-10-01C**

**1.0 Description.** The contractor shall comply with all laws pertaining to the Americans with Disabilities Act (ADA) during construction of pedestrian facilities on public rights of way for this project. An ADA Checklist is provided herein to be utilized by the contractor for verifying compliance with the ADA law. The contractor is expected to familiarize himself with the plans involving pedestrian facilities and the ADA Post Construction Checklist prior to performing the work.

**2.0 ADA Checklist.** The contractor can locate the ADA Checklist form on the Missouri Department of Transportation website:

<https://www.modot.org/forms-contractor-use>

**2.1** The ADA Checklist is not to be considered all-inclusive, nor does it supersede any other contract requirements. The ADA checklist is a required guide for the contractor to use during the construction of the pedestrian facilities and a basis for the commission's acceptance of work. Prior to work being performed, the contractor shall bring to the engineer's attention any planned work that is in conflict with the design or with the requirement shown in the checklist. This notification shall be made in writing. Situations may arise where the checklist may not fully address all requirements needed to construct a facility to the full requirements of current ADA law. In those situations, the contractor shall propose a solution to the engineer that is compliant with current ADA law using the following hierarchy of resources: 2010 ADA Standards for Accessible Design, Draft Public Rights of Way Accessibility Guidelines (PROWAG) dated November 23, 2005, MoDOT's Engineering Policy Guidelines (EPG), or a solution approved by the U.S. Access Board.

**2.2** It is encouraged that the contractor monitor the completed sections of the newly constructed pedestrian facilities in attempts to minimize negative impacts that his equipment, subcontractors or general public may have on the work. Completed facilities must comply with the requirements of ADA and the ADA Checklist or have documented reasons for the non-compliant items to remain.

**3.0 Coordination of Construction.**

**3.1** Prior to construction and/or closure on an existing pedestrian path of travel, the contractor shall submit a schedule of work to be constructed, which includes location of work performed, the

duration of time the contractor expects to impact the facility and an accessible signed pedestrian detour compliant with MUTCD Section 6D that will be used during each stage of construction. This plan shall be submitted to the engineer for review and approval at or prior to the pre-construction conference. Accessible signed detours shall be in place prior to any work being performed that has the effect of closing an existing pedestrian travel way.

**3.2** When consultant survey is included in the contract, the contractor shall use their survey crews to verify that the intended design can be constructed to the full requirements as established in the 2010 ADA Standards. When 2010 ADA Standards do not give sufficient information to construct the contract work, the contractor shall refer to the PROWAG.

**3.3** When consultant survey is not included in the contract, the contractor shall coordinate with the engineer, prior to construction, to determine if additional survey will be required to confirm the designs constructability.

**4.0 Final Acceptance of Work.** The contractor shall provide the completed ADA Checklist to the engineer at the semi-final inspection. ADA improvements require final inspection and compliance with the ADA requirements and the ADA Checklist. Each item listed in the checklist must receive either a "YES" or an "N/A" score. Any item receiving a "NO" will be deemed non-compliant and shall be corrected at the contractor's expense unless deemed otherwise by the engineer. Documentation must be provided about the location of any non-compliant items that are allowed to remain at the end of the construction project. Specific details of the non-compliant items, the ADA requirement that the work was not able to comply with, and the specific reasons that justify the exception are to be included with the completed ADA Checklist provided to the engineer.

**4.1** Slope and grade measurements shall be made using a properly calibrated, 2 foot long, electronic digital level approved by the engineer.

**5.0 Basis of Payment.** The contractor will receive full pay of the contract unit cost for all sidewalk, ramp, curb ramp, median, island, approach work, cross walk striping, APS buttons, pedestrian heads, detectible warning systems and temporary traffic control measures that are completed during the current estimate period as approved by the engineer. Based upon completion of the ADA Checklist, the contractor shall complete any necessary adjustments to items deemed non-compliant as directed by the engineer.

**5.1** 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 documents.

MM. ADA Curb Ramp – St. Louis District Version 01-17-24

**1.0 Description.** This work shall consist of constructing new concrete curb ramps that are compliant with current Americans with Disabilities Act (ADA) and MoDOT guidelines at locations shown on the plans and as directed by the engineer.

**1.1** The contractor shall ensure that the persons establishing the grades of the ADA facilities have a copy of ADA related provisions at hand for reference. If it is found that written provisions for ADA facilities are not at hand, the engineer may cause ADA work to be ceased until a copy arrives.

**2.0 Construction Requirements.** Except as noted herein, all applicable provisions in Sec 608 of the Standard Specifications shall apply to the construction of the curb ramps.

**2.1** The following shall be included in the cost of a new ADA ramp:

- Excavation and preparing of the subgrade prior to placement of the aggregate base
- 4" Type 5 Aggregate Base underneath the new ramp
- Everything shown in the various figures of ADA ramp curb types on Standard Plan 608.50 shall be poured as 7" concrete. This includes all area of ramp, level landing pads and any flares included in the per each ADA Ramp.
- Variable height curb along the roadway within the limits of the new ADA ramp
- Variable height curb along the backside of the new ADA ramp
- Concrete median used to separate direction of travel within a dual perpendicular ramp
- Furnishing and installing any reinforcement needed as shown in the plans for curbs taller than 8"
- Tinting of concrete surface as required in the plans
- Saw Cuts needed for the removal of the existing concrete area where the new ADA ramp is being constructed
- Removal of the existing concrete area where the new ADA ramp is being constructed

**2.1.1** Regardless of the number of ramp areas or surfaces having a maximum ramp slope of 1V:12H (8.33%) that are constructed for a particular type of ADA Curb Ramp, the contractor **will not** be paid for additional number of ramps at that location. See special sheet for curb ramp pay limits. Exception: **Dual Perpendicular Ramps and Blended Transitions** will be paid as 2 each.

**2.2** The following shall be paid for separately in the cost of a new ADA ramp:

- Truncated Domes

**2.2.1** Detectable warning surfaces shall be provided, where a curb ramp, landing, or blended transition connects to a street. Where commercial or private driveways are provided with traffic control devices or otherwise are permitted to operate like public streets, detectable warnings should be provided at the junction between the pedestrian route and the street. See plans for additional details.

**2.2.2** The truncated domes shall come from Materials' Pre-Qualified List FS-1067 Table 1 from the following link:

<https://www.modot.org/materials>

**2.3 Gutter Correction.** The contractor shall establish the grade of the flow line of the gutter before establishing the grades of ADA facilities. The gutter line shall be free flowing with no ponding next to the curb. Under-performing gutters shall be replaced with a concrete curb and gutter or a minimum 1.75-inch thick asphalt mill and fill. Running or standing storm water shall

not be pushed out into the roadway where it may be splashed on pedestrians by passing vehicles or cause a hydroplaning hazard. An asphalt mill and fill shall be a minimum of 1.75 inches thick and the edges shall be at a smooth milled butt joint. The contractor shall use an approved BP-1 mix for all corner asphalt mill and fill work unless another surface asphalt mix is specified elsewhere in the contract. Asphalt mill and fill is included in the work of ADA Curb Ramps. If asphalt mill and fill is needed at a corner without any other ADA work, it will be found as a separate line item in this contract.

## 2.4 Design Plans

**2.4.1** Recommendations for the design type of each curb ramp to be built on this project are shown on the plans. Curb ramps constructed by the contractor may vary from the original design, with approval from the engineer, in size, shape, and location as necessary to comply with ADA laws. It is the contractor's responsibility to inspect locations in the field before bidding to verify quantities needed to satisfy this provision. No additional pay will be made to the contractor if the original design is adjusted, and a different ramp type is constructed instead of the recommended/suggested in the plans.

**2.4.2** ADA provides some exceptions to ramp slope where space limitations exist. The apparent construction limits shown on the plans are not considered a space limitation. The contractor shall not place any ADA exceptions without consulting the Engineer on a case-by-case basis.

**2.4.3 Special Drawing.** A special drawing (see Typical Section Sheet) shows the pay limits for each the small radii ADA ramp type used by MoDOT. This special drawing is not intended to replace the Standard Plans, Standard specifications or MoDOT's ADA checklist but is intended only to provide consistency regarding pay lengths/limits within the St. Louis District.

As shown on this special drawing, 10 feet beyond the landing is considered part of the ADA ramp unless otherwise noted in the plans. Payment for the ramp will be 10 feet beyond the landing (unless otherwise noted in the plans) and no adjustment in sidewalk length/quantity will be made if this 10-foot ramp length (unless otherwise noted in the plans) is adjusted by the contractor in the field.

**2.4.4** When a project **is only** replacing ADA Curb Ramps at intersections, a warping panel shall be included and considered incidental to the cost of the new ADA Curb Ramp. When a project is also constructing new sidewalk tied into the new ADA Curb Ramp, this warping panel shall be paid for within the sidewalk pay item. A warping panel consists of tying in an ADA compliant cross slope to an existing cross slope.

**2.5 Median or Median Island Cut-throughs.** If there is an actual ramp with a slope not exceeding 8.33% (1V:12H) that provides access to the **raised portion** of the island or median instead of cutting through a portion of the island or median, then that area of concrete will be paid for separately as an ADA Curb Ramp, per each, as noted below. If the pedestrian path cuts through an island or median, then this area is not considered a ramp and will be paid for with individual items necessary to construct this pedestrian path.

**2.6 Prosecution of Work.** The contractor shall have all necessary personnel, equipment, and materials at hand for all work at each location before the work begins so that work may proceed without delay.

**3.0 Method of Measurement.** Final measurement will not be made for each ramp except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

**4.0 Basis of Payment.** The accepted quantity of ADA compliant curb ramps will be paid at the contract unit price for the following items:

| Item No.  | Description     | Units |
|-----------|-----------------|-------|
| 608-10.12 | Truncated Domes | S.F.  |
| 608-99.02 | ADA Curb Ramp   | Each  |

#### NN. Testing Modifications

**1.0 Description.** The predominant use of base rock on this project is for entrances, sidewalks, and ADA curb ramps. Concrete base and pavement are patchwork. Paved approaches, sidewalks, and curb will frequently be poured from the same truckload of concrete at a frequency of one or two trucks per day. This JSP revises the Inspection and testing Plan (ITP). Specifically, it revises some of the QC testing frequencies to better match the nature of work and not cause an undue burden on the contractor.

**2.0 Compaction Test on Base Rock Under Sidewalk ADA Ramps and Paved Approaches in the Field.** (Revises Sec 304.3.4) The required frequency of one per day will be modified to one per 600 tons.

**3.0 Gradation Test on Base Rock Under Sidewalk ADA Ramps and Paved Approaches.** (Revises Sec 304.4.1) The standard ITP requires one test per 250 tons with a minimum of one per week. The required frequency will be modified to one per 500 tons.

**4.0 Concrete Plan Checklists.** (Revises Sec 501) Submittal of the 501 Concrete Plant Checklist will be modified from once per day to once per week when the contractor is only pouring curb sidewalk, paved approaches, and ADA ramps.

**5.0 Concrete Median, Median Strip, Sidewalk, Curb Ramps, and Curb.** (Revises Sec 608) The required testing of one from the first truckload per day will be modified to the first truckload for the project and each 100 CUYDs for air and slump thereafter. Strength will be verified by use of cylinders or maturity meters at a minimum rate of one per 100 CUYD.

**6.0 Paved Approaches.** (Revises Sec 608) The required testing of one from the first truckload per day and each 100 CUYDs for air and slump will remain per specification. Strength will be verified by use of cylinders or maturity meters at a minimum rate of one per 100 CUYD.

**7.0 Curb Concrete.** (Revises Sec 609) The required frequency will be the same as Sec 5.0 above.

**8.0 Basis of Payment.** No direct payment will be made to the contractor to fulfill the above provision.

OO. Concrete Curb (Over 6 In. Height) Modified Type S

**1.0 Description.** This work shall consist of constructing modified Type S concrete curb (over 6 in. height) as shown on the plans or as directed by the engineer. The modified Type S concrete curb (over 6 in. height) shall be constructed with reinforcement bars as detailed in the plans. The height of the modified Type S concrete curb above the adjacent sidewalk shall vary from 6 in to 23 in.

**2.0 Material.** Material for modified Type S concrete curb (over 6 in. height) shall be as specified in Sec 609.10.2.

**3.0 Construction Requirements.** Construction requirements for modified Type S concrete curb (over 6 in. height) shall be as specified in Sec 609.10.3.

**4.0 Method of Measurement.** Modified Type S concrete curb (over 6 in. height) will be measured in accordance with Sec 609.10.4.

**5.0 Basis of Payment.** The accepted quantity of modified Type S concrete curb (over 6 in. height), complete in place, will be paid for at the contract unit price for:

| Item No.  | Units | Description                                       |
|-----------|-------|---------------------------------------------------|
| 609-99.03 | L.F.  | Concrete Curb (Over 6 In. Height) Modified Type S |

**5.1** No direct payment will be made for the following:

- (a) Excavation below the upper surface of the special modified Type S concrete curb.
- (b) Any work necessary for preparing the subgrade and backfilling the complete modified Type S curb.
- (c) Furnishing or installing reinforcement.

PP. Modified Curb and Gutter Type B

**1.0 Description.** This work shall consist of constructing modified Type B curb and gutter as shown on the plans or as directed by the engineer. The gutter pan shall be overlaid with 2 ½ in. of asphalt as detailed in the plans. The curb height shall be 8 ½ in. and the gutter pan held down 2 ½ in. below existing grade to accommodate the 2 ½" asphalt overlay as detailed in the plans.

**2.0 Material.** Material for modified Type B curb and gutter shall be as specified in Sec 609.10.2.

**3.0 Construction Requirements.** Construction requirements for modified Type B curb and gutter shall be as specified in Sec 609.10.3.

**4.0 Method of Measurement.** Modified Type B curb and gutter will be measured in accordance with Sec 609.10.4.

**5.0 Basis of Payment.** The accepted quantity of modified Type B curb and gutter, complete in place, will be paid for at the contract unit price for:

| Item No.  | Units | Description                     |
|-----------|-------|---------------------------------|
| 609-99.03 | L.F.  | Modified Curb and Gutter Type B |

**5.1** No direct payment will be made for the following:

- (d) Excavation below the upper surface of the modified Type B curb and gutter.
- (e) Any work necessary for preparing the subgrade and backfilling the complete modified Type B curb and gutter.
- (f) Furnishing or installing reinforcement.

QQ. Truck Mounted Attenuator (TMA) for Stationary Activities JSP-23-04

**1.0 Description.** Provide and maintain Truck Mounted Attenuators (TMA) in accordance with Sec 612 and as specified herein.

**2.0 Construction Requirements.** Truck Mounted Attenuators (TMA) shall be used for the work activities indicated in the plans or specified herein.

**2.1 Signing** – All signing work within the project limits not protected by temporary traffic barrier.

**2.2 Guardrail** – All guardrail work within the project limits not protected by temporary traffic barrier.

**2.3 Bridge** – End post modifications to Bridge A20493 at the Route W/JJ interchange.

**2.4 Tier II Inlaid Pavement Arrow Systems** – Removal and installation of Tier II inlaid pavement marking arrow systems on various ramps at the Route AF interchange and at the Route W/JJ interchange.

**2.5 Inlaid Pavement Markers** – Removal of inlaid pavement markers on WB I-44 in Sullivan from Sta. 0+00.00 to Sta. 116+00.00.

**2.6 Pavement Repair** – All I-44 mainline pavement repair within the project limits.

**2.7 Curb** – Integral curb removal and replacement at the bridge ends at the Route D interchange.

**2.8 Asphalt Millings** – Placing asphalt millings at the crossovers along I-44 mainline and along the ramps at the Route W/JJ interchange and at the Route 30 interchange.

**2.9 Temporary Traffic Barrier** – Setting and removing temporary traffic barrier at WB I-44 rest area, EB I-44 rest area, WB I-44 weigh station and WB I-44 weigh station.

**3.0 Method of Measurement.** No measurement will be made for Truck Mounted Attenuators (TMA).

**4.0 Basis of Payment.** Delete Sec 612.5.1 and substitute with the following:



**612.5.1** No payment will be made for truck mounted attenuators (TMAs) used in mobile operations or for any TMAs designated as optional.

**612.5.1.1** Payment for TMAs required for stationary work activities will be paid for at the contract unit bid price for Item 612-30.01, Truck Mounted Attenuator (TMA), per lump sum. The lump sum payment includes all work activities that require a TMA, regardless of the number of deployments, relocations, or length of time utilized. No payment will be made for repair or replacement of damaged TMAs.

| Item No.  | Unit | Description                    |
|-----------|------|--------------------------------|
| 612-30.01 | L.S. | Truck Mounted Attenuator (TMA) |

RR. Lump Sum Temporary Traffic Control JSP-22-01B

**1.0 Delete Sec 616.11 and insert the following:**

**616.11 Method of Measurement.** Measurement for relocation of post-mounted signs will be made to the nearest square foot of sign area only for the signs designated for payment on the plans. All other sign relocations shall be incidental. Measurement for construction signs will be made to the nearest square foot of sign area. Measurement will be made per each for each of the temporary traffic control items provided in the contract.

**616.11.1 Lump Sum Temporary Traffic Control.** No measurement will be made for temporary traffic control items grouped and designated to be paid per lump sum. The list of lump sum items provided in the plans or contract is considered an approximation and may be subject to change based on field conditions. This is not a complete list and may exclude quantities for duplicate work zone packages used in simultaneous operations. The contractor shall provide all traffic control devices required to execute the provided traffic control plans for each applicable operation, stage, or phase. No measurement will be made for any additional signs or devices needed except for changes in the traffic control plan directed by the engineer.

**2.0 Delete Sec 616.12 and insert the following:**

**616.12 Basis of Payment.** All temporary traffic control devices authorized for installation by the engineer will be paid for at the contract unit price for each of the pay items included in the contract. Whether the devices are paid individually, or per lump sum, no direct payment will be made for the following:

- (a) Incidental items necessary to complete the work, unless specifically provided as a pay item in the contract.
- (b) Installing, operating, maintaining, cleaning, repairing, removing, or replacing traffic control devices.
- (c) Covering and uncovering existing signs and other traffic control devices.
- (d) Relocating temporary traffic control devices, including permanent traffic control devices temporarily relocated, unless specifically included as a pay item in the contract.

- (e) Worker apparel.
- (f) Flaggers, AFADs, PFDs, pilot vehicles, and appurtenances at flagging stations.
- (g) Furnishing, installing, operating, maintaining, and removing construction-related vehicle and equipment lighting.
- (h) Construction and removal of temporary equipment crossovers, including restoring pre-existing crossovers.
- (i) Provide and maintaining work zone lighting and work area lighting.

**616.12.1 Lump Sum Temporary Traffic Control.** Traffic control items grouped together in the contract or plans for lump sum payment shall be paid incrementally per Sec 616.12.1.1. Alternately, upon request from the contractor, the engineer will consider a modified payment schedule that more accurately reflects completion of traffic control work. No payment will be made for any additional signs or devices needed except for changes in the traffic control plan directed by the engineer. Additional items directed by the engineer will be paid for in accordance with Sec 109.4. No adjustment to the price will be made for overruns or underruns of other work or for added work that is completed within existing work zones.

**616.12.1.1 Partial payments.** For purposes of determining partial payments, the original contract amount will be the total dollar value of all original contract line items less the price for Lump Sum Temporary Traffic Control (LSTTC). If the contract includes multiple projects, this determination will be made for each project. Partial payments will be made as follows:

- (a) The first payment will be made when five percent of the original contract amount is earned. The payment will be 50 percent of the price for LSTTC, or five percent of the original contract amount, whichever is less.
- (b) The second payment will be made when 50 percent of the original contract amount is earned. The payment will be 25 percent of the price for LSTTC, or 2.5 percent of the original contract amount, whichever is less.
- (c) The third payment will be made when 75 percent of the original contract amount is earned. The payment will be 20 percent of the price for LSTTC, or two percent of the original contract amount, whichever is less.
- (d) Payment for the remaining balance due for LSTTC will be made when the contract has been accepted for maintenance or earlier as approved by the engineer.

**616.12.1.2** Temporary traffic control will be paid for at the contract lump sum price for Item:

| Item No.  | Unit | Description                        |
|-----------|------|------------------------------------|
| 616-99.01 | L.S. | Lump Sum Temporary Traffic Control |

SS. Use of Crossovers and Truck Entrances JSP-04-10

**1.0 Description.** The contractor is advised that at no time shall the contractor be allowed to use the existing median crossovers or install temporary crossovers to turn around during hauling operations or for the moving of equipment. The contractor is also prohibited from constructing any temporary entrances to the mainline of the interstate.

**2.0 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 provision.

TT. Temporary Traffic Barrier

**1.0 Description.** The contractor is advised that temporary traffic barrier will not be allowed to be in place from November 1 to March 15. All roadway normal lane configurations shall be in operation from November 1 to March 15. This provision is not applicable to Stage 1 (I-44 westbound weigh station).

**2.0 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 provision.

UU. 7 Ft. Precast Concrete Parking Block

**1.0 Description.** This work shall consist of furnishing and installing 7 ft. precast concrete parking blocks at the locations shown in the plans or as directed by the engineer.

**2.0 Material.** All material shall be in accordance with Division 1000 Materials Details.

**3.0 Construction Requirements.**

**3.1** The parking blocks shall be a minimum of 7 feet long, 5 inches tall and 6 inches deep. All top edges shall have a minimum of 1 ½ inch chamfer edging. The bottom of the parking block shall have two drainage openings, a minimum of 12 inches long, each. Two ¾ inch diameter holes shall be cast through the wheel stop to allow placement of reinforcing bar to anchor the parking block to the pavement.

**3.2** The parking blocks shall be made of Portland cement concrete having a minimum compressive strength of 3,000 psi and shall be reinforced with two #4 reinforcement bars running along the length. The surface of the parking blocks shall be smooth, free from pits, holes, cracks, excess concrete and blemishes.

**3.3** The parking blocks shall be installed at the locations shown on the plans and as directed by the engineer. The installation shall include drilling ¾ inch diameter holes through the pavement structure and installing minimum 2 foot long pieces of reinforcing bars to secure the parking block from movement.

**4.0 Method of Measurement.** Measurement will be made per each for 7 ft. precast concrete parking block complete in place.

**5.0 Basis of Payment.** Payment for all labor, equipment, materials, and incidental work for furnishing and placing 7 ft. precast concrete parking block, complete in place, will be paid for at the contract unit price for the following:

| Item No.  | Unit | Description                          |
|-----------|------|--------------------------------------|
| 617-99.02 | Each | 7 Ft. Precast Concrete Parking Block |

VV. Concrete Traffic Barrier, Type C, Height Transition

**1.0 Description.** This work shall consist of constructing permanent Type C concrete traffic barrier, height transition as shown on the plans or as directed by the engineer.

**2.0 Material.** All material shall be as specified in Sec 617.10.2

**3.0 Construction Requirements.** Construction requirements shall be as specified in Sec 617.10.3 except as modified herein.

**3.1** Type C concrete traffic barrier height shall transition from 42 inches to 6 inches over a length of 28 feet as detailed in the plans.

**3.2** Type C concrete traffic barrier, height transition shall be constructed with #5 reinforcing bars and doweled to the pavement with 1 inch diameter steel dowels (12 inch long @ 24 inch spacing) as detailed in the plans.

**4.0 Method of Measurement.** Measurement shall be as specified in Sec 617.10.4.

**5.0 Basis of Payment.** Accepted permanent Type C concrete traffic barrier, height transition, complete in place, will be paid for at the contract unit price per lineal foot. No direct payment will be made for reinforcing steel, dowels, joint filler material, and sawed joints.

| Item No.  | Unit | Description                                         |
|-----------|------|-----------------------------------------------------|
| 617-99.03 | L.F. | Concrete Traffic Barrier, Type C, Height Transition |

WW. Pavement Marking Layout

**1.0 Description.** Care is to be taken by the contractor to evaluate and document the existing pavement marking layout along the route prior to commencement of any pavement or shoulder work. Any new pavement marking placed after the completion of the paving work on this project shall match the pre-construction layout unless there are any authorized changes in the striping layout that have been approved by the Engineer.

**2.0 Construction Requirements.**

**2.1** The contractor shall submit to the Engineer for review and approval a pavement marking installation plan. This plan will include the pre-construction documentation of the existing pavement marking layout as well as the contractor's proposal for installing the pavement

markings, including locations of any intermittent pavement markings for passing zones to meet the requirements outlined above.

**2.2** Final striping will not begin until the contractor has received approval of the pavement marking installation plan.

**3.0 Method of Measurement.** Final measurement for pavement marking will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

**4.0 Basis of Payment.** All costs and expenses incurred by the contractor in fulfilling the requirements of the provision shall be considered incidental to pavement marking cost.

XX. Optional Temporary Pavement Marking Paint NJSP-18-07H

**1.0 Description.** This provision provides the contractor with the option to either complete all Permanent Pavement Marking Paint (PPMP) prior to the time limits specified herein or to apply Temporary Pavement Marking Paint (TPMP) in accordance with [Sec 620.10.2](#) (4 inch width) in all locations shown on the plans as PPMP and delay application of the PPMP until the spring of 2028, as allowed herein. PPMP is defined as Class 1 Pavement Marking Paint and Class 2 Pavement Marking Paint and does not include [Sec 620.20.3](#) Durable Pavement Markings.

**1.1** No application of PPMP shall occur between October 1, 2027 and March 1, 2028, both dates inclusive, except as stated herein. When the contractor has begun application of PPMP prior to October 1, 2027, and weather limitations stated in [Sec 620.20.2.4](#) can be met, the contractor may complete the PPMP within the first seven (7) calendar days of October. If all (100%) of the PPMP is not completed on or before October 7, 2027, all previously applied PPMP, including any painted markings applied prior to October 1, shall be considered TPMP, and the contractor shall complete the remaining marking with TPMP, and then re-apply PPMP in all planned locations after March 1, 2028. All PPMP shall be completed prior to June 1, 2028. No additional payment will be made for PPMP that is later determined to be TPMP due to the contractor's failure to complete the PPMP within the time specified.

**1.2 Use of TPMP Prior to October 1.** The contractor has the option to apply TPMP in lieu of PPMP prior to October 1, 2027, even when there is sufficient time to complete the PPMP prior to October 1, 2027. For example, the contractor may choose to use TPMP as a base coat for the PPMP on open-graded surfaces in order to achieve higher retroreflectivity readings on the surface coat as compared to a single application.

**1.2.1** The contractor has the option of using TPMP in lieu of Temporary Raised Pavement Markers if applied each day that existing markings are obliterated.

**2.0 Construction Requirements.** TPMP shall be accurately placed in the final planned location and shall be completely covered by the final application of PPMP. Any failure to comply with this requirement shall be corrected by removal of the misplaced pavement markings at the contractor's expense and without marring of the pavement surface.

**2.1** Prior to application of the PPMP on TPMP, TPMP shall be fully cured in accordance with the manufacturer's recommendation, or for a period of 12 hours, whichever is greater.

**3.0 Weather Limitations.** All weather limitations specified in [Sec 620](#) for PPMP and TPMP shall apply. Cold Weather Pavement Marking Paint, in accordance with [Sec 620.10.6](#), shall be used for TPMP when specified weather limitations do not allow the use of waterborne paint. No additional payment will be made for the use of Cold Weather Pavement Marking Paint as TPMP. Cold Weather Pavement Marking Paint is not an allowable substitute for PPMP and shall subsequently be covered with PPMP.

**4.0 Time Exception.** If application of PPMP is to be delayed to the spring of 2028, the contractor shall submit a request to the engineer for a time exception and shall provide a revised work schedule that shows the planned completion of the PPMP.

**4.1** Upon receipt of the time exception request in Section 4.0, the engineer will list "Application of Permanent Pavement Marking Paint" as an exception on the Semi-Final Inspection form, thus granting an exception to the count of contract time thru June 1, 2028, solely for the purpose of delaying application of PPMP. This time exception shall not apply to any time needed to complete any other work items. Liquidated Damages, as specified elsewhere in this contract, shall remain in effect for all other work items not completed by the contract time limits, as specified elsewhere in this contract, and for PPMP not completed by June 1, 2028.

**5.0 Method of Measurement.** No final measurement will be made for TPMP.

**6.0 Basis of Payment.** Full payment for TPMP will be made at the contract lump sum price even when PPMP is completed prior to the time limitation and TPMP is not used or only partially used.

**6.2** If a \$0 bid is entered for TPMP, no payment will be made should TPMP become necessary.

| Item No.  | Description                      | Units |
|-----------|----------------------------------|-------|
| 620-99.01 | Temporary Pavement Marking Paint | L.S.  |

## YY. Pavement Marking Removal

**1.0 Description.** This work shall consist of all necessary operations for removal of existing pavement marking lines and intersection markings as shown on the plans or directed by the engineer.

**2.0 Construction Requirements.** Construction requirements for pavement marking removal shall be as specified in [Sec 620.50.2](#) and as specified below.

**2.1** All pavement marking on concrete pavement shall be removed by sand or water blasting. In the event that the sand or water blasting is unable to remove the existing pavement marking to meet the requirements in [Sec. 620.5.2](#), an alternative removal method shall be used with the approval of the engineer.

**2.2** All pavement marking on asphalt pavement shall be removed grinding. In the event that the grinding is unable to remove the existing pavement marking to meet the requirements in Sec. 620.5.2, an alternative removal method shall be used with the approval of the engineer.

**3.0 Method of Measurement.** The quantity of pavement marking removal will be measured in accordance with Sec 620.50.3.

**4.0 Basis of Payment.** The accepted quantity of pavement marking removal will be paid for at the contract unit price for:

| Item No.  | Units | Description                        |
|-----------|-------|------------------------------------|
| 620-70.01 | L.F.  | Pavement Marking Removal           |
| 620-70.02 | Each  | Pavement Marking Removal (Symbols) |

**ZZ. 4 In. Temporary Pavement Marking Blackout Paint (No Beads)**

**1.0 Description.** This work shall consist of furnishing, installing and maintaining 4 in. temporary pavement marking blackout paint (no beads) at the centerline of the N. Service Road as specified herein or as directed by the engineer. The 4 in. temporary pavement marking blackout paint (no beads) shall be applied over the existing yellow pavement making centerline stripes on the N. Service Road within the construction zone prior to shifting traffic lanes and installing the 4" double yellow centerline temporary pavement marking paint.

**2.0 General.** General requirements for 4 in. temporary pavement marking blackout paint (no beads) shall be as specified in Sec 620.2 (including all subsections) and Sec 620.10.1 (including all subsections).

**3.0 Material.** All material shall be as specified in Sec 620.10.2.2.

**4.0 Construction Requirements.** Construction requirements shall be as specified in Sec 620.10.2.3 (including all subsections) and as specified herein.

**4.1** The width of the specified temporary pavement marking blackout paint (no beads) shall be wide enough to cover the existing yellow pavement marking centerline stripes which are generally 4 in. wide.

**4.2** The color of the specified 4 in. temporary pavement marking blackout paint (no beads) shall be black.

**5.0 Weather Limitations.** Weather limitations shall be as specified in Sec 620.20.2.4 (including all subsections). When ambient air and surface temperatures are below 60 degrees Fahrenheit, cold weather paint may be used in accordance with Sec 620.10.6 at no additional cost to the Commission.

**6.0 Maintenance.** The contractor shall be responsible for maintaining the 4 in. temporary pavement marking blackout paint (no beads) for the duration of the project. Any 4 in. temporary pavement marking blackout paint (no beads) damaged, displaced, or missing before final pavement making is installed shall be replaced at the contractor's expense within two hours upon notification from the engineer.

**7.0 Method of Measurement.** Final measurement of 4 in. temporary pavement marking blackout paint (no beads) shall be as specified in Sec 620.10.7 (including all subsections).

**8.0 Basis of Payment.** Payment for all labor, equipment, materials, and incidental work for furnishing, placing and maintaining 4 in. temporary pavement marking blackout paint (no beads), complete in place, will be paid for at the contract unit price for the following:

| Item No.  | Units | Description                                                |
|-----------|-------|------------------------------------------------------------|
| 620-99.03 | L.F.  | 4 In. Temporary Pavement Marking Blackout Paint (No Beads) |

Any additional width of 4 in. temporary pavement marking blackout paint (no beads) required to completely cover the existing pavement marking will not be measured separately but will be considered incidental.

AAA. 4 In. White Class 2 Pavement Marking Paint (25-Mil, Type L Beads)

**1.0 Description.** This work shall consist of furnishing and placing 4 in. white class 2 pavement marking paint (25-mil, Type L beads) and drop-on glass beads at locations shown on the plans, as specified herein or as directed by the engineer.

**2.0 General.** General requirements for 4 in. white class 2 pavement marking paint, (25-mil, Type L beads) shall be as specified in Sec 620.2 (including all subsections) and Sec 620.20.1 (including all subsections).

**3.0 Material.** All material shall be as specified in Sec 620.20.2.2.

**4.0 Construction Requirements.** Construction requirements shall be as specified in Sec 620.20.2.3 (including all subsections) and as specified herein.

**4.1** The width of the specified white class 2 pavement marking paint (25-mil, Type L bead) shall be 4 in.

**4.2** The color of the specified 4 in. class 2 pavement marking paint (25-mil, Type L beads) shall be white.

**5.0 Weather Limitations.** Weather limitations shall be as specified in Sec 620.20.2.4 (including all subsections).

**6.0 Class 2 Pavement Marking Paint.** Class 2 pavement marking paint, Type L drop-on glass beads and primer coat (if used) shall be applied as specified in Sec 620.20.2.6 (including all subsections).

**7.0 Method of Measurement.** Final measurement of 4 in. white class 2 pavement marking paint (25-mil, Type L beads) shall be as specified in Sec 620.20.4 (including all subsections).

**8.0 Basis of Payment.** Payment for all labor, equipment, materials, and incidental work for furnishing and placing 4 in. white class 2 pavement marking paint (25 mil, Type L beads), complete in place, will be paid for at the contract unit price for the following:



| Item No.  | Units | Description                                                       |
|-----------|-------|-------------------------------------------------------------------|
| 620-99.03 | L.F.  | 4 In. White Class 2 Pavement Marking Paint (25-Mil, Type L Beads) |

Payment for 4 in. white class 2 pavement marking paint (25 mil, Type L beads) shall be adjusted based on retroreflectivity measurements per Sec 620.40.2.2.4.

**BBB. Preformed Thermoplastic Pavement Marking, 4 In., Blue**

**1.0 Description.** This work shall consist of furnishing and placing 4 in. blue preformed thermoplastic pavement marking lines in accordance with manufacturer's recommendations at locations shown on the plans or as directed by the engineer. Glass beads, when required, shall be in accordance with Sec 620.30.

**2.0 General.** General requirements for 4 in. blue preformed thermoplastic pavement marking lines shall be as specified in Sec 620.2 (including all subsections) and Sec 620.20.1 (including all subsections).

**2.1** The color of the specified 4 in. preformed thermoplastic pavement marking line shall be blue.

**3.0 Material.** All material shall be as specified in Sec 620.20.3.1.2.

**4.0 Equipment.** All application equipment shall be as specified in Sec 620.20.3.1.3.

**5.0 Weather Limitations.** Weather limitations shall be as specified in Sec 620.20.3.1.4.

**6.0 Method of Measurement.** Final measurement of 4 in. blue preformed thermoplastic pavement marking shall be as specified in Sec 620.20.4 (including all subsections).

**7.0 Basis of Payment.** Payment for all labor, equipment, materials, and incidental work for furnishing and placing 4 in. blue preformed thermoplastic pavement marking, complete in place, will be paid for at the contract unit price for the following:

| Item No.  | Units | Description                                           |
|-----------|-------|-------------------------------------------------------|
| 620-99.03 | L.F.  | Preformed Thermoplastic Pavement Marking, 4 In., Blue |

Payment for 4 in. blue preformed thermoplastic pavement marking shall be adjusted based on retroreflectivity measurements per Sec 620.40.2.2.4.

**CCC. Preformed Thermoplastic Pavement Marking, International Symbol of Accessibility, Blue**

**1.0 Description.** This work shall consist of furnishing and placing preformed thermoplastic pavement marking (international symbol of accessibility) in accordance with the manufacturer's recommendations at locations shown on the plans or as directed by the engineer. Glass beads, when required, shall be in accordance with Sec 620.30.

**2.0 General.** General requirements for preformed thermoplastic pavement marking (international symbol of accessibility) shall be as specified in Sec 620.2 (including all subsections) and Sec 620.20.1 (including all subsections).

**3.0 Material.** All material shall be as specified in Sec 620.20.3.2.2.

**4.0 Construction Requirements.** Construction requirements shall be as specified in Sec 620.20.3.2.3 (including all subsections) and as specified herein.

**4.1** The geometry and dimensions of the preformed thermoplastic pavement marking (international symbol of accessibility) shall be as detailed in the plans and in accordance with Sec 3B.22 of the 11<sup>th</sup> Edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

**4.2** The color of the preformed thermoplastic pavement marking (international symbol of accessibility) shall be blue.

**5.0 Acceptance.** Acceptance for preformed thermoplastic pavement marking (international symbol of accessibility) shall be as specified in Sec 620.20.3.2.4.

**6.0 Method of Measurement.** Final measurement of preformed thermoplastic pavement marking (international symbol of accessibility) shall be as specified in Sec 620.20.4.

**7.0 Basis of Payment.** Payment for all labor, equipment, materials, and incidental work for furnishing and placing thermoplastic pavement marking (internal symbol of accessibility), complete in place, will be paid for at the contract unit price for the following:

| Item No.  | Units | Description                                                                           |
|-----------|-------|---------------------------------------------------------------------------------------|
| 620-99-02 | Each  | Preformed Thermoplastic Pavement Marking, International Symbol of Accessibility, Blue |

#### DDD. Inlaid Pavement Marker Removal

**1.0 Description.** This work shall consist of the removal of the existing inlaid pavement markers. Removal of the inlaid pavement markers shall include removing the inlaid pavement markers and repairing the pavement surface.

**2.0 Surface Treatment.** The invalid pavement markers shall be removed with minimal damage to the pavement and the hole patched with the same mix to be used in the surface treatment.

**3.0 Basis of Payment.** All costs incurred for complying with this provision shall be considered completely covered by the contract unit price for Item No. 202-20.10, Removal of Improvements, per lump sum.

| Item No.  | Units | Description             |
|-----------|-------|-------------------------|
| 202-20.10 | L.S.  | Removal of Improvements |

### EEE. Tier II Inlaid Pavement Arrow System

**1.0 Description.** This specification is for a system of internally illuminated Recessed Pavement markers which together make an arrow to deter wrong way drivers. The system shall include an 8" wide preformed thermoplastic pavement arrow along with 8 internally illuminated recessed pavement markers per arrow (unless specified without).

For specific location layout of these arrows, the contractor shall contact:

Eddie Watkins

Senior Traffic Engineer

314-650-5461 or [Eddie.Watkins@modot.mo.gov](mailto:Eddie.Watkins@modot.mo.gov)

**2.0 Operation Specifications.** Pavement markers shall meet the following requirements:

**2.1** Charge Time 3 Hours/8 Hours cloudy

**2.2** Operating Time 16 Hours

**2.3** Compressive Strength 239,000 N / 53,775 lbf

**2.4** Water Proof Rating IP68

**2.5** Operating Temperature -13°F to 158°F

**2.6** Dimensions (inches) Ø 5.83" x 1.97"

**2.7** Weight (pounds) 2.23#

**3.0 Lighting Specifications.**

| Lighting Specification – Luminance (LUX) |        |       |       |
|------------------------------------------|--------|-------|-------|
| Function                                 | Color  | 3 LED | 6 LED |
| Steady                                   | Yellow | 24    | 34    |
|                                          | White  | 138   | 54.8  |
|                                          | Red    | 48    | 17.3  |
|                                          | Green  | 17.8  | 62    |
|                                          | Blue   | 90.6  | 47.7  |

**4.0 Component Specifications.**

|                                    |                            |                                |
|------------------------------------|----------------------------|--------------------------------|
| Single Mono-Crystalline Solar Cell | Solar Module Size          | 82 x 82                        |
|                                    | Solar Maximum Output Power | 0.677W                         |
|                                    | Solar Operating Current    | 2156mA                         |
|                                    | Solar Voltage              | 3.15V                          |
| LED                                | LED Size                   | 3528 CHIP LED + Ø10 LENS       |
|                                    | LED Current                | 20mA per each                  |
|                                    | LED Operating Current      | 1.1 mA (3PCS),<br>6.6mW (6PCS) |
|                                    | LED Voltage                | 3V                             |
|                                    | LED Wattage                | 3.3<br>mW(3PCS),               |

|                 |                          |             |
|-----------------|--------------------------|-------------|
|                 | LED Quantities           | 3PCS / 6PCS |
| Pseudocapacitor | Pseudocapacitor          | 2.3V 120F   |
|                 | Number of Semicapacitors | 2pCS        |

**5.0 Payment.** Payment for all labor, equipment, materials, and incidental work for placing Tier II Inlaid Pavement Arrow System and Tier II Inlaid Pavement Arrow System (Without 8 LED Inlaid Markers), will be paid for at the contract unit price for:

| Item No.  | Units | Description                          |
|-----------|-------|--------------------------------------|
| 620-99.02 | Each  | Tier II Inlaid Pavement Arrow System |

FFF. Coldmilling Bituminous Pavement for Removal of Surfacing and Modified Coldmilling (Depth Transition)

**1.0 Description.** The contractor is advised that there are concrete pavement patches and concrete base pavement areas that may require coldmilling as part of this project. These concrete pavements will not be measured and paid for separately but shall be included in the measurement and unit cost for Coldmilling Bituminous Pavement for Removal of Surfacing or Modified Coldmilling (Depth Transition) as shown in the plans.

**2.0 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 provision.

GGG. Measurement of Bridge Clearances

**1.0 Description.** The contractor shall measure the vertical clearance over all lanes of traffic on all existing or new bridges impacted by this project or as noted within this provision. Impacted bridges shall include bridges rehabbed or reconstructed over state routes, county roads, city streets and railroads. Impacted bridges also include those with vertical clearances potentially modified through resurfacing activities. The contractor shall fill out the Bridge Clearance Report and give the report to the Engineer for processing. The Bridge Clearance Report is available within EPG 760.4.

**1.1** If the new or rehabbed bridge is over a railroad, the contractor shall refer to those provisions provided within this contract regarding coordination with the railroads prior to performing the survey measurement.

**2.0 Construction Requirements.** Per EPG 760.4.3, the contractor shall provide the following:

- A. All measurements shall be taken on the roadway surfaces only and not on the shoulders. Every lane of travel shall be checked and the measurement shall be from the high point within that lane to the lowest point of the structure as determined in the field. Temporary Traffic Control shall be used to take these measurements. LiDAR may be used to take measurements but is not required.
- B. On a bridge over multiple routes, including ramps, the vertical clearance measurement for

each route in each direction of travel shall be required.

- C. Measurement shall be made from the bottom of the lowest obstruction (beam, concrete, light fixture, rivet/bolt head, through truss member, etc.) The clearance shall be measured and rounded down to the nearest inch and reported to the Engineer.
- D. The vertical clearance measurements shall be taken and provided to the Engineer within two weeks after all major construction activities have been completed which could impact the measurements. The major construction activities would include any rehab or reconstruction work or pavement improvements including coldmilling and resurfacing under structures.

**3.0 Structures Measured within Job JSL0038.** The following measurements will be needed for this project:

Bridge A7278 (Route 185 – Elmont Rd.) over all 3 lanes of WB I-44 and over all 2 lanes of EB I-44.

Bridge A2047 (Route D) over all 2 lanes of WB I-44 and over all 2 lanes of EB I-44.

Bridge A2048 (Route AF) over all 2 lanes of WB I-44 and over all 2 lanes of EB I-44.

Bridge A2049 (Route W/JJ) over all 2 lanes of WB I-44 and over all 2 lanes of EB I-44.

Bridge A1894 (Anaconda Rd.) over all 2 lanes of WB I-44 and over all 2 lanes of EB I-44.

Bridge A2017 (Route 30) over all 2 lanes of WB I-44 and over all 2 lanes EB I-44.

**4.0 Basis of Payment.** The vertical clearance measurements filled out within the Bridge Clearance Report for each structure will be paid at the contract unit price for the pay item included in the contract. All labor, equipment and material cost required to fulfill this requirement shall be included in the unit price for the following pay item:

| Item No.  | Type | Description                              |
|-----------|------|------------------------------------------|
| 627-40.00 | L.S. | Contractor Furnished Surveying & Staking |

HHH. Survey of Existing Sidewalk Elevations in Front of New Rest Area Bathroom Buildings

**1.0 Description.** Prior to constructing new sidewalk or parking lot curb on the frontside of the new rest area bathroom buildings, the contractor shall survey the elevation of new sidewalk constructed (by others) as part of the new bathroom building project at the rest areas. The contractor shall then verify that the remaining sidewalk to be constructed between the new bathroom building and the new curb alongside the rest area parking lot can be constructed to meet ADA slope requirements. With the approval of the engineer, the contractor may adjust the height of the new curb alongside the rest area parking lot in front of the new bathroom building to ensure that the remaining sidewalk can be constructed to meet ADA slope requirements. The length of the new curb ramps located in front of the new bathroom buildings may have to be

adjusted to meet ADA slope requirements if the height of the curb along the rest area parking lot is adjusted.

**2.0 Basis of Payment.** All labor, equipment and material cost required to fulfill this requirement shall be included in the unit price for the following pay item:

| Item No.  | Type | Description                              |
|-----------|------|------------------------------------------|
| 627-40.00 | L.S. | Contractor Furnished Surveying & Staking |

III. Measurements for Hand-Railing Along Steps

**1.0 Description.** The contractor shall measure the existing steps, exiting appurtenances, newly constructed improvements, etc. prior to ordering stair hand-railing to ensure a proper fit.

**2.0 Basis of Payment.** All labor, equipment and material cost required to fulfill this requirement shall be included in the unit price for the following pay item:

| Item No.  | Type | Description                              |
|-----------|------|------------------------------------------|
| 627-40.00 | L.S. | Contractor Furnished Surveying & Staking |

JJJ. Ground Improvements

**1.0 Description.** This work shall consist of furnishing design calculations, shop drawings, materials, and labor necessary to construct aggregate piers or stone columns within the limits specified on the contract plans or as modified on the approved shop drawings. The purpose of the ground improvement is to improve the overall stability and to limit the settlement of the ground underlying portions of the 8'x6' box culvert extension.

**2.0 General Requirements.** A subsurface exploration and testing program has been conducted in the project area. The contractor is responsible for the design of the ground improvement system. The contractor is responsible for obtaining any additional information at no additional cost to the Commission. Key aspects of the work to be performed or furnished by the Contractor include, but are not limited to, the following:

- (a) Complete an engineered ground improvement design.
- (b) Complete additional testing of existing soil conditions as necessary to complete the design.
- (c) Coordinate with relevant utility companies to avoid damage to utilities including, but not limited to, sewer line.
- (d) Provide appropriate equipment and experienced operators for the installation of the ground improvements.
- (e) Furnish select granular material and other necessary incidental materials for ground improvements.

- (f) Lay out the ground improvements in accordance with the approved shop drawings.
- (g) Construct ground improvements of the diameter and spacing shown in the approved shop drawings.
- (h) Furnish and install a granular drainage blanket and separation geotextile as shown in the approved shop drawings.
- (i) Control and dispose of water resulting from ground improvement construction operations. Comply with all local, state, and federal environmental requirements.
- (j) Conduct testing of ground improvements.
- (k) Demobilize equipment and clean up site.

The Contractor, with the approval of the Engineer, may use alternative methods of ground improvements other than the aggregate piers or stone columns discussed herein. Requirements in this Job Special Provision shall still apply to the greatest extent applicable, including required submittals and performance requirements. Alternative methods shall be designed in accordance with applicable Commission, AASHTO, or similar industry standards.

**3.0 Submittals.** The Contractor shall submit to the Engineer for approval the following at least thirty (30) calendar days prior to commencing the ground improvements work.

**3.1 Qualifications.** Evidence of the selected subcontractor's successful installation of their ground improvement system on five projects under similar site conditions using the same installation technique within the past 3 years. The documentation to be submitted shall include a description of the project, ground improvement installation technique, soil conditions and name and phone number of contracting authority.

In addition, resumes of the following key personnel shall be included in the submission:

- Project Manager
- Superintendent(s)
- Project Engineer(s)
- Probe Operator

The proposed project superintendent for the ground improvement installation shall have a minimum of 3 years of method specific experience. The probe operator shall have a minimum of 1 year of experience operating the probe for the method specific installation.

**3.2 Design.** Submit ground improvement design computations, signed, sealed and stamped in accordance with the laws relating to architects and professional engineers (Chapter 327, RSMo.), demonstrating the proposed ground improvement plan satisfies the minimum settlement, and bearing capacity performance requirements contained in this Job Special Provision.

**3.3 Installation and Work Plan.** Submit construction shop drawings signed, sealed and stamped in accordance with the laws relating to architects and professional engineers (Chapter 327, RSMo.) showing at the minimum:

- (a) Ground improvement horizontal limits, locations, pattern, spacing, diameters, top and bottom elevations, and identification numbers
- (b) A description of the equipment, installation technique and construction procedures to be used, including a plan to address any water or spoils.
- (c) The source and gradation of the aggregate proposed for the ground improvements.
- (d) If an aggregate drainage layer is specified on the plans or a working platform proposed by the Contractor, the thickness, aggregate gradation, and plan dimensions shall be shown in addition to any other details needed to describe the work.
- (e) The proposed verification program methods to monitor and verify the ground improvement installation is satisfying the design and performance requirements. Also required is a sample of the daily report form to be used by the Contractor to document the adequacy of that day's work.

**3.4 Related Work.** Related work shall not begin until the submittals have been received, reviewed, and accepted in writing from the Engineer. The Contractor shall allow the Engineer 14 calendar days to review the submittals after the complete final set has been received. Additional time required due to incomplete or unacceptable submittals shall not be cause for delay or impact claims. All costs associated with incomplete or unacceptable submittals shall be the responsibility of the Contractor.

#### **4.0 Materials.**

**4.1 Select Granular Material.** The aggregate used in the piers shall conform to the requirements of coarse aggregate for concrete, Gradation D, in accordance with Sec. 1005.2, except that porphyry shall not be used and the maximum percent loss in the Los Angeles Abrasion Test (AASHTO T96) shall not exceed 40%. Any fine or coarse aggregate requested by the Contractor to be used as either a drainage layer or working platform shall be approved by the Engineer.

**4.2 Granular Drainage Blanket.** Provide material meeting the requirements of Section 1009, Grade 4, Gradation A or B.

**4.3 Water.** Clean water, free of all substances deleterious to the work, shall be used.

**4.4 Separation Geotextile.** Provide material meeting the requirements of Section 1011.

**5.0 Design Criteria.** The subcontractor selected shall provide an aggregate pier or stone column ground improvement plan with shop drawings, and design computations, using an Allowable Stress Design. In the absence of performance requirements shown on the plans, the following Allowable Stress minimum performance requirements shall be used:



- (a) Total differential settlement not to exceed 2 inches over 50 foot.

The design shall use appropriate strength parameters for the soil, obtained from the soil boring logs and any geotechnical laboratory testing data provided in the Contract Plans and specifications for stability and bearing capacity analyses. Settlement shall be assessed using appropriate soil parameters. Any additional subsurface information needed to design the aggregate piers shall be the responsibility of the Contractor.

The ground improvement design need not consider seismic loadings unless otherwise required as part of the performance requirements shown on the plans.

**5.0 Construction.** The construction procedures shall be determined by the ground improvement installer and submitted for approval with the shop drawings. The following are the minimum requirements that the Contractor will be expected to follow unless otherwise approved in the shop drawings submittal.

- a) The site shall be graded as needed for proper installation of the ground improvement system. Any grading and excavation below the improvement limits shown on the plans shall be incidental to ground improvement installation.
- b) Any granular base drainage layer or working platform shall be considered incidental to the improvement. Contractor requested drainage layers or working platforms will only be allowed if approved as part of the shop drawings.
- c) The ground improvement material shall be placed in a manner that allows measurement of the tonnage or quantity of aggregate placed down the hole.
- d) The ground improvement shall be installed in a sequence that will minimize ground heave. Any heaving shall be re-compacted or excavated as directed by the Engineer prior to culvert construction and be considered incidental to ground improvement.
- e) The Contractor shall provide a full-time qualified representative to verify all installation procedures and provide the verification program.
- f) Disposal of any spoils generated shall be in accordance with Sec 203.
- g) If an obstruction is encountered that cannot be penetrated with reasonable effort, the Contractor shall construct the element from the depth of obstruction to its design top elevation. Depending on the depth of the completed column, column location, and design requirements, the Engineer may require the construction of a replacement aggregate column at an adjacent location.
- h) Specific Requirements for Vibrator Compacted Stone Columns:
  - i. Stone columns shall be constructed with a down-hole vibrator, probe and follower tubes of sufficient size to install the piers to the diameter

and bottom elevation(s) shown on the approved shop drawings. Pre-boring is permitted if approved as part of the shop drawing submittal.

- ii. The probe and follower tubes shall have visible markings at regular increments to enable measurement of penetration and re-penetration depths.
- iii. Provide methods for supplying to the tip of the probe a sufficient quantity of air or water to widen the probe hole to allow adequate space for aggregate placement around the probe.
- iv. The vibrator shall be withdrawn in 12 to 36 inch increments, to allow placement of the aggregate.
- v. Lift thickness shall not exceed 4 ft. After penetration to the treatment depth, slowly retrieve the vibrator in 12 to 18 inch increments to allow aggregate placement.
- vi. Compact the aggregate in each lift by re-penetrating it as needed with the vibrating probe to densify and force the aggregate radially into the surrounding soil. Re-penetrate the aggregate in each increment a sufficient number of times to construct the columns as specified in the approved shop drawings and to meet the verification program requirements.

(i) Specific Requirements for Tamper Compacted Rammed Aggregate Piers:

- i. Rammed aggregate piers shall be installed by either drilling or displacement methods, capable of constructing piers to the diameters and bottom elevation(s) shown on the approved shop drawings.
- ii. If temporary casing is needed to limit the sloughing of subsurface soils, the casing should be inserted to at least 2 ft. beyond any sloughing strata. Upon extraction, the bottom of the casing shall be maintained at not more than 2 feet above the level of aggregate.
- iii. Aggregate placement shall closely follow the excavation of each piers. The aggregate shall be placed in 1 to 2 ft. thick lifts. Each lift should be rammed with a high-energy impact tamper as specified in the approved shop drawings and to meet the verification program requirements.

**5.1 Construction Tolerances.** The ground improvement system shall be constructed to the following tolerances:

- a) The horizontal limits and center of each constructed aggregate column shall be within 8 inches of the location specified on the approved the shop drawings.
- b) The axis of the constructed aggregate piers shall not be inclined more than 2 inches (horizontal) per every 10 ft. (vertical).

- c) The installed diameter of any aggregate column shall not be more than 10 percent below the effective diameter indicated on the approved shop drawings.
- d) The average effective diameter of any group of 50 consecutively installed aggregate piers shall not be less than the effective diameter indicated on approved shop drawings.
- e) The top of the ground improvement shall be located within 8 inches of the top elevation shown on the approved shop drawings.
- f) Except where obstructions are encountered, the aggregate column shall be advanced to the treatment depth elevation shown on the contact plans unless otherwise approved in the Shop Drawings.

Any aggregate column installation not meeting the above stated tolerances, or otherwise deemed unsatisfactory by the Engineer, may require installation of a replacement aggregate column(s) at the discretion of the Engineer and at the Contractor's expense. The Contractor shall submit to the Engineer revised plans and procedures to bring installations in those areas into tolerance.

**5.2 Verification Program.** The Contractor shall develop and maintain a monitoring and documentation procedure during the installation of all ground improvements to verify they satisfy the design and performance requirements. The Contractor shall provide qualified personnel to continuously observe and record the required data. The program shall include, as a minimum, the following:

- a) Quality control procedures to allow verification that each ground improvement is being installed according to the designer's specifications and the requirements in this Special Provision. This will typically include observations of items such as electrical current or hydraulic pressure, number of high-energy impact tamps, aggregate quantity, etc. that must be obtained to achieve the performance requirements.
- b) Monitoring methods to evaluate the performance of the global aggregate column improvement system after construction of the overlying embankment or culvert. This will typically include installation of settlement plates and may also include monitoring points, inclinometers, piezometers or other instrumentation.
- c) Proposed means and methods for verification that the installed ground improvements meet the strength and/or stiffness criteria required by the design. This may include modulus or load tests on individual elements and/or groups, soil borings, and other methods.

**6.0 Contractor Quality Control.** A daily report form shall be completed by the Contractor and provided to the Engineer to document the work performed each day and the adequacy of each aggregate column. The form shall be signed by the Contractor's qualified personnel and include as a minimum the following:

- a) Aggregate columns installed (identified by location number and date constructed).
- b) Elevation of top and bottom of each aggregate column.

- c) Average installed diameter of each column.
- d) Average lift thickness.
- e) Results of quality control testing such as average power consumption or tamping energy obtained during aggregate column installation.
- f) Jetting pressure (air or water), if applicable.
- g) Description of soil and groundwater conditions, including and ground heave or subsidence.
- h) Details of obstructions, delays and any unusual conditions.
- i) Amount of water used per aggregate column, if applicable.
- j) Estimated weight or volume of aggregate backfill placed in each column.
- k) Results of verification of the strength and/or stiffness criteria as required by design

**7.0 Method of Measurement.** No measurement will be made.

**8.0 Basis of Payment.** This work will be paid at the contract unit price per Lump Sum for GROUND IMPROVEMENTS. Any temporary casing, additional excavation, disposal of water or spoils, drainage layers, working platforms or any other incidental work necessary to complete the Ground Improvement will not be paid for separately, but shall be considered included with this work.

| Item No.  | Type | Description         |
|-----------|------|---------------------|
| 720-99.01 | L.S. | Ground Improvements |

**KKK. Precast Concrete Manholes – 84 In. & 96 In.**

**1.0 Description.** This work shall consist of furnishing and installing 84 in. and 96 in. diameter precast concrete manholes as shown on the plans.

**2.0 Material.** All material shall be as specified in Section 731.2 (including all subsections) and as detailed on the plans.

**3.0 Construction Requirements.** Construction requirements shall be as specified in Sec 731.3 (including all subsections) and as detailed on the plans.

**4.0 Method of Measurement.** Final measurement of precast concrete manhole manholes shall be as specified in Sec 731.4.

**5.0 Basis of Payment.** The contract unit price shall be considered as full compensation for all labor, equipment, materials, or other construction involved to complete the work. No direct pay for reinforcement, steps, mortar, dowels, pipe joint material, granular backfill, cover or other incidental items necessary to complete this work. The accepted quantity of 84 in. and 96in. precast manholes will be paid at the contract unit price for:

| Item No.  | Description                       | Units                |
|-----------|-----------------------------------|----------------------|
| 731-99.13 | Precast Concrete Manhole – 84 in. | Vertical Linear Foot |
| 731-99.13 | Precast Concrete Manhole – 96 in  | Vertical Linear Foot |

LLL. Site Restoration

**1.0 Description.** Restore to its original condition any disturbed area at sites including, but not limited to, guardrail, sign, pull box, conduit, controller, power supply and pole base installations. Restoration shall be accomplished by placing material equivalent to that of the adjacent undisturbed area. Disturbed unpaved areas shall be fertilized and either seeded and mulched or sodded as directed by the engineer. The engineer will have the final authority in determining the acceptability of the restoration work.

**2.0** If the contractor elects and receives approval from the engineer for alternate trench and/or pull box locations, any areas of concrete slope protection, sidewalk, pavement, shoulders, islands and medians – as well as any similar improvements consisting of asphaltic concrete materials – removed in conjunction with their construction shall be replaced with improvements of similar composition and thickness. Removals shall be achieved by means of full depth saw cuts, the resulting subgrade compacted to minimum density requirements and topped with 4 inches of compacted aggregate base course prior to replacement of surface materials. Concrete materials used in replacement, shall be approved by the engineer. A commercial asphalt mix may be used for replacement of asphaltic surfacing upon approval of the engineer.

**2.1** Unless quantities and pay items for removal and subsequent replacement of improvements are contained in the plans for a specific location of removal work, no direct payment will be made for full depth saw cutting and the removal and subsequent replacement of asphalt or concrete slope protection, sidewalk, pavement, shoulders, islands, medians, sod and the required dowel and tie bars removed and replaced by the contractor as a result of his election to vary the location of conduit runs and pull boxes. This work will be considered as included in the various unit bid prices for conduit and pull boxes established in the contract, and no additional payment will be made.

**2.2** Sidewalks and sidewalk ramps that are disturbed as described in this provision shall be replaced to meet current ADA standards.

**2.3** Areas that are used by the contractor for jobsite trailers, equipment and materials storage, or used for project staging areas that are disturbed shall be cleaned up and restored to a condition that is both acceptable to the engineer and, at a minimum, equivalent to the existing site condition.

**3.0 Basis of Payment.** The cost of restoration of disturbed areas will be incidental to the unit price of guardrail, sign, pole base, conduit, controller, power supply and/or pull box. No direct payment will be made for any materials or labor, which is performed under this provision.

MMM. Disposition of Existing Signal/Lighting and Network Equipment JSP-15-05A

**1.0 Description.** All controllers, cabinets, cabinet equipment, network equipment, DMS equipment, antennas, radios, modems, and other equipment noted in the plans shall be removed by the contractor and delivered to the following location:

Commission's Maintenance Lot  
Building A  
2309 Barrett Station Road  
Ballwin, MO 63021

Email Address: [SLTRS@modot.mo.gov](mailto:SLTRS@modot.mo.gov)

Mr. Brian Ducote, Traffic Supervisor, Preventive Maintenance/ITS  
Cell: (314) 681-8395

Mr. Sherwin Caldwell, Traffic Supervisor, Emergency Signal Maintenance  
Cell: (314) 404-7256

Mr. Tony Rogers, Traffic Supervisor, Roadway Lighting/Utility Locates  
Cell: (314) 348-9481

**2.0 Signal Equipment.** All equipment other than network communication devices noted in 3.0 are to be transported to the address listed above. The contractor shall notify the Commission's representative 24 hours prior to each delivery by calling the phone number listed above and ask for the field traffic supervisor.

**3.0 Network Communication Devices.** Devices such as CCTV cameras and domes, video encoders, device servers, Ethernet switches, media converters, and radio assemblies are to be transported to the address listed below. The contractor shall notify the Commission's representative 24 hours prior to each delivery by calling phone number listed below and providing details for the delivery.

Commission's TMC  
14301 South Outer Forty  
Chesterfield, MO 63017  
Phone Number: (314) 275-1524

**4.0 Lighting Fixtures.** The light fixtures from the light poles to be removed from the EB I-44 rest area shall be taken off the light poles and given to Roy Jorgensen Associates, Inc. After the light fixtures are removed from the light poles, the contractor shall contact Roy Jorgensen Associates, Inc. for pickup. The Roy Jorgensen Associates, Inc. contact person is listed below:

Colt Herndon, Project Manager MO Rest Areas  
Roy Jorgensen Associates, Inc.  
3735 Buckeystown Pike  
PO Box 70  
Buckeystown, MD 21717  
Phone Number: (816) 592-3943  
Email: [Colt@jorgensenfm.com](mailto:Colt@jorgensenfm.com)

**5.0** The contractor shall exercise reasonable care in the handling of the equipment during the removal and transportation. Should any of the equipment be damaged by the contractor's negligence, it shall be replaced at the contractor's expense. The contractor shall dispose of any other equipment. Delivery shall be within 2 working days of removal. All items returned shall be tagged with the date removed, project number and location/intersection.

**6.0 Basis of Payment.** Payment for removal, handling and transportation of all equipment specified shall be considered completely covered by the contract unit price for 202-20.10, Removal of Improvements, per lump sum.

| Item No.  | Units | Description             |
|-----------|-------|-------------------------|
| 202-20.10 | L.S.  | Removal of Improvements |

NNN. Coordination with MoDOT for Lighting Cabinet Entry

**1.0 Description.** All of MoDOT's lighting cabinets are locked. To gain access to the appropriate cabinets during the project all contractors shall coordinate with MoDOT's urban traffic supervisor.

James "Dusty" Henson  
Urban Traffic Supervisor  
Email Address: [James.Henson@modot.mo.gov](mailto:James.Henson@modot.mo.gov)  
Phone: 636-591-8749

**1.1 Completion of Project.** At the completion of the project any keys distributed to the contractor during the project shall be returned to the urban traffic supervisor or their representative and keys shall not be reproduced.

**2.0 Contact.** Initial contact must be made at least seven calendar days before work begins, preferably when the project has the notice to proceed or during the pre-construction meeting, if applicable. MoDOT's urban traffic supervisor shall be notified prior to work beginning.

**3.0 Basis of Payment.** No direct payment shall be made for compliance with this provision.

OOO. Top Mount Light Pole

**1.0 Description.** This work shall consist of furnishing and installing top mount poles as indicated in the plans.

**2.0 Construction Requirements.** Top mount poles shall conform to the Type AT lighting poles and shall be fabricated with a circumferentially welded top mount and top plate to accept top mounted luminaires. The top mount shall extend 4" above the top of the pole and meet AASHTO loading requirements for the luminaires provided. The top mount shall be made of the same material as the pole shaft, be constructed as a one-piece pole and top mount unit by the manufacturer and have an outside diameter that accepts the appropriate luminaire slip-fitter. Pole and top mount shall conform to all MoDOT specifications and material requirements. Bridge mounted poles shall be constructed to match the existing bolt pattern.

**3.0 Basis of Payment.** Payment for furnishing and installing top mount poles shall include all excavation, materials, equipment, tools, labor, and work incidental thereto, and shall be considered completely covered by the contract unit price for:

| Item Number | Item Name                   | Units |
|-------------|-----------------------------|-------|
| 901-99.02   | 30 Ft. Top Mount Light Pole | Each  |
| 901-99.02   | 45 Ft. Top Mount Light Pole | Each  |

**PPP. Top Mounted Luminaire**

**1.0 Description.** This work shall consist of furnishing and installing LED Top Mounted Luminaires as indicated in the plans.

**2.0 Construction Requirements.** Luminaires shall be vertical top mount type (pole top mount) with a slip-fitter that accommodates a standard 2" top mount. Available types are listed on the MoDOT approved products list and must meet all MoDOT Specifications along with additional requirements noted in the additional sections below. The contractor shall coordinate the pole top mount size with the luminaire mount to ensure compatibility. All luminaires for this project shall allow for a tilt angle to be adjusted in the field dependent upon the placement of the pole. All necessary mounting brackets and hardware shall be included in the payment for the luminaire.

**2.1** LED luminaires shall not be equipped with a Photo Control Receptacle.

**2.2** LED Luminaires shall have a terminal block for easy installation of a two wire Line/neutral circuit (no wire nuts for termination of field/luminaire circuit).

**2.3** LED luminaires shall have an easy access point for future repairs to the driver.

**2.4** LED luminaires shall have pole adaptors which are capable of feeding wires through without disassembling the knuckle.

**3.0 Basis of Payment.** Payment for furnishing and installing top mounted luminaries shall include all materials, equipment, tools, labor, and work incidental thereto, and shall be considered completely covered by the contract unit price for:

| Item No.  | Description                 | Units |
|-----------|-----------------------------|-------|
| 901-99.02 | Top Mounted LED-A Luminaire | Each  |
| 901-99.02 | Top Mounted LED-B Luminaire | Each  |

**QQQ. Pad Mounted 240V/480V Power Supply and Lighting Controller**

**1.0 Description.** This work shall consist of furnishing and installing combination 240/480 Volt lighting power supply and multi-circuit type lighting control station. Available units are listed in the lighting section of the MoDOT approved products list under Pad Mounted Lighting Controllers. Control stations shall be installed in accordance with the plans and by direction of the engineer.

**2.0 Basis of Payment.** Payment for furnishing and installing pad mounted combination units shall include all excavation, materials, equipment, tools, labor, and work incidental thereto, and shall be considered to be completely covered by the contract unit price for the following:

| Item No.  | Description                                                | Units |
|-----------|------------------------------------------------------------|-------|
| 901-99.02 | Pad Mounted 240V/480V Power Supply and Lighting Controller | Each  |



**RRR. Pot Holing Utility Facilities**

**1.0 Pot Holing Utility Facilities.** The contractor shall notify the utility prior to pot holing the utilities marked facility. Some utility companies may want to have a representative on site to observe the contractor's pot hole work. The contractor shall be responsible to "pot hole" any existing utility facility under the pavement or outside the pavement, to verify the utilities depth and location for all the contractor's needs to construct the project. Core drilling pavement prior to pot holing for utilities may be necessary. Any pot holed utility facility determined to be in conflict with construction of the work for the project, shall be brought immediately to the attention of MoDOT's area utility coordinator and the engineer for the project. The engineer will determine whether relocation of the utility is necessary to accommodate construction of the project or if the proposed work can be adjusted to avoid any utility relocation. The contractor is responsible for the costs to repair any utility facility damaged by the contractors work to pot hole the utility.

A utility pothole unit shall be defined for this project as a single continuous excavation effort, by the contractors chosen method, to expose a buried utility at the location marked by the utilities locator and approved by the engineer. The excavation limits of a single pothole unit shall be any excavation taking place within a 2ft radius around the center of the locate mark provided by the utilities locator, to a depth where either the utility has been satisfactorily exposed for the engineer to see or to a depth where the search for the marked utility is terminated by the engineer and the pothole location abandoned without exposing the utility.

**2.0 Guardrail Locations:** The contractor shall be aware there are numerous utilities present along the route in this contract. The full extent of conflicts with utilities are unknown. There may be underground utilities that run parallel or cross the route that are in close proximity to guardrail work locations. The contractor shall take necessary precautions and measures to verify locations and depths of utilities by any necessary means to determine exact impacts to their work.

**3.0 Basis of Payment.** All labor, equipment, materials and restoration necessary to pot hole buried utilities shall be paid for under:

| Item No.  | Description                   | Units |
|-----------|-------------------------------|-------|
| 902-99.02 | Pot Holing Utility Facilities | Each  |

**SSS. Remove and Relocate Tier III Wrong Way LED System**

**1.0 Description.** This work shall consist of removing and relocating existing Tier III wrong way LED systems, including existing posts, to new post bases at locations shown on the plans or as directed by the engineer. The contractor shall be responsible for all existing Tier III wrong way LED systems, including existing posts, to be relocated. During construction, if any existing Tier III wrong way LED system, including existing post, to be relocated are lost, stolen, or damaged in any way, the contractor shall be responsible for all costs.

**2.0 Construction Requirements.** The contractor shall install new post bases at the locations shown on the plans and then relocate and mount the existing Tier III wrong way LED system, including existing posts, to the new post bases. The contractor shall remove the existing concrete post bases after the Tier III wrong way system, including posts, are moved to the new concrete

post bases. All work shall be completed in accordance with the construction requirements of Sec 902 and Sec 903.

**3.0 Method of Measurement.** Measurement will be made per each (post) for removing and relocating existing Tier III wrong way LED systems, including existing posts, to new posts. Measurement for any concrete post bases will be made in accordance with Sec 902.25.4.

**4.0 Basis of Payment.** All costs incurred for removing and relocating existing Tier III wrong way LED systems, including existing posts, to new post bases at the locations shown on the plans, complete in place, will be paid for at the contract unit price for the following bid item noted below. Payment for all other labor, equipment, material, and incidental items will be considered completely covered by the bid items included in the contract.

Removal of the existing concrete post bases shall be included in the Removal of Improvement pay item.

Payment for concrete post bases will be paid at the contract unit price for base, concrete.

| Item No.  | Units | Description                                       |
|-----------|-------|---------------------------------------------------|
| 202-20.10 | L.S.  | Removal of Improvements                           |
| 902-91.00 | C.Y.  | Base, Concrete                                    |
| 902-99.02 | Each  | Remove and Relocate Tier III Wrong Way LED System |

TTT. Removal and Delivery of Existing Signs JSP-12-01C

**1.0 Description.** All Commission-owned signs removed from the project shall be disassembled, stored, transported, and disposed of as specified herein. Sign supports, structures and hardware removed from the project shall become the property of the contractor.

**2.0 Disassembly and Delivery.**

**2.1** All Commission-owned signs, (excluding abandoned billboard signs), designated for removal in the plans, or any other signs designated by the Engineer, shall be removed from the sign supports and structures, disassembled, stored, transported, and delivered by the contractor to the recycling center for destruction.

**2.2** The contractor shall coordinate and make arrangements with the recycling center for delivery of the signs. Sign panels shall be disassembled and/or cut into sizes as required by the recycling center.

**2.3** The contractor shall provide the Engineer with a "Sign Delivery Certification" attesting to completion of delivery of all existing sign material from the project to the recycler. In addition, the contractor shall provide to the Engineer a final "Sign Certification of Destruction" from the recycler that documents the total pounds of scrap sign material received from the project and attests that all such material will not be re-purposed and will be destroyed in a recycling process. The contractor can locate the required certification statements from the Missouri Department of Transportation website:

<https://www.modot.org/forms-contractor-use>

**2.4** Funds received from the disposal of the signs from the recycling center shall be retained by the Contractor.

**3.0 Basis of Payment.** All costs associated with removing, disassembling and/or cutting, storing, transporting, and disposing of signs shall be considered as completely covered by the contract unit price for Item No. 202-20.10, "Removal of Improvements", per lump sum.

| Item No.  | Units | Description             |
|-----------|-------|-------------------------|
| 202-20.10 | L.S.  | Removal of Improvements |

UUU. 4-Inch Square Steel Sign Post JSP-23-02

**1.0 Description.** The 4-inch square steel post and breakaway system shall be MASH 2016 approved and on [MoDOT's Approved Products List](#).

**2.0 Material.** All material shall be in accordance with Division 1000 and as further specified per this provision. The 4-inch square steel posts are to be multi-directional. The posts shall be 4 inches square, 8 gauge, and galvanized. The 4-inch square steel posts shall be hot-dip galvanized after fabrication. Galvanizing of sign posts, bolts, nuts, washers, other appurtenances, and repair of galvanizing shall be in accordance with Sec. 1081.

**3.0 Construction Requirements.** Concrete footing construction shall be in accordance with Sec. 903.3.1.2. Post installation shall follow the manufacturer's recommendations.

**4.0 Method of Measurement.** Measurement of 4-inch square steel posts will be made to the nearest linear foot for each post, as shown on the plans. Measurement for 4-inch square steel post base will be made per each.

**5.0 Basis of Payment.** Payment for 4-inch square steel post will be paid for at the contract unit price for: **903-12.30 4-Inch Square Steel Post**. Post cap, post clamp, hardware (nuts and bolts), and backing bars are incidental to the post. Payment for **903-10.05 Square Steel Sign Post (4-In.) Base** shall include, complete and in place, the concrete footing, ground anchor, breakaway assembly, and hardware (nuts and bolts).

VVV. Remove and Relocate Ground Mount Sign

**1.0 Description.** This work shall consist of relocating and mounting existing signs, including any existing backing bars, of various sizes to new posts at locations shown on the plans or as directed by the engineer. The contractor shall be responsible for all existing signs, including any existing backing bars, to be relocated. During construction, if any sign, including any backing bars, to be relocated is lost, stolen, or damaged in any way, the contractor shall be responsible for all costs.

**2.0 Construction Requirements.** The contractor shall install new sign support posts at the locations shown on the plans and then relocate and mount existing signs, including any existing backing bars, to the new posts. All work shall be completed in accordance with the construction requirements of Sec 903.

**3.0 Method of Measurement.** Measurement will be made per each for relocating and mounting existing signs, including any existing backing bars, to new posts. Measurement for any concrete footings, structural steel posts, pipe posts, perforated square steel tubes and anchor sleeves, and breakaway assemblies will be made in accordance with Sec 903.

**4.0 Basis of Payment.** All costs incurred for relocating and mounting existing signs, including existing backing bars, to new posts at the locations shown on the plans, complete in place, will be paid for at the contract unit price for the following bid item noted below. Payment for all other labor, equipment, material, and incidental items will be considered completely covered by the bid items included in the contract.

| Item No.  | Units | Description                           |
|-----------|-------|---------------------------------------|
| 903-99.02 | Each  | Remove and Relocate Ground Mount Sign |

#### WWW. MoDOT ITS Equipment within Project Limits

**1.0 Description.** MoDOT owned fiber optic cable and conduit, critical MoDOT power supplies and power cables, and pull boxes for fiber and power cabling and other above and underground ITS (Intelligent Transportation System) facilities are present within the limits of this project. Damage or interruption of these items can cause extensive outages to the MoDOT network.

**2.0 Construction Requirements.** The contractor shall exercise reasonable care while completing work near these facilities, and shall take steps necessary to protect these facilities from damage for all items that are not specifically identified as being removed and/or relocated in the plans. Should any of the existing wiring or conduit be damaged by the contractor, it shall be replaced at the contractor's expense and the system in full operation within **4** hours of when the damage occurred. If it is mutually agreed upon between the Commission and the Contractor that the repairs will require more than **4** hours to complete, a mutually agreed upon time for repairs to be complete will be determined.

**2.1** The contractor shall not modify any existing network or electrical connections within equipment cabinets, unless coordinated with MoDOT ITS staff. Existing connections include, but are not limited to, fiber jumpers, CAT5(e) cables, power supplies, and power strips. The connection to specific fiber and copper ports on network equipment shall also not be modified, unless coordinated with MoDOT ITS staff, as the network equipment has been configured specifically for each equipment cabinet. Significant network outages and unnecessary troubleshooting to investigate outages can occur, even with minor changes to existing connections within the cabinet.

**3.0 Liquidated Damages.** In the event of damage, if the system is not repaired and in full operation within **4** hours of the damage occurring, or within the timeframe agreed upon, the contractor will be charged with a liquidated damage specified in the amount of \$100.00\_per hour for each full hour that the system is not fully operational. This damage will be assessed independently of the liquidated damages specified elsewhere in the contract.

**3.1** The MoDOT Engineer will also have the option of issuing a work order for MoDOT's on-call ITS Maintenance contractor to make repairs, if it is the Engineer's opinion that the contractor

creating the damage will not be able to make repairs in a timely manner. Contractor's reimbursement for MoDOT expense for this option shall be in addition to the liquidated damages.

**4.0 Basis of Payment.** No direct payment shall be made for compliance with this provision.

**XXX. MoDOT ITS Assets Relocation**

**1.0 Description.** The work consists of relocating existing MoDOT Intelligent Transportation System (ITS) facilities (conduit, cable, and/or pull boxes) that may be in conflict with this project construction sections as noted in the plans.

**2.0 Materials.** The materials used for relocating MoDOT ITS facilities shall be per MoDOT Approved Product List (APL) and meet all MoDOT Specifications. If the material is not in the APL, the contractor shall submit material specification documents to the Engineer and the MoDOT ITS group (via an email in advance to [SLITS@modot.mo.gov](mailto:SLITS@modot.mo.gov)) for review and approval.

**3.0 Construction Requirements.** The Contractor shall be aware there are numerous utilities present along the route in this contract. Utility locates were not performed during the design phase of the project; therefore, the extent of conflicts with utilities are unknown.

**3.1** The contractor shall exercise reasonable care relocating MoDOT ITS Assets. Damage to any MoDOT facilities within the area of work caused by the contractor will be deemed by the Engineer as either "non-emergency" or "emergency" upon notification of the damages. Repair to damages will be performed as follows:

- a) Non-Emergency: Contractor will have 4 hours to propose a repair plan to the Engineer for a complete repair within 3 business days.
- b) Emergency: Upon notification of the damage, Contractor must immediately submit a repair plan to the Engineer which will take no more than 4 hours to respond on-site and complete repairs within 48 hours of notification of damage.
- c) In either case, if the proposed plan is unacceptable for any reason to MoDOT, repairs will be made by MoDOT with all costs billed to the Contractor.

**3.2** The ITS In-Ground Facilities located within the project limits are a crucial part of the traffic operation system for this area. It is imperative that the downtime be kept to a minimum when replacing, removing, or modifying any existing ITS In-Ground Facilities.

**3.3** Prior to any in-ground work, the Contractor shall request for utility locates by contacting Missouri One Call (1-800 DIG-RITE or [mo1call.com](http://mo1call.com)) for any in-ground installation locations as per plans. If there are any conflicts with MoDOT ITS Assets, the Contractor is responsible for relocation to the satisfaction of the Engineer prior to any in-ground work.

**3.4** In the case of a conduit conflict, the Contractor shall trench an area beyond the in-ground work limits, install one or two conduits (must be the same quality as the existing conduit) using Split Duct Method, relocate the existing cables into the new conduit, and seal the conduit joints per manufacturer specifications.

**3.5** The Contractor shall coordinate this work with the MoDOT ITS group and have the Engineer's approval prior to performing this task.

**3.6** The contractor shall perform a fiber testing (see below requirements) before and after relocating MoDOT fiber cables at the nearest Node Cabinet at each site as shown on the plans and submit that report to the SLITS Group for review and approval.

**3.6.01 Test Procedure.** For each fiber link, follow this procedure:

- (a) If the link includes fiber installed by others, use an optical loss test set to measure and record the optical loss over that portion of the link before it is spliced to new fiber.
- (b) Calculate the maximum allowable loss for the completed link, both at 1310 nm and at 1550 nm. Use the following formula:

$$\begin{aligned}\text{Maximum link loss} = & \text{Measured loss over portion installed by others} \\ & + (\text{Fiber length in km}) \times (0.35 \text{ for } 1310 \text{ nm and } 0.25 \text{ for } 1550 \text{ nm}) \\ & + (\text{Number of fusion splices}) \times (0.05) \\ & + (\text{Number of mechanical splices [for temp. connection]}) \times (0.3) \\ & + (\text{Number of connections}) \times (0.5)\end{aligned}$$

Provide this calculation to the engineer along with the test results..

- (c) Calibrate an optical loss test set and provide evidence satisfactory to the engineer that the set produces accurate results at both wavelengths. This can be a demonstration that the set correctly measures the loss of a test fiber whose loss is known.
- (d) Use the test set to measure the loss of the link under test. Record the result at both 1310 nm and 1550 nm. Arrange for the engineer or his representative to witness these tests.
- (e) If the measured loss exceeds the calculated maximum, use an optical time domain reflectometer and other test equipment to troubleshoot the link. Take whatever corrective action is required, including cable replacement, to achieve a loss less than the calculated maximum.

**3.6.02 Test Result Documentation.** Prepare a diagram showing all of the links tested in this project. For the portions installed in this project, show the equipment cabinets, splices, and pigtails. On each line representing a link, show the maximum allowable loss and the actual loss. The actual loss shall be the one measured after all corrective actions have been taken. Submit 5 copies of this diagram to the engineer, along with the calculations for the maximum allowable loss. Submit the diagrams and calculations in an electronic format acceptable to the engineer.

**3.6.03 Documentation.** Provide the engineer mark-ups of the plans, neat and legible, illustrating as-built versions of the splice and connection diagrams that are contained in the plans.

**3.6.04 Certifications.** The fiber optic cable shall be factory certified to meet the requirements in this specification. In addition, the manufacturer shall certify that the fiber optic cable has a life expectancy of 20 years.

**3.7** The Contractor shall trench an area beyond the in-ground work limits, install one or two conduits (must be the same quality as the existing conduit) using Split Duct Method, relocate the existing cables into the new conduit, and seal the conduit joints per manufacturer specifications.

**3.8** Upon completion of this work, the Contractor shall contact the MoDOT ITS group (via email at [slits@modot.mo.gov](mailto:slits@modot.mo.gov)) to verify that all existing MoDOT ITS devices are online and request inspection of this work. Acceptance of this work shall be the sole judgment of the Engineer and the MoDOT ITS group's engineer.

**3.9** The contractor shall restore those areas disturbed by this work or installation according to specifications herein.

**4.0 Basis of Payment.** Payment for "MoDOT ITS Assets Relocation" shall be paid as Linear Feet and shall include the trenching, conduit installation, conduit coupling, pull boxes, sealing materials, cable relocation, needed fiber testing, restoration of all disturbed area, all labor and work incidental thereto, and shall be considered to be completely covered by the contract unit price for the following pay item:

| Item No.  | Units | Description                 |
|-----------|-------|-----------------------------|
| 910-99.03 | L.F.  | MoDOT ITS Assets Relocation |

YYY. Coordination With ITS Staff And Utility Locates

**1.0 Description.** Any work that will impact the existing communications network must be coordinated with the Commission's St. Louis District ITS staff. This includes but not limited to removal and replacement of any existing communications equipment, adding new devices and changes to power sources or disconnects. Minor modifications to the existing communications network can have significant impacts on the system and operation of other ITS and traffic signal systems.

**1.1** MoDOT is a member of MO-One-Call System. Prior to any excavation or work within MoDOT Right-Of-way, the contractor must contact MO-One Call at 1-800-DIG-RITE and request for Utility Locates within noted project limits. If the scope of work contains modification, addition and/or expansion of existing underground MoDOT ITS, lighting, or signal facilities, the contractor must notify the MoDOT Utilities Locate staff prior to any work, in order for MoDOT to update MoDOT utility location records with Missouri One Call.

**2.0 Contact.** The contractor shall notify the ITS group via an email to [SLITS@modot.mo.gov](mailto:SLITS@modot.mo.gov) at least 2 days before any work that may impact the existing network communications. The contractor shall include the Job#, location and brief scope of work in the email's subject line. The engineer shall be notified prior to making contact with ITS staff. For MoDOT Utility location updates, the contractor must contact MoDOT TMC at 314-275-1500 and ask for Utility Locate Section at least seven calendar days before performing any work.

**3.0** The ITS and network devices located within the project limits are a crucial part of the traffic operation system for this area. It is imperative that the downtime be kept to a minimum when adding, removing, or modifying any existing ITS and network devices. This may require the contractor to perform work that will affect existing network devices during nighttime and/or weekend hours, at the discretion of the Engineer. Allowable timeframes for this work will be subject to the need for ITS devices in the area to be used to manage other traffic impacting work zones.

**4.0 Basis of Payment.** No direct payment shall be made for compliance with this provision.

ZZZ. Early Notice to Proceed

**1.0 Description.** The contractor will be given a Notice to Proceed Date for this project, as stipulated in JSP B - Contract Liquidated Damages. All contracts shall be executed and returned to the Commission by or before the end of the day on the business day prior, in order to commence work on the Notice to Proceed date.

**2.0** The contract will be distributed electronically by the Commission for execution through DocuSign® upon award.

**3.0** As part of the contract execution process, the contractor shall complete and deliver the original documents/forms listed below, immediately following award of the contract.

Contract Bond Form (with associated Power of Attorney Form)  
Contractor Acknowledgement Form  
Workers Eligibility Verification Affidavit

**3.1** These documents will be provided to the contractor through Bid Express®/BidX® correspondence immediately following Commission award. A checklist with instructions on how to complete these documents will be provided with said award correspondence. In order to expedite contract execution, contractors are encouraged to follow the instructions on the checklist. Inquiries related to completing the listed documents may be directed to the following:

Rodney Braman  
Phone: (573) 751-9253  
Email: [Rodney.Braman@modot.mo.gov](mailto:Rodney.Braman@modot.mo.gov)

**4.0** The contractor shall deliver the original documents to the address listed below and notify Rodney Braman at the time the documents are delivered.

**5.0** Potential Bidders without a current MoDOT issued DocuSign® access code shall notify Ryan Martin prior to the bid to determine the necessary steps to establish a Contractor specific access code. If another MoDOT District Office location other than the one listed below is more convenient, please contact Ryan Martin.

CENTRAL OFFICE  
Ryan Martin  
Bidding and Contract Services Engineer  
105 West Capitol  
Jefferson City, MO 65102-0270  
Phone: (573) 526-2923  
Email: [Ryan.Martin@modot.mo.gov](mailto:Ryan.Martin@modot.mo.gov)