Job No.: J7P3425C
Route: 60
County: Webster

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

Job No.: J7P3425C
Route: 60
County: Webster

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THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</td>
<td>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 W. CAPITOL AVE.
JEFFERSON CITY, MO 65102
Phone 1-888-275-6636

Crawford, Murphy & Tilly
1631 W. Elfindale St
Springfield, MO 65807
Certificate of Authority: 000631
Consultant Phone: (417) 869-6009

JOB NUMBER: J7P3425C
WEBSTER COUNTY, MO
DATE PREPARED: August 21, 2024</td>
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<tr>
<td>Date: 12/04/2024</td>
<td>ADDENDUM DATE:</td>
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<tr>
<td colspan="2">Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All</td>
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Job No.: J7P3425C
Route: 60
County: Webster

JOB
SPECIAL PROVISION

A. General - Federal JSP-09-02K

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

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

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

General Provisions & Supplemental Specifications

Supplemental Plans to July 2024 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- 13-01D

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.

Subproject	Description
A	North Outer Road/Route A (Construction Phase 1)
B	Route A Interchange (Construction Phase 2)
C	Route NN connection and South Outer Road (Construction Phase 3 & 4)

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:	February 20, 2025
Contract Completion Date:	December 1, 2027

2.1 Calendar Days and Completion Dates. 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
J7P3425C	1041	$3,200

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.

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

2.5.1 Traffic Safety.

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

2.5.1.2 Non-Recurring Congestion. When traffic queues extend to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet of the ROAD WORK

AHEAD, or similar, sign on an undivided highway infrequently, the contractor shall deploy a means of providing advance warning of the traffic congestion, as approved by the engineer. The warning location shall be no less than 1000 feet and no more than 0.5 mile in advance of the end of the traffic queue on divided highways and no less than 500 feet and no more than 0.5 mile in advance of the end of the traffic queue on undivided highways.

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.

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:

When Independence Day falls on:	The Holiday is Observed on:	Halt Lane Closures beginning at:	Allow Lane Closures to resume at:
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.

3.5 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 **$250 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.

3.5.1 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.

4.2 At least one lane of traffic in each direction shall be maintained at all times except for brief intervals of time required when the movement of the contractor's equipment will seriously hinder the safe movement of traffic. Periods during which the contractor will be allowed to interrupt traffic will be designated by the engineer.

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

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

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.

Missouri Highway Patrol – Troop D (417)895-6868

Southern Webster County Fire Protection District (417)935-2500

Webster County Sheriff (417)859-2247

Village of Diggins (417)767-2395

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-96-05

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

Warner "Bud" Sherman, Project Manager
Southwest District
3025 East Kearney Street
Springfield, MO 65803

Telephone Number: 417-895-7690
Email: bud.sherman@modot.mo.gov

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

F. Supplemental Revisions JSP-18-01EE

- 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 and Steel.
On all federal-aid projects, the contractor's attention is directed to Title 23 CFR 635.410 *Buy America Requirements*. Where steel or iron products 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. Furthermore, any coating process of the steel or iron shall be performed in the USA. 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 Buy America Requirements for Iron and Steel for Manufactured items.
A manufactured item will be considered iron and steel if it is "predominantly" iron or steel. Predominantly iron or steel means that the cost of iron or steel content of a product is more than 50 percent of the total cost of all its components.

106.9.2 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.

106.9.3 "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.

106.9.4 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.

106.9.4.1 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 the following. That 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.

106.9.4.2 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.

106.9.4.3 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.

106.9.5 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.

106.9.6 Buy America Requirements for Construction Materials other than iron and steel materials. Construction materials means 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

106.9.6.1 Minimal Use allowance for Construction Materials other than iron or steel.
"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.

106.9.7 Buy America Requirements for Manufactured Products.
Manufactured products means:

(a) Articles, materials, or supplies that have been:

(i) Processed into a specific form and shape; or
(ii) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.

(b) If an item is classified as an iron or steel product, a construction material, or a section 70917(c) material under § 184.4(e) and the definitions set forth in this section, then it is not a manufactured product. However, an article, material, or supply classified as a manufactured product under § 184.4(e) and paragraph (1) of this definition may include components that are construction materials, iron or steel products, or section 70917(c) materials.

106.9.7.1 Manufactured products are exempt from Buy America requirements. To qualify as a manufactured product, items that consist of two or more of the listed construction materials that have been combined together through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed through a manufacturing process, should be treated as manufactured products, rather than as construction materials.

106.9.7.2 Manufactured items are covered under a general waiver to exclude them from Buy America Requirements. To qualify for the exemption the components must comprise of 55% of the value of materials in the item. The final assembly must also be performed domestically.

- Pavement Marking Paint Requirements for Standard Waterborne and Temporary

1.0 Description. High Build acrylic waterborne pavement marking paint shall be used in lieu of standard acrylic waterborne pavement marking paint for all Standard Waterborne Pavement Marking Paint items and all Temporary Pavement Marking Paint items. Paint thickness, bead type, bead application rate, retroreflectivity requirements, and all other specifications shall remain as stated in the Missouri Standard Specifications for Highway Construction, except as otherwise amended in the contract documents.

2.0 Material Requirements. Material requirements for Sec 620.20.2.5 Standard Waterborne Paint, and Sec 620.10.2 Temporary Pavement Marking Paint shall be per Sec 1048.20.1.2 High Build Acrylic Waterborne Pavement Marking Paint.

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

15.0 Data Collection from Bidders for DBE and Non-DBE Subcontractors, Suppliers, Manufacturers and/or Brokering used and not used in bids during the reporting period.

MoDOT is a recipient of federal funds and is required by 49 CFR 26.11, to provide data about its DBE program. The information shall consist of all subcontractor quoting received for actual use and of consideration by the prime bidder. MoDOT will be requesting this information from bidding prime contractors and will provide prime bidders a form to submit the data by the last day of each month for the current letting. The information shall only include the names of both DBE and non-DBE companies that the prime bidders received quotes. MoDOT will then contact the DBEs and non-DBE subcontractors and request additional information from DBE and non-DBE subcontractors including current year of gross receipts and number of years in business. The information provided by the prime bidders shall not include any bid quote pricing regardless if it was used or not. This information will aid MoDOT in the determination of the availability of DBEs and will be used in subsequent availability studies.

- 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 ±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 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.

G. Liquidated Damages Specified – North Outer Road and Route A (CONSTRUCTION PHASE 1) JSP-93-28A

1.0 Description. If construction of the North Outer Road and realigned Route A (north of Route 60), including closure of the existing Route A/60 intersection (construction Phase 1) is not complete and open to traffic on or before **September 1, 2025**, 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 **$3,000** per day for each day, or partial day thereof, that Construction Phase 1 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.

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.

H. Liquidated Damages Specified – Route A Interchange (CONSTRUCTION PHASE 2) JSP-93-28A

1.0 Description. If construction of the Route A Interchange with Route 60 (construction Phase 2) is not complete and open to traffic on or before **September 1, 2026**, 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 **$3,000** per day for each day, or partial day thereof, that Construction Phase 2 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.

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. Utilities JSP-93-26F

1.0 For informational purposes only, the following is a list of names, addresses, and telephone numbers of the known utility companies in the area of the construction work for this improvement:

Utility Name	Known Required Adjustment	Type
Brightspeed Kelly Weigle 117 N. Madison Ave. Lebanon, MO 65536 Phone: 417-733-7866 Email: kelly.weigle1@brightspeed.com	Yes (See Section 2.0-2.5)	Communications
Lumen Kimberly Singleton, Engineering Manager Phone: 419-631-4683 Email: kimberly.singleton@lumen.com Olsson (Lumen's contract engineer) Sandra Munoz-Cabuya 7301 W. 133rd Street, Suite 200 Overland Park, KS 66213 Phone: 913-748-2646 Email: smunozcabuya@olsson.com	Yes (See Section 3.0)	Communications
Summit Natural Gas James Trujillo 272 Keystone Industrial Park Dr. Camdenton, MO 65020	Yes (See Sections 4.0 – 4.5)	Power

Phone: 660-473-1933
Email: jtrujillo@summitutilitiesinc.com

Webster Electric Cooperative Shannon Beeler 120 Vivian St. Marshfield, MO 65706 Phone: 417-839-0167 Email: beeler@websterec.com	Yes (See Sections 5.0 – 5.5)	Power
Village of Diggins Brent Daniels 281 Diggins Center St. Diggins, MO 65636 Phone: 417-838-9551 Email: waterboybrent41@gmail.com	Yes (See Section 6.0-6.3.2)	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.

1.2 Utility Relocation Work. The contractor is advised that the majority of the required utility relocations will occur during construction. The roadway contractor shall coordinate their construction schedule with the construction schedule for each utility company listed above. Some of the utility relocations will be dependent upon work performed by the roadway contractor. All contract work and all utility relocation work will be dependent upon the final R/W acquisition for the project. The roadway contractor shall consider the utility impacts and possible delays when developing their unit bid prices for the project.

1.3 Contractor Staking for Utility Relocations. Since the utility relocations will be performed during construction, the roadway contractor will be responsible for all necessary utility staking. This might include R/W corners, slope lines, and/or ditch cuts. All five utilities listed above will be relocating facilities during construction operation. The contractor shall consider this when developing their bid for the roadway project. All costs associated with utility relocation staking shall be included in the contractor's submitted lump sum price for bid item 627-40.00, Contractor Furnished Surveying & Staking.

1.4 Overhead Primary Electric. Various utilities listed above have overhead lines within the project limits in the vicinity of the Contractor's work. The contractor shall comply with the Missouri Overhead Powerline Safety Act; this statute makes it illegal for an unauthorized person or entity to work or bring equipment within 10 feet of a high voltage line that has not been covered or de-energized. The purpose of the Missouri Overhead Powerline Safety Act is to ensure the safety of the public when working around overhead power lines. If the contractor needs line cover when working near a primary powerline, then the contractor shall notify that utility owner a minimum of 14 days in advance of needing line cover. Most power providers perform this service free of

charge for municipally-driven projects. The contractor shall be responsible for any damage to the overhead lines caused by their operations. There will be no direct payment for compliance to this specification.

2.0 Brightspeed.

2.1 Mainline US60. Brightspeed has a 96FO and copper line running parallel to Route 60 on the south side of the roadway. The copper ranges from 300pr to 600pr depending on location. The contractor shall exercise caution when removing the existing roadway accesses along EB Route 60 over Brightspeed's cables. The contractor will be solely responsible for any damage to either the copper or fiber lines caused by their operations. The 96FO and 300pr will likely be impacted by the construction of MSE wall A9354 along the north side of the BNSF railroad. Due to limited R/W, Brightspeed will be relocating these lines north of the proposed MSE wall and bored deep to an elevation below the wall excavation. These parallel cables will remain between the EB ramps and BNSF railroad with access points set east and west of the proposed grading limits for the EB ramps.

2.2 Route A/NN Roundabout. Brightspeed has a 150pr copper cable running parallel to Route NN along the west side of the roadway. This line will be impacted by the proposed roundabout and will need to be relocated back to the new R/W line. The contractor will be responsible for staking the new R/W limits for Brightspeed's relocation. The relocation of this 150pr copper line will transpire during construction.

2.3 North Outer Road. Brightspeed has existing crossings of Route 60/Springfield Ave. on the east side of State Street and the east side of Bower Drive with 96FO and 200pr, respectively. The pedestals on the north side of Springfield Avenue will need to be adjusted to match the proposed grading. The contractor shall coordinate their grading schedule for existing Springfield Avenue with Brightspeed so these pedestals can be adjusted. The contractor is advised it can three weeks for Brightspeed to mobilize a contractor to make these adjustments.

2.4 South Outer Road. There are several locations along the new south outer road where this new roadway will cross over existing Brightspeed facilities. At the outer road tie to Route Z, Brightspeed has a 96FO on the east side of Route Z. At the outer road crossing of Bluebird Lane, Brightspeed has a 25pr line along the east side of Bluebird. At the outer road crossing of Hummingbird Lane, Brightspeed has a 25pr line along the east side of Hummingbird Lane. At the outer road crossing of Tandy Road, Brightspeed has a 100pr line along the west side of Tandy Road. At the outer road crossing of Honor Camp Road, Brightspeed has 75pr and 100pr cables along the west side of Honor Camp Road. At all 5 of these locations, Brightspeed's facilities will be impacted by the proposed ditch cut along the new outer road. Brightspeed will lower these cables during construction. The contractor shall be responsible for staking the grading limits and ditch cuts for Brightspeed's relocation.

2.5 Route A. Bridghtspeed has a 96FO and 150pr cable crossing Route 60 near EB Route 60 Sta 13+10. The 96FO ends just north of Route 60 but the copper line extends north up along existing Route A. The copper line follows the west R/W line of existing Route A to approximate Sta 8+50 then crosses the roadway and continues north along the east side of existing Route A. Brightspeed will need to relocate the Route 60 crossing due to the ditch cut along the south side of Ramp 2. Their relocation will be shifted west to the west tie point for the 300pr & 96FO being impacted by the MSE wall. There is a high probability the copper line along the east side of existing Route A will need to be lowered for the three crossroad drainage structures (15", 4'x4'

RCB, 24") and at the entrance pipe to parcel 61 (Sta 54+05). The contractor shall pothole Brightspeed's copper line at all four locations an notify Brightspeed if lowering is required.

3.0 Lumen. Lumen has a 24FO trunk fiber running parallel to US60 on the south side of the roadway. This trunk fiber is inside the BNSF railroad R/W and will not be impacted by the proposed improvements. The contractor shall exercise caution when removing the existing roadway accesses along EB Route 60 over this fiber. The contractor will be solely responsible for any damage to the 24FO caused by their operations. Lumen also has an 8FO lateral coming off of the trunk fiber. This lateral crosses Route 60 near EB Sta 13+10. This lateral fiber will be relocated due to the proposed ditch cut along the south side of Ramp 2. Lumen plans to rebore Route 60 in the same general area at a depth below the proposed ditch grading. This same 8FO lateral crosses existing Route A on the north side of Route 60 and extends up existing Route A along the east side of the roadway. Lumen may need to perform spot lowing on this fiber at the three crossroad drainage structures (15", 4'x4' RCB, 24") and at the entrance pipe to parcel 61 (Sta 54+05). The contractor shall pothole the fiber at all four locations and notify Lumen if lowering is required. The contractor is advised that it can take up to 3 weeks for Lumen to mobilize their contractor to perform the spot lowering.

4.0 Summit Natural Gas.

4.1 Mainline Route 60. Summit has an existing 8" feeder running parallel along the north R/W line of Route 60 throughout the entire project limits. This is a one way feeder from Springfield to West Plains having spurs north to Marshfield and south to Ava. The cut along Ramp 3 from approx. Sta 10+00 to approx. Sta 36+40 on the north outer road will require relocation of this feeder. Summit intends to relocate the main north to the new north mainline Route 60 R/W starting at their reg station tie near EB Route 60 Sta 14+30 going east to EB Route 60 Sta 37+60. The roadway contractor shall complete the rough grading along the north side of Route 60 in the cut limits noted above as one of the first orders of construction operations. Furthermore, the roadway contractor will be responsible for excavating Summit's trench for the new gas main within the cut limits. For bidding purposes, the contractor can assume a 2ft wide by 5ft deep trench placed 4ft inside the new Route 60 R/W for Summit's main relocation. The contractor is advised that the rough grading and trenching will be in close proximity to Summit's active gas feeder. Summit's crews will begin trenching operation on the west side of Route A and work their way east to meet up with the roadway contractor's trenching operation. Summit plans to start their work 3 weeks after the new R/W has been cleared. The roadway contractor shall coordinate grading and trenching operations with James Trujillo (see contact information above). Summit anticipates the gas relocation will take 10 weeks to complete and cut over. Due to product demand on this feeder main, the cutover will occur at the end of March 2025 at the very earliest. All costs associated with compliance of this specification shall be included in the contractor's unit price for bid item 203-50.00, Unclassified Excavation, per cubic yard.

4.2 Route A/NN Roundabout. Summit mapping shows parallel distribution gas mains along both sides of Route NN at the proposed roundabout. Summit will be required to relocate these mains back to the new R/W line in order to accommodate the proposed roadway improvements. This gas relocation work will be done during construction. The contractor shall be responsible for staking the new R/W for Summit's relocation. The contractor shall also coordinate their construction schedule with Summit so the gas relocations can be done ahead of any contractor grading. The contractor is advised that it may take Summit 3 weeks to mobilize a crew to perform this relocation work.

4.3 North Outer Road. The 8" feeder noted in paragraph 4.1 above will fall within the grading limits of the new outer road from Patterson Street to Route O. The roadway contractor will be placing new fill over a majority of this feeder but there are several sections where a cut is required for the roadway ditch along the south side of the roadway. The contractor shall pothole the gas main at the cut locations to verify actual depth. If the final clearance is less than the minimum 30 inches, then Summit will expose the main and install a concrete encasement above it. The feeder will not be relocated for the outer road extension. Summit also has a distribution main running along the north side of Springfield Avenue from their reg station at Palmer Street going west to North Diggins Main Street. The gas main will ultimately fall between the north edge of pavement of Springfield Avenue and the north roadway ditch. The contractor is advised that they will be placing new roadway fill over the top of this existing main. The contractor will be solely responsible for any damage to this distribution line caused by their operations.

4.3.1 Regulation Station Fencing. Summit has a regulator station in the northwest quadrant of Palmer Street and Springfield Avenue. The grading limits for the new north outer road fall within the existing fenced limits of Summit's reg station. The roadway contractor shall install a temporary fence along the temporary construction easement connecting to the existing fence on the east and west sides of Summit's property. The temporary fence shall be of similar design to the existing fence surrounding the reg station. The temporary fence shall be capable of securing the reg station from any unauthorized access. Upon completion of the final grading for the new north outer road, the contractor shall remove the temporary fence and construct a new permanent fence along Summit's property for the impacted area. The permanent fence shall be of a similar design to the existing fence around the reg station. All fence construction shall be completed on the same days operation. At no time shall the contractor be allowed to leave the reg station unsecured. The contractor shall contact James Trujillo with Summit (see contact information above) a minimum of 5 days in advance of needing access to the reg station. The contractor is advised Summit has high profile gas mains going into this reg station. In addition to locate requests, the contractor shall install the fence posts to maximize the clearance between the new fence post and existing gas mains. All costs required for compliance with this special provision shall be included in the contractor's submitted unit cost for bid item 607-99.03, Misc. Temp/Permanent Fence, per linear foot.

4.4 South Outer Road. Summit has a 2" distribution main running along the west side of Honor Camp Lane. This gas main crosses the new south outer road near Sta 109+40. This main is believed to be clear of the new ditch cut along the north side of the outer road. The contractor shall pothole this gas main at the north side of the new flat bottom ditch to verify depth before beginning grading operations. If the potholed depths show this gas main to be in conflict, then the contractor shall notify Summit that lowering is required. There will be no direct payment for compliance to this specification.

4.5 Route A. The contractor is advised that Summit has a 4" feeder running parallel to existing Route A along the west side of the roadway. This feeder is not anticipated to be in conflict with the proposed roadway improvements. The contractor shall be cognizant of this 4" feeder when installing the new 4'x4' RCB across Relocated Route A and the removal of the old Route A roadbed.

5.0 Webster Electric Coop.

5.1 Mainline US60. Webster Electric Cooperative (WEC) has seven Route 60 crossings within the project limits. There are no anticipated impacts to any of these crossings with the proposed improvements.

5.2 Route A/NN Roundabout.

5.2.2 Primary Power. WEC has a two phase aerial primary line running parallel to Route NN on the east side of the roadway. They also have a single phase aerial crossing of Route NN near Sta 12+35. Both of these lines will be impacted by the proposed roundabout. WEC will be relocating these lines to underground facilities to avoid conflicts with the new roundabout lighting. The north end of the two phase relocation will come from a new pole set near Sta 10+14 and extend south to a new pole set near Sta 17+67. The single phase crossing will be between new junction cabinets set approximately 106ft Rt. and 57ft Lt. of the centerline of Route NN. The roadway contractor shall be responsible for the trench excavation for both primary power line relocations. The contractor is advised the minimum cover requirements for primary power is 48" below finished ground line. This 48" minimum cover requirement will be below the new parallel ditches along both sides of Route NN for the single phase crossing. In lieu of trenching across existing Route NN, the contractor will be allowed to bore this crossing below the minimum depth requirement. WEC will be using a cable conduit system for the new primary power lines. If the contractor elects to use the bore option, then WEC will need one week advance notice to have material ready for the contractor to pull back through the bore. All costs associated with the trench for WEC primary shall be included in the contractor's unit price for bid item 901-50.10, Trenching Type 1, per lin. Ft.

5.2.3 Secondary Power. A new Type 2 power supply will be required to power the new lighting controller in the northwest quadrant of the roundabout. The power source for this new power supply will come from an existing power pole located on the west side of Route NN near Sta. 10+39. The contractor shall install a one 2" diameter conduit run with wire from this power pole to the new Type 2 power supply as shown in the plans. WEC will require a minimum cover of 30" between the finish ground line and the top of the conduit before they will accept this installation. The #2 AWG wires shall be continuous between the top of the existing power pole to the meterback on the Type 2 power supply. All costs required for compliance with this special provision shall be included in the contractor's submitted unit price for Item 901-86.12 Power Supply Assembly, Type 2, 240/120 Volt Service, Lighting Only, per each.

5.3 North Outer Road. WEC has secondary power extending to a light on the south side of the existing commuter parking lot. They will be removing this service since it is no longer needed. The single phase line along the north side of Springfield Ave. between Diggins Main St. and Patterson will not be impacted by the proposed improvements. WEC has two poles east of Patterson supporting secondary lighting. These poles will be removed with their relocation.

5.4 South Outer Road. There are nine locations along the new south outer road where it will cross under primary power owned by WEC. Six of these locations will be addressed by WEC's parallel relocation. The existing crossings at Bluebird Lane, Hummingbird Lane, and at Sta 119+66 will not be impacted. WEC will have new parallel single phase relocations along the south side of the roadway between Sta 79+15 & Sta 93+50 and between Sta 142+50 & Sta 171+68. The new pole line will generally be located 2ft south of the new R/W in easement. The roadway contractor will be required to clear and grub the new easement area and complete the rough roadway grading before WEC can begin their relocation work.

5.5 Route A.

5.5.1 Primary Power. WEC has an existing three phase line running parallel to existing Route A along the east side of the roadway. This line will be impacted by the Route A realignment near

the north construction limits. WEC will be relocating this three phase line east towards the new east R/W line. They will also be reconfiguring the span arrangement to account for the new north outer road extension west to old Route A.

5.5.2 Secondary Power. A new Type 2 power supply will be required to power the Route A interchange lighting. The power source for this new power supply will come from an existing power pole located 43'Lt of Sta 2+76 of the westbound on ramp. The contractor shall install a one 2" diameter conduit run with wire from this power pole to the new Type 2 power supply as shown in the plans. WEC will require a minimum cover of 30" between the finish ground line and the top of the conduit before they will accept this installation. The #2 AWG wires shall be continuous between the top of the existing power pole to the meterback on the Type 2 power supply. All costs required for compliance with this special provision shall be included in the contractor's submitted unit price for Item 901-86.20 Power Supply Assembly, Type 2, per each.

6.0 Village of Diggins. The Village of Diggins owns and maintains water and sanitary sewer facilities within the project limits. Requests to locate the Village's facilities proved to be unsuccessful. At the time of project advertisement, the Village's impact mitigation plans have not been developed. The Village is working with their engineer to establish plans for their water and sanitary sewer relocations. As part of the roadway contract, the roadway contractor shall be responsible for completing the Villages' water and sanitary sewer relocations necessary for the project. The anticipated utility relocation items for the Village include:

603-99.02 Misc., Relocate Fire Hydrant, per each
603-99.02 Misc., Relocate Water Meter, per each
603-99.03 Misc., Relocate 4 in. PVC Water Main, per lin. ft.
603-99.03 Misc., Relocate 6 in. PVC Water Main, per lin. ft.
603-99.03 Misc., Relocate 6 in. PVC Water Main in 12 in. Steel Casing, per lin. ft.
603-99.23 Misc., Relocate 4 in. PVC Force Main, per lin. ft.
603-99.23 Misc., Relocate 4 in. PVC Force Main in 10 in. Steel Casing, per lin. ft.
604-20.10 Adjusting Manhole, per each

The contractor is advised the above list is not all inclusive. The Commission reserves the right to add or remove items and quantities as necessary to facilitate the construction of the roadway improvements. The contractor will have the right to negotiate the unit prices for any item(s) added beyond the original contract. All contract work on the Village's utility relocations shall be performed using generally accepted practices as approved by MoDNR. The contractor shall perform the Village's utility relocations at the same time as the proposed construction phasing starting with the north outer road (Springfield Avenue) followed by the west end of Ragsdale Street and finally address the impacts at the new roundabout. The known impacts and probable mitigation are addressed in the following sections.

6.1 North Outer Road.

6.1.1 Water. The Village of Diggins has a parallel water main running along the south side of Springfield Avenue from Palmer Street to Patterson Street. The main continues east along the old north Route 60 R/W to Olive Street where it turns north on the west side of Olive. This parallel main varies in size from 2" to 6" depending on location. The parallel main is believed to be along the south edge of pavement with likely impacts near Patterson Street. There are north laterals off this parallel main on the west side of Palmer St., east side of State St., east side of Diggins Main St., and the west side of Patterson Street. All of these north laterals with the exception of Palmer St. are likely to be impacted by the parallel ditch cut along the north side outer road.

Village mapping shows Route 60 crossings of 4" and 8" mains near State St. and Patterson Street, respectively. Both of these Route 60 crossings will likely be impacted by the ditch cut along the south side of the outer road. The impact to the 8" main at Patterson Street will be in the same area as the parallel 6" main relocation noted above. In addition to the water mains, there will be multiple valve relocations (covered by parallel water main relocation bid item), and one fire hydrant relocation.

6.1.2 Sanitary Sewer. The Village of Diggins has a parallel gravity along the north side of Springfield Avenue from State Street to Diggins Main Street and from the alley between Diggins Main St. and Patterson St. going east to Patterson St. Mapping shows a force main crossing Route 60 & Springfield Avenue on the west side of Bowers Street extending east to the west side of Diggins Main Street. The gravity main is believed to be outside of the grading limits however, there are four manholes that will likely need elevation adjustments. The force main crossing Route 60 will likely be impacted by the ditch cut along the north side of the outer road. This same ditch cut on the north side of the outer road will likely impact the parallel force main from the Route 60 crossing to the terminus at the manhole in the northwest quadrant of Diggins Main Street and the north outer road.

6.2 Ragsdale. The Village has a sanitary sewer cleanout on the south side of Ragsdale approximately 30ft east of the new R/W for Route A. This cleanout served a lateral to parcel 42 which will no longer be needed. The contractor shall cap the lateral outside of the new Route A R/W line. Mapping shows a 4" water main along the north side of Ragsdale. The main appears to terminate near the south BNSF R/W. The contractor shall cap this main on the east side of the new Route A R/W since service will no longer be necessary to parcel 42.

6.3 Route A/NN Roundabout.

6.3.1 Sanitary Sewer. The Village has parallel gravity sanitary sewer along both sides of Route NN at the new roundabout. The gravity main on the east side of Route NN is believed to be clear of any impacts. The gravity main on the west side will be impacted. There are two manholes that will require elevation adjustments. The first manhole falls within the new pavement of the roundabout and will need to be raised to match the proposed roadway surface. The second manhole approximately 195ft to the south will need to be lowered for the proposed backslope on ditch cut. The gravity lines appear to have adequate cover below the proposed ditch cuts, so encasement is not anticipated. The Village also has a 4" force main running parallel to Route NN on the west side of the roadway. This force main will likely be impacted by the new ditch cuts on both the north and south sides of relocated Route A. This force main currently operates under considerable pressure so traditional relocation using bends is highly unlikely. This force main will likely need a gradual lowering to obtain clearance below the bottom of the new ditches along Relocated Route A. Steel casing will be required on the majority of the force main lower due to the close proximity of the roadway widening combined with the possible use of substandard depth below the new ditches.

6.3.2 Water. The Village has a 6" water main running parallel to Route N on the east side of the roadway. The contractor shall relocate this parallel main from approx. Sta 10+15 to Sta 17+60 along the east side of Route NN. The main shall be placed inside public R/W along the Traiteur parcel and within the new utility easement on the Owens and Sawyers parcels. The contractor shall relocate the water meters for both the Traiteur and Sawyers parcels with the parallel main relocation. The Village has a 4" water main along the west side of Route NN. The 4" main comes from the north and stops just south of the existing water meter to the Kilgore parcel. The contractor shall relocate the existing fire hydrant on the right side near Sta 12+40 to north on this

4" main. The contractor shall cap the 4" main just south of the relocated fire hydrant since service will no longer be necessary to the Kilgore parcel.

J. Quality Management NJSP-15-22

1.0 Quality Management. The contractor shall provide Quality Management as specified herein to ensure the project work and materials meets or exceeds all contract requirements.

1.1 The contractor shall provide Quality Control (QC) of the work and material, as specified herein, to ensure all work and material is in compliance with contract requirements. QC staff shall perform and document all inspection and testing. The QC inspectors and testers may be employed by the contractor, sub-contractor, or a qualified professional service provided by the contractor.

1.2 The engineer will provide Quality Assurance (QA) inspection. The role of QA is to verify the performance of QC and provide confidence that the product will satisfy given requirements for quality.

1.3 The contractor shall designate a person to serve as the project Quality Manager (QM). The QM shall be knowledgeable of standard testing and inspection procedures for highway and bridge construction, including a thorough understanding of the Missouri Standard Specifications. The QM shall be responsible for the implementation and execution of the Quality Management Plan and shall oversee all QC responsibilities, including all sub-contract work. The QM shall be the primary point of contact for all quality related issues and responsibilities, and shall ensure qualified QC technicians and inspectors are assigned to all work activities. The QM should be separate from the manager of the work activities to effectively manage a QC program.

1.4 Any QC personnel determined in sole discretion of the engineer to be incompetent, derelict in their duties, or dishonest, shall at a minimum be removed from the project. Further investigation will follow with a stop work notification to be issued until the contractor submits a corrective action report that meets the approval of the engineer.

2.0 Quality Management Plan. The contractor shall develop, implement and maintain a Quality Management Plan (QMP) that will ensure the project quality meets or exceeds all contract requirements, and provides a record for acceptance of the work and material. A sample QMP, which shows minimum requirements, is provided on the MoDOT website at: www.modot.org/quality.

2.1 The QMP shall address all QC inspection and testing requirements of the work as described herein. A draft QMP shall be submitted to the Resident Engineer for review at least two weeks prior to the pre-construction conference. An approved QMP is required at least two weeks prior to the start of work, unless otherwise allowed by the engineer. Physical work on the project shall not begin prior to approval of the QMP by the engineer.

2.2 The approved QMP shall be considered a contract document and any revisions to the QMP will require approval from the engineer.

2.3 The following items shall be included in the Quality Management Plan:

a) Organizational structure of the contractor's project management, production staff, and QC staff, specific to this project.

b) Name, qualifications and job duties of the Quality Manager.
c) A list of all certified QC testers who will perform QC duties on the project, including sub-contract work, and the tests in which they are certified.
d) A list of all QC inspectors who will perform QC inspection duties on the project, including sub-contract work, and the areas of inspection that they will be assigned.
e) A procedure for verifying documentation is accurate and complete as outlined in Section 3.
f) A procedure describing QC Inspections as outlined in Section 4.
g) A procedure describing QC Testing, as outlined in Section 5, including a job specific Inspection and Test Plan (ITP).
h) A procedure describing Material Receiving as outlined in Section 6.
i) A list of Hold Points that are not included in the checklist forms, as outlined in Section 8.
j) A procedure for documenting and resolving Non-Conforming work as outlined in Section 9.
k) A procedure for tracking and documenting revisions to the QMP.
l) A list of any approved changes to the Standard Specifications or ITP, including a reference to the corresponding change order.
m) Format for the Weekly Schedule and Work Plans as outlined in Section 10, including a list of activities that will require pre-activity meetings.

3.0 Project Documentation. The contractor shall establish a Document Control Procedure for producing and uploading the required Quality Management documents to a MoDOT-provided server. The document management software used by MoDOT is Microsoft SharePoint®. Contractors do not need to purchase Microsoft SharePoint®, however, it is recommended that new users acquire some basic training to better understand how to use this software. MoDOT does not provide the software training, but there are several online vendors who do. Contractors are required to use Microsoft Excel® and Microsoft Word® with some documents.

3.1 The contractor shall utilize the file structure and file naming convention provided by MoDOT. A sample file structure is available on the MoDOT website.

3.2 Documents (standard forms, reports, and checklists) referenced throughout this provision are considered the minimum documentation required. They shall be obtained from MoDOT at the following web address: www.modot.org/quality. The documents provided by MoDOT are required to be used in the original format, unless otherwise approved by the engineer. Any alteration to these forms shall be approved by the engineer.

3.3 Timely submittal of the required documents to the MoDOT document storage location is essential to ensure payment can be processed for the completed work. Submittal of the documents is required within 12 hours of the work shift that the work was performed, or on a document-specific schedule approved by the engineer and included in the QMP.

3.4 The contractor shall establish a verification procedure that ensures all required documents are submitted to the engineer within the specified time, and prior to the end of each pay period for the work that was completed during that period. Payment will not be made for work that does not include all required documents. Minimum documents that might be required prior to payment include: Test Reports, Inspection Checklists, Materials Receiving Reports, and Daily Inspection Reports.

3.5 The contractor shall perform an audit at project closeout to ensure the final collection of documents is accurate and complete.

4.0 Quality Control Inspections. The QMP shall identify a procedure for performing QC inspections. QC inspections shall be performed for all project activities to ensure the work is in compliance with the contract, plans and specifications.

4.1 The QM shall identify the QC inspectors assigned to each work activity. The QC inspectors shall inspect the work to ensure the work is completed in accordance with the plans and specifications, and shall document the inspection by completing the required inspection checklists, forms, and reports provided by MoDOT. Depending on the type of work, the checklists may be necessary daily, or they may follow a progressive work process. The frequency of each checklist shall be stated in the QMP. The contractor may propose alternate versions of checklists that are more specific to the work.

4.2 A Daily Inspection Report (DIR) is required to document pertinent activity on the project each day. This report shall include a detailed diary that describes the work performed as well as observations made by the inspection staff regarding quality control. The report shall include other items such as weather conditions, location of work, installed quantities, tests performed, and a list of all subcontractors that performed work on that date. The report shall include the full name of the responsible person who filled out the report and shall be digitally signed by an authorized contractor representative.

4.3 External fabrication of materials does not require further QC inspection if the product is currently under MoDOT inspection or an approved QC/QA program. QC inspection and testing required in the production of concrete for the project shall be the responsibility of the contractor.

4.4 The contractor shall measure, and document on the DIR, the quantity for all items of work that require measurement. Any calculations necessary to support the measurement shall be included with the documentation. The engineer will verify the measurements prior to final payment.

5.0 Quality Control Testing. The QMP shall identify a procedure for QC testing. The contractor shall perform testing of the work at the frequency specified in the Inspection and Test Plan (ITP).

5.1 MoDOT will provide a standard ITP and the contractor shall modify it to include only the items of work in the contract, including adding any Job Special Provision items. The standard ITP is available on the MoDOT website at www.modot.org/quality. The contractor shall not change the specifications, testing procedures, or the testing frequencies, from the standard ITP without approval by the engineer and issuance of a change order.

5.2 Test results shall be recorded on the standard test reports provided by the engineer, or in a format approved by the engineer. Any test data shall be immediately provided to the engineer upon request at any time, including prior to the submission of the test report.

5.3 The contractor shall ensure that all personnel who perform sampling and/or testing are certified by the MoDOT Technician Certification Program or a certification program that has been approved by MoDOT for the sampling and testing they perform.

5.4 If necessary, an independent third party will be used to resolve any significant discrepancies between QC and QA test results. All dispute resolution testing shall be performed by a laboratory that is accredited in the AASHTO Accreditation Program in the area of the test performed. The contractor shall be responsible for the cost to employ the third party laboratory if the third party

test verifies that the QA test was accurate. The Commission shall be responsible for the cost if the third party test verifies that the QC test was accurate.

6.0 Material Receiving. The QMP shall identify a procedure for performing material receiving. Standard material receiving forms will be provided by the engineer.

6.1 The procedure shall address inspections for all material delivered to the site (excluding testable material such as concrete, asphalt, aggregate, etc.) for general condition of the material at the time it is delivered. The material receiving procedure shall record markings and accompanying documentation indicating the material is MoDOT accepted material (MoDOT-OK Stamp, PAL tags, material certifications, etc.).

6.2 All required material documentation must be present at the time of delivery. If the material is not MoDOT accepted, the contractor shall notify the engineer immediately and shall not incorporate the material into the work.

7.0 Quality Assurance. The engineer will perform Quality Assurance inspection and testing (QA) to verify the performance of QC inspection and testing. The frequency of the QA testing will be as shown in the ITP, but may be more frequent at the discretion of the engineer. The engineer will record the results of the QA testing and inspection and will inform the contractor of any known discrepancies.

7.1 QA is responsible for verifying the accuracy of the final quantity of all pay items in the contract. This includes taking measurements on items that require measurement and other items that are found to have appreciable errors.

7.2 QA inspection and test results shall not be used as a substitute for QC inspection and testing.

7.3 QA will be available for Hold Point inspections at the times planned in the Weekly Schedule. The inspections may be re-scheduled as needed, but a minimum 24-hour advance notification from the contractor is required unless otherwise approved by the engineer.

8.0 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 the succeeding work depends on a QA review of the preceding work before work can continue.

8.1 A list of minimum Hold Points will be provided by the engineer and shall be included in the QMP. The engineer may make changes to the Hold Point list at any time.

8.2 Prior to all Hold Point inspections, QC shall provide the engineer with the Daily Inspection Reports, Inspection Checklists, Test Reports, and Material Receiving Reports for the work performed leading up to the Hold Point. 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.

9.0 Non-Conformance Reporting. Non-conformance reports shall be issued by the contractor for work that does not meet the contract requirements. Non-conforming work includes work, testing, materials and processes that do not meet contract requirements. The contractor shall establish a procedure for identifying and resolving non-conforming work as well as tracking the status of the reports.

9.1 Contractor QC staff or production staff should identify non-conforming work and document the details on the Non-Conformance Report form provided by MoDOT. QA staff may also initiate a non-conformance report.

9.2 In-progress work that does not meet the contract requirements may not require a non-conformance report if production staff is aware of the issue and corrects the problem during production. QC or QA may issue a non-conformance report for in-progress work when documentation of the deficiency is considered beneficial to the project record.

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

9.4 For recurring non-conformance work of the same or similar nature, a written Corrective Action Request will be issued by QC or QA. The contractor shall then establish a procedure for tracking the corrective action from issuance of the request to implementation of the solution. Approval from the engineer is required prior to implementation of the proposed corrective action. The contractor shall notify the engineer after the approved corrective action has been implemented.

10.0 Work Planning and Scheduling. The contractor shall include Quality Management in all aspects of the work planning and scheduling. This shall include providing a Weekly Schedule, a Work Plan for each work activity, and holding pre-activity meetings for each new activity.

10.1 A Weekly Schedule shall be provided to the engineer each week that outlines the planned project activities for the following two-week period. This schedule shall include all planned work, identification of all new activities, traffic control events, and requested Hold Point inspections for the period. Planned quantity of materials, along with delivery dates should also be included in the schedule.

10.2 A Work Plan shall be submitted to the engineer at least one week prior to the pre-activity meeting. The Work Plan shall include the following: a safety plan, list of materials to be used, work sequence, defined responsibilities for QC testing and inspection personnel, and stages of work that will require Hold Point inspections.

10.3 A pre-activity meeting is required prior to the start of each new activity. The purpose of this meeting is to discuss details of the Work Plan and schedule, including all safety precautions. Those present at the meeting shall include: the production supervisor for the activity, the Quality Manager, QC inspection and testing staff, and QA. The Quality Manager will review the defined responsibilities for QC testing and inspection personnel and will address any quality issues with the production staff. Attendees may join the meeting in person or by phone or video conference.

11.0 Basis of Payment. Payment for all costs associated with developing, implementing and maintaining the Quality Management Plan, providing Quality Control inspection and testing, and all other costs associated with this provision, will be considered included in the unit price of each contract item. No direct pay will be made for this provision.

K. MoDOT's Construction Workforce Program NJSP-15-17A

1.0 Description.

1.1 Projects utilizing federal funds include contract provisions for minority and female workforce utilization in the various trade crafts used to complete construction contracts. These federal contract workforce goals are described in the section labeled "Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity". These goals are included in all MoDOT federal aid contracts and are under the authorization and enforcement of the U.S. Department of Labor (US DOL).

1.2 The Federal workforce requirement (Goals – TABLE 1) is authorized in 41 CFR Part 60-4 and Executive Order 11246 which set Equal Employment Opportunity goals with Affirmative Action requirements.

1.3 The required federal aid workforce provisions noted above, coupled with the following additional contract provisions, constitute MoDOT's Construction Workforce Program herein called Program.

1.4 This provision does not require pre-qualification nor is it a condition of award.

1.5 The Program does not eliminate or limit any actions the US DOL may take in relation to this contract's federal provisions.

1.6 The Program goals included in the contract are separate from any Disadvantaged Business Enterprise (DBE) or On-The-Job (OJT) training provision that may be included as contract provisions. DBE and OJT goals may or may not be included in a contract based on the individual size of contracts, type of contract work, anticipated length of contract, available and willing resources or other reasons.

1.7 Contractor, for the purpose of this provision, means the prime contractor and any and all subcontractors.

1.8 It is expected that the contractor recognizes the construction workforce goals for both minority and female workers in the project's county and make efforts to attain those goals, if possible, through the existing workforce makeup of the prime (including subcontractors) that will be on the project and/or through hiring opportunities that may arise for the project. However, it is not the intent of this provision to compel any contractor to displace existing workforce or move workers around to just meet the workforce goals.

1.9 If the contractor's existing Missouri construction workforce meets or exceeds the federal workforce goals established in Table 1, then the OJT goal (Training Provision) if included in the contract, does not be apply.

1.10 Contractor's Workforce Plan. The Contractor shall submit its Workforce Plan a minimum of 1 week before construction starts. One plan shall be submitted for the project that shall include the cumulative planned workforce of the prime and subcontractor(s). The contractor shall prepare the plan, for total minority and female utilization, regardless of the craft. The Engineer will provide the Contractor with comments regarding their Workforce Plan prior to the start of construction. Once work starts, all monthly reporting shall include the craft of each worker reported. If the contractor's plan includes project manager, direct project support roles, project testers or other project professionals, these designations should also be included in addition to the workers designated by craft such as laborer, operator, carpenter, ironworker and others.

1.11 The plan accepted by the engineer before the start of construction will be the effort expected of the prime contractor to maintain during the life of the project.

1.12 If the contractors planned project workforce plan (including OJT hours if included in the contract) is short of the goals included in Table 1, there is opportunity for the contractor to receive a reimbursement of $10.00 / hour for any new project minority and female hires needed through the remainder of the project. The reimbursement is applicable to work that qualifies for prevailing wage under the federal Davis-Bacon Act, 40 U.S.C. §§ 3141–3148, in accordance with an approved workforce plan. Any reimbursement must be pre-approved by the Engineer. The reimbursement is provided as a remedy to the contractor and as an aid in the long-term growth of experienced persons in the building of roads and bridges in Missouri. The contractor shall manage the plan through the life of the project as described in the plan or as modified, in coordination with the Engineer. The total amount available per project is not capped.

1.13 The Contractor's workforce plan may include existing construction support and professional services staff.

2.0 Forms and Documentation. The bidder must submit the following documents if awarded the contract:

Cumulative Workforce Utilization Reports. This report is contract specific. One report shall be submitted to the Engineer by the 15th of each month. The report will be used to report the total workforce compliance data for the prime contractor and all subcontractors retained by the contractor on the Commission's construction contract. The reporting shall include the workforce hours per each craft broken down by gender and ethnicity. Construction Support, testing and other professional services hours shall be included as these hours are part of the overall plan. The report will include the previous month's hours worked for the project. For projects less than 60 days in length, only one report with total hours worked by classification is required at substantial completion of construction.

3.0 Methods for Securing Workforce Participation and Good Faith Efforts.

3.1 By submitting a bid, the Bidder agrees, as a material term of the contract, to carry out MoDOT's Construction Workforce Program by making good-faith efforts to utilize minority and female workers on the contractor's job sites to the fullest extent consistent with submitting the lowest bid to MoDOT. The Bidder shall agree that the Program is incorporated into this document and agree to follow the Program. If a bidder is unable to meet the workforce goals at the time of bid, it shall be required to objectively demonstrate to MoDOT that the goals have been met or demonstrate a good faith effort has been made with the level of effort submitted prior to the start of construction.

3.2 The Engineer, through consultation with MoDOT's External Civil Rights (ECR's) Division, may determine that the contractor has demonstrated that good-faith efforts to secure minority and female participation have been made.

3.3 In evaluating good-faith efforts, the ECR's Division will take into consideration the affirmative actions listed in the Federal Provisions (including provisions of Executive Order 11246).

3.4 MoDOT's Program allows the contractor flexibility to implement a project specific workforce and improve the diversity of their existing workforce that can be utilized across various areas of the state to meet future MoDOT Program goals and Federal Provisions.

3.5 If the contractor's approved plan changes during the project and/or the available workforce changes from what is approved at any time, it is the contractor's responsibility to remedy, in coordination with MoDOT's ECR Division, the conditions as outlined and made available through this provision.

4.0 Compliance Determination. (Required with project closeout) All documentation and on-site information will be reviewed by MoDOT's ECR Division in making a determination of whether the contractor made sufficient good faith efforts to meet the compliance with MoDOT's Construction Workforce Program.

5.0 Liquidated Damages. If the contractor elects to not submit a workforce plan prior to work starting or fails to fulfill their workforce plan committed to prior to the start of construction, the contractor will be required to establish a good-faith effort determination, as to why either of these events occurred. MoDOT may sustain damages, the exact extent of which would be difficult or impossible to ascertain, as this impacts the cost of future road and bridge construction. Therefore, in order to liquidate those damages, MoDOT shall be entitled, at its sole discretion, to deduct and withhold the following amounts: **The sum of one thousand five hundred ($1,500)**

6.0 Administrative Reconsideration. The contractor shall be offered the opportunity for administrative reconsideration upon written request related to findings and/or actions determined by MoDOT's ECR's Division. The Administrative Reconsideration Committee shall be composed of individuals not involved in the original MoDOT determination(s).

7.0 Available Pre-Apprentice Training Programs. The Commission has established a labor force recruiting program intended to assist contractors in identifying, interviewing and hiring qualified job applicants. MoDOT strongly encourages the hiring of individuals from the MoDOT funded pre-apprentice training programs.

8.0 Independent Third-Party Compliance Monitor (Monitor). MoDOT may utilize a monitor that will be responsible for tracking the project's workforce utilization for the information the contractor submits. The contractor and its subcontractors shall allow the monitor access to their reports, be available to answer the monitor's questions and allow the monitor to access to the site and to contractor and subcontractor employees. The monitor shall abide by the contractor's project site protocols.

9.0 Regional Diversity Council (Council). (Applicable to the Kansas City and St. Louis District regions only) The Council shall consist of local community leaders, leadership of local construction trades, MoDOT staff, Industry representation, and a representative(s) from the Federal Highway Administration. The Council will meet quarterly and evaluate the workforce activity per each project according to the following criteria:

a. Review monthly workforce reports.
b. Review progress toward the stated project workforce program.
c. Review findings of Administrative Reconsideration hearings.
d. Recommend *other* workforce actions to MoDOT.

10.0 Federal Workforce Goals.

Female Participation for Each Trade is 6.9% Statewide for Missouri.

Minority Participation for Each Trade is shown below in Table 1.

TABLE 1:

County	Goal (Percent)	County	Goal (Percent)
Adair	4	Linn	4
Andrew	3.2	Livingston	10
Atchison	10	McDonald	2.3
Audrain	4	Macon	4
Barry	2.3	Madison	11.4
Barton	2.3	Maries	11.4
Bates	10	Marion	3.1
Benton	10	Mercer	10
Bollinger	11.4	Miller	4
Boone	6.3	Mississippi	11.4
Buchanan	3.2	Moniteau	4
Butler	11.4	Monroe	4
Caldwell	10	Montgomery	11.4
Callaway	4	Morgan	4
Camden	4	New Madrid	26.5
Cape Girardeau	11.4	Newton	2.3
Carroll	10	Nodaway	10
Carter	11.4	Oregon	2.3
Cass	12.7	Osage	4
Cedar	2.3	Ozark	2.3
Chariton	4	Pemiscot	26.5
Christian	2	Perry	11.4
Clark	3.4	Pettis	10
Clay	12.7	Phelps	11.4
Clinton	10	Pike	3.1
Cole	4	Platte	12.7
Cooper	4	Polk	2.3
Crawford	11.4	Pulaski	2.3
Dade	2.3	Putnam	4
Dallas	2.3	Ralls	3.1
Daviess	10	Randolph	4
DeKalb	10	Ray	12.7
Dent	11.4	Reynolds	11.4
Douglas	2.3	Ripley	11.4
Dunklin	26.5	St. Charles	14.7
Franklin	14.7	St. Clair	2.3
Gasconade	11.4	St. Francois	11.4
Gentry	10	Ste. Genevieve	11.4
Greene	2	St. Louis City	14.7
Grundy	10	St. Louis County	14.7
Harrison	10	Saline	10
Henry	10	Schuyler	4
Hickory	2.3	Scotland	4
Holt	10	Scott	11.4
Howard	4	Shannon	2.3

Howell	2.3	Shelby	4
Iron	11.4	Stoddard	11.4
Jackson	12.7	Stone	2.3
Jasper	2.3	Sullivan	4
Jefferson	14.7	Taney	2.3
Johnson	10	Texas	2.3
Knox	4	Vernon	2.3
Laclede	2.3	Warren	11.4
Lafayette	10	Washington	11.4
Lawrence	2.3	Wayne	11.4
Lewis	3.1	Webster	2.3
Lincoln	11.4	Worth	10
		Wright	2.3

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

This contractor and subcontractor shall abide by the requirements of 41 CFR 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability or veteran status.

As used in these specifications:

"Minority" includes;

(i) Black (all person having origins in any of the Black African racial groups not of Hispanic origin);
(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
(iii) Asian and pacific islander (all persons having origins in any of the original peoples of the Far East, southeast Asia, the Indian Subcontinent, or the Pacific Islands; and
(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North American and maintaining identifiable tribal affiliations through membership and participation or community identification).

L. Johnson Grass Control JSP-89-01

1.0 Description. In compliance with Sec 107.1, the control of Johnson Grass within the entire right of way shall be the responsibility of the contractor. The contractor shall take such measures as necessary to prevent Johnson Grass growing on the right of way from reaching a stage of maturity conducive to reinfestation. The control of Johnson Grass shall be the responsibility of the contractor for as long as the contract for the work is in effect. However, on any section of work 1 mile [1.6 kilometers] or more in length which has been accepted in its entirety by the engineer for maintenance, the contractor shall not be responsible for Johnson Grass control.

2.0 Mowing. Mowing operations conducted as a control measure shall be performed when the grass has reached a height of from 12 inches to 15 inches [300 mm to 375 mm]. The contractor shall mow infested areas as often as necessary to control the dissemination and regrowth. In the event a noxious material is used as a control measure, the contractor shall exercise every precaution to avoid contaminating vegetation on abutting property. The contractor shall be liable for any claims resulting from damaged vegetation outside the right of way.

3.0 Basis of Payment. No direct payment will be made to the contractor for the cost of this work.

M. Alternates for Pavements JSP-96-04G

1.0 Description. This work shall consist of a pavement composed of either portland cement concrete or asphaltic concrete, constructed on a prepared subgrade in accordance with the standard specifications and in conformity with the lines, grades, thickness and typical cross sections shown on the plans or established by the engineer.

1.1 Separate pay items, descriptions and quantities are included in the itemized proposal for each of the alternates. The bidder shall only bid one of the alternates and leave the contract unit price column blank for any pay item listed for any other alternate. If the bidder leaves any value in the unit price column for another alternate other than the one they are bidding, the bid will be rejected.

2.0 Mainline Pavements

2.0.1 A sum of **$276,700** will be added by the Commission to the total bid using an asphalt alternate for the Alternate A pavement for bid comparison purposes to factor in life cycle cost analysis of the roadway. The additional amount added will not represent any additional payment to be made to the successful bidder and is used only for determining the low bid.

2.0.2 A sum of **$215,800** will be added by the Commission to the total bid using an asphalt alternate for the Alternate E pavement for bid comparison purposes to factor in life cycle cost analysis of the roadway. The additional amount added will not represent any additional payment to be made to the successful bidder and is used only for determining the low bid.

2.0.3 A sum of **$629,200** will be added by the Commission to the total bid using an asphalt alternate for the Alternate I pavement for bid comparison purposes to factor in life cycle cost analysis of the roadway. The additional amount added will not represent any additional payment to be made to the successful bidder and is used only for determining the low bid.

2.1 A2 Shoulders

2.1.1 A sum of **$56,100** will be added by the Commission to the total bid using an asphalt A2 Shoulder alternate for the Alternate C pavement for bid comparison purposes to factor in life cycle cost analysis of the roadway. The additional amount added will not represent any additional payment to be made to the successful bidder and is used only for determining the low bid.

2.1.2 A sum of **$94,500** will be added by the Commission to the total bid using an asphalt A2 Shoulder alternate for the Alternate G pavement for bid comparison purposes to factor in life cycle

cost analysis of the roadway. The additional amount added will not represent any additional payment to be made to the successful bidder and is used only for determining the low bid.

2.2 The quantities shown for each alternate reflect the total square yards of pavement surface designated for alternate pavement types as computed and shown on the plans. No additional payment will be made for asphaltic concrete mix quantities to construct the required 1:1 slope along the edge of the pavement, or for tack applied between lifts of asphalt.

2.3 The grading shown on the plans was designed for the asphalt pavement alternate.

2.4 Pavement alternates composed of Portland cement concrete shall have contrast pavements for intermittent markings (skips), dotted lines, and solid intersection lane lines. The pavement markings shall comply with Sec 620. No additional payment will be for the contrast pavement markings.

3.0 Method of Measurement. The quantities of concrete pavement will be measured in accordance with Sec 502.14. The quantities of asphaltic concrete pavement will be measured in accordance with Sec 403.22.

4.0 Basis of Payment. The accepted quantity of the chosen alternate and other associated items will be paid for at the unit price for each of the appropriate pay items included in the contract.

4.1 For projects with previously graded roadbeds, any additional quantities required to bring the roadway subgrade to the proper elevation will be considered completely covered by the pay item for Subgrading and Shouldering.

4.2 For projects with grading in the contract, there will be no adjustment of the earthwork quantities due to adjusting the roadway subgrade for alternate pavements.

N. Alternate Technical Concepts – Grading, Base, and Paving

1.0 Description. This specification allows the use of alternate grading, base, and pavement sections. The Commission has provided a complete set of plans, quantities, and cross sections to construct this project if the contractor does not elect to use the alternate grading, base, and pavement concepts.

2.0 General Conditions.

2.1 The contractor may consider one, all, or a combination of the following approved alternate grading, base and pavement concepts listed below. The contractor shall not be allowed to construct pavement with a combination of asphalt and concrete layers.

Base Type	HMA Design	PCCP Design
6” Type 5 Aggregate Base	13 ½” HMA 1 ¾” SP125B w/ PG 76-22 over 3” SP250B w/ PG 76-22 over 8 ¾” SP250C w/ PG 64-22	10” PCCP 15 ft. joints and 1 ¼” dowels

12" Rock Base	12" HMA 1 ¾" SP125B w/ PG 76-22 over 3" SP250B w/ PG 70-22 over 7 ¼" SP250C w/ PG 64-22	9.5" PCCP 15 ft. joints and 1 ¼" dowels

2.2 The life cycle cost analysis factor shall apply to the asphalt alternates regardless of the technical concept elected.

2.3 The contractor shall build the roadway to the final profile as shown in the plans, regardless of the technical concept elected.

2.4 There will be no adjustment of the earthwork quantities due to adjusting the roadway subgrade based on alternate technical concept selected. Earthwork quantities in the plans are based on the 6" Type 5 Aggregate Base option.

2.5 If rock base is used, Sec 303 shall be deleted and replaced as follows:

303.1 Description. This work shall consist of furnishing and placing select rock excavation material in the top 12 to 18 inches of the subgrade for use as a base to provide pavement support and drainage as shown on the plans or as directed by the engineer. This work also includes daylighting the 12 inch and/or 18 inch rock base and finishing the inslopes.

303.2 Material. The material source for rock base shall be in accordance with approval from the engineer. Geologic conditions may vary from available subsurface information. Approval from the engineer of a source for the inherent stone will not constitute approval of the final rock base product. Additional mechanical processing beyond excavation, such as, but not limited to, scalping, size reduction, washing, etc., of the material may be necessary to meet this specification.

303.2.1 Material for rock base shall be durable stone or broken concrete or asphalt containing a combined total of no more than 10 percent of earth, sand, shale, and non-durable rock. Material from geologic-filled sink deposits or stone indicating evidence of solution activity shall not be used.

303.2.2 The material shall be as large as can be conveniently handled within the limits of this specification. No particle dimension shall exceed 12 inches for 18-inch rock base or 9 inches for 12-inch rock base. There shall be some material with particle dimensions exceeding 9 inches for 18-inch rock base or 6 inches for 12-inch rock base. The material shall be uniformly graded from coarse to fine.

303.2.3 Broken, sound concrete pavement and composite pavements may be used provided the ratio of the longest dimension measurement to thickness does not exceed 2:1 and provided there is no excessive exterior steel mesh that would affect compaction.

303.2.4 Acceptance of quality and size of material will be made by visual inspection at the job site.

303.3 Construction Requirements.

303.3.1 Except as noted herein, all applicable provisions in Sec 203 for the handling and placement of roadway excavation material shall apply.

303.3.2 The material shall not be dumped in place, but shall be distributed by blading or dozing in a manner to ensure proper placement in final position in the subgrade.

303.3.3 Rock base may be placed in one lift. Rock base material may be placed thicker, in maximum 18-inch (450 mm) lifts, provided a uniform drainage plane under the rock base is provided. No additional payment will be made for the thicker rock base material. Class C excavation in rock cuts shall be performed to allow placement of the specified lift thickness.

303.3.4 Material shall be compacted in accordance with Sec 203.5.

303.3.5 The final surface shall be of a uniform texture and grade suitable for paving. The top 2 inches of the rock base shall consist of either 2-inch maximum rock fragments or spalls or of milled asphalt or crushed concrete. The 2-inch maximum size granular type material shall have a plasticity index not to exceed 10 and a gradation such that at least 50 percent of the material will be retained on the No. 4. Recycled concrete or asphalt or Type 5 aggregate shall have a gradation meeting that as specified Sec 1007. There shall be no exposed rock exceeding the 2-inch size in the final surface that would interfere with final preparation of the base for paving.

303.3.6 A roughly compensating maximum deviation of ±1/2 inch (13 mm) from the required elevation will be permitted on the surface of the finished rock base.

3.0 Method of Measurement. Final measurement of the completed rock base will not be made, except for authorized changes during construction. 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 for Optional Base to the nearest 0.10 squared yard.

4.0 Basis of Payment.

4.1 Payment for the alternate technical concepts will be considered completely covered by the bid items in the contract documents for pavement and 304-99.05, Optional Base, per square yard. There will be no additional compensation for any item associated with the use of an alternate technical concept.

4.2 The Commission does not warrant that there are sufficient quantities of Class C material within the project limits to construct the 12-inch and/or 18-inch rock base alternate technical concepts. If the contractor elects to provide additional material to construct the 12 and/or 18 in rock base for any of these concepts, the additional material will be considered included in plan quantity for items set up in the contract. No additional pay will be provided for any material needed to accomplish any of these concepts.

O. Special Provisions for Protection of BNSF Railway Company Interests

To Report an Emergency on the railroad call: (800) 832-5452

Webster County:

- US Highway 60/Route NN(A) new interchange, New MoDOT bridge A9353 over BNSF, US DOT# TBD MP TBD Thayer-North Sub in Diggins, MO

- At-grade crossing closures:
  - Bluebird Lane – DOT 667641B MP 228.13
  - Hummingbird Lane – DOT 667642H MP 228.64
  - Private Entrance – DOT 667643P MP 228.92
  - Tandy Road – DOT 667644W MP 229.17
  - Honor Camp Lane – DOT 667645D MP 229.73
  - Private Entrance/Green Brier Drive – DOT 667646K MP 230.31
  - Private Entrance – DOT 667647S MP 230.66
  - Private Entrance – DOT 667648Y MP 230.89
  - State Route NN – 667650A MP 231.51

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 Agency 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.

1.3 The Contractor must adhere to all other BNSF Railway policies and procedures not specifically mentioned in these special provisions. These can be found at:

http://www.bnsf.com/in-the-community/public-projects/index.page

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) At least 30 days in advance of the date the contractor proposes to begin work on Railroad's right of way, the contractor shall give the Railroad written notice to the address below with copy to the Engineer who has been designated to be in charge of the work.

Ms. Kara Brockamp
Manager of Public Projects
BNSF Railway
4515 Kansas Ave. Building 4B, 3rd Floor
Kansas City, KS 66106
913-551-4484
Kara.brockamp@bnsf.com

(b) Obtain written or electronic authorization from the Railroad to begin work on the Railroad's right of way, such authorization to include an outline of specific conditions with which contractor shall comply.

(c) Obtain the insurance coverage required in Section 14.0 of this job special provision. Contractor shall submit written evidence of such coverage to Railroad prior to commencing any work.

(d) Prior to performing any work on Railroad's property, right –of way or in an area that may impact Railroad's operations, the contractor's employees, representatives, or agents who are regularly assigned to perform work on the project shall complete the safety orientation training available on the internet at www.contractororientation.com, hereinafter called, "Internet Safety Orientation". If the contractor's employee, representative or agent is not regularly assigned to perform work on the project, hereinafter called "Flexible Worker(s)", the contractor shall ensure that any Flexible Worker receives appropriate safety training prior to performing any work on the Railroad's property, right –of way or in an area that may impact the Railroad's operations. The content of safety training for Flexible Workers shall include the information covered in the Internet Safety Orientation. The approximate cost of the Internet Safety Orientation is $11 per person, subject to annual escalation.

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 Submittals and Actions Required During Construction Phase:

4.1 The Agency shall be the main contact for BNSF throughout the project. Agency shall be included on all correspondence relating to BNSF. **BNSF will NOT accept submittals directly from the Agency's Contractor.**

4.2 BNSF will hire a consultant team to perform the duties of an Inspector/Coordinator, (I/C) on behalf of BNSF for the duration of the field construction of the project. The cost of the I/C will be reimbursable to BNSF by the Agency or their Contractor.

4.2.1 BNSF requires the I/C team be involved in the project throughout the construction phase to represent BNSF.

4.2.2 The I/C has authority to remove a contractor's employee from BNSF property if that employee fails to comply with the BNSF safety policy, does not have proper PPE or otherwise ignores instructions regarding work on BNSF right-of-way. The I/C has authority to shut down work on BNSF right-of-way if the contractor works in a manner that is in violation of BNSF's safety policy or FRA regulations. Anytime instructions to the contractor by BNSF or the I/C are not complied with, the project may be shut down. All equipment and personnel will be removed from BNSF property until issues causing the shutdown are resolved to BNSF's satisfaction.

4.3 Agency must hold a pre-construction meeting with contractor and BNSF prior to work beginning on BNSF property.

4.3.1 The Pre-Construction meeting shall not be held until 30 days after I/C has been selected – this allows time for the I/C to become familiar with the project.

4.3.2 Recommend scheduling two weeks prior to construction commencing to allow for adjustment to work plans, if needed.

4.4 Required Construction Submittals: (Allow for 4 weeks for BNSF to review submittals)

(a) All submittals should flow from the Contractor to the Agency, to the I/C Consultant, to the BNSF Project Engineer, (PE), and to BNSF Structures with responses back through the same communication chain. **BNSF will not accept submittals directly from the Contractor.**

(b) Any changes to the work governed by a submittal requires that the submittal be re-accepted by BNSF before the work commences.

(c) Examples of construction submittals required include but are not limited to:
Contractors Safety Action Plan, Fire Prevention Plan, Proposed Project Schedule, Demolition, Shoring, Falsework and Lifting of Materials.

4.4.1 The following submittals will require a Professional Engineer, (PE) stamp:

(a) Critical Pick Plan (75% of capacity of crane, or multi-crane pick)

(b) Lifted Material Plan (Placement or Removal) – When lift is within temporary construction clearances and when lift is within 25' of the centerline of the nearest track

(c) Demolition Plan

(d) Temporary Shoring Plan

(e) Bracing Design Plan (non-standard only per DOT)

4.4.2 For overpasses, Agency shall submit as-built plans of the structure, including final clearance dimensions to the I/C. Vertical clearance must be measured from the Top of Rail, horizontal clearance must be measured from the nearest track centerline.

4.4.3 OPERATIONALLY CRITICAL WORK AND SUBMITTALS: (4 to 6 weeks review timeline) All OC work requires a submittal and acceptance by BNSF.

(a) Operationally Critical (OC) submittals are those that have the potential to affect the safe operation of trains and will need to be reviewed carefully. Work must be monitored to ensure it conforms to the submitted/accepted plan.

(b) In-person safety review meetings will be required with BNSF representative, I/C, Contractor, and Agency representative for all OC work and must be documented. The purpose of the meeting is to ensure all parties understand BNSF requirements and are following the applicable submittals. When a track work window is required the meeting shall occur at least 48 hours in advance of work starting.

(c) **Submittals must meet the requirements of the UP Railroad - BNSF Railway Guidelines for Railroad Grade Separation Projects. Submittals must also follow the requirements outlined in BNSF Review Comment Sheets, Use of Cranes & Lifting of Materials Submittal Schedule, BNSF Guidelines for Preparation of Bridge Demolition & Removal Plan and the BNSF-UPRR Guidelines for Temporary Shoring.** Some submittals are required to be sealed by a licensed professional engineer.

a. See Table 3-1 for Overhead Structures in UP Railroad - BNSF Railway Guidelines for Railroad Grade Separation Projects
b. See Table 3-2 for Underpass Structures UP Railroad - BNSF Railway Guidelines for Railroad Grade Separation Projects
c. Examples of OC submittals included in the above are:
    i. Shoring (Follow BNSF-UPRR Guidelines for Temporary Shoring)
    ii. Falsework
    iii. Demolition (Need plans for substructure and superstructure. Follow BNSF Guidelines for Preparation of Bridge Demolition & Removal Plan)
    iv. Erection (overhead and underpass structures)
    v. Construction Phasing Plans
d. Additional OC submittals required, but not included in the Guidelines are:
    i. All work plans that remove tracks from service (track outage windows require a detailed Gantt chart when greater than 2 hours)
    ii. Contingency plans
    iii. Additional OC submittals may be required on a project by project basis.

4.5 Prior to any work commencing on BNSF right of way:

(a) Contractors C/C-1 or Right of Entry must be fully executed and their insurance must be approved before they can perform work on BNSF property. Proof of Contractors insurance approval must be produced to the BNSF PE and the I/C.

4.6 Contractor must adhere to all other BNSF policies and procedures not specifically mentioned in this agreement.

5.0 Interference with Railroad Operations.

5.1 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.

5.2 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.

5.3 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.

5.4 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.

6.0 Track Clearances.

6.1 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.

6.2 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.

7.0 Construction Procedures.

7.1 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.

7.2 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.

7.3 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 securely 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.

7.4 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.

7.5 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.

7.6 Blasting.

7.6.1 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 3.2 of this job special provision, the contactor 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.

7.6.2 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.

7.7 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.

7.8 Storage of Materials and Equipment.

7.8.1 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.

7.8.2 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.

7.9 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.

7.10 Buried Cable and Other Buried Facilities.

7.10.1 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.

7.10.2 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.

8.0 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.

9.0 Flagging Services.

9.1 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 assign one flagger to a 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.

9.2 Scheduling and Notification.

9.2.1 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 provided until the job site meeting has been conducted and the contractor's work scheduled.

9.2.2 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. 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. Due to changes in the local Roadmaster, please contact Kara Brockamp at Kara.Brockamp@BNSF.com for the most current Roadmaster contact information.

9.2.3 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.

9.2.4 The contractor shall provide a temporary structure to provide shelter from weather conditions for the person(s) providing flagging protection service on behalf of the Railroad as described herein. The structure shall be provided in an area immediately accessible to the Railroad's main track and the construction site, and be equipped with telephone service, lighting, and desk.

9.3 Payment.

9.3.1 The Commission will pay the Railroad directly for the cost of flagging services associated with the project by deducting the amount from the normal contractor payments.

9.3.2 The Railroad shall submit progress invoice to the Engineer during the time flagging services are required. A final invoice shall be submitted to the Engineer within 180 days of completion of the project. This is defined as the point in time at which the Commission and the Railroad both accept the project and the contractor is relieved of contractual obligation. Should the invoice not be received within this time period, the Railroad will be responsible for obtaining payment directly from the contractor.

9.3.3 Should a dispute between the Railroad, the Commission and the contractor develop concerning the cost of flagging service or should the contractor fail to promptly pay the Railroad for flagging services, the full amount of the Railroad's invoice will be deducted from the contractor's payment request. However, The Commission will send only 95 percent of the amount requested to the Railroad. The Commission will make a corrected payment once a settlement is reached between the Railroad, the Commission, and the contractor.

9.3.4 The contractor shall be responsible for arranging needed flagging services as required by the Railroad to accomplish the highway improvement.

9.3.5 The cost of flagging service is approximately $1500 per day based on an 8-hour workday 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. 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 ½ 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 ½ 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.

9.3.6 A maximum of one hour travel time each way per day per flagger will be required for travel to and from the project.

9.4 Verification.

9.4.1 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 Ms. Kara Brockamp, Manager of Public Projects at (913) 551 4484. 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 Ms. Brockamp as shown in Section 3.1 of this job special provision.

9.4.2 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.

10.0 Haul Across Railroads.

10.1 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.

10.2 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.

11.0 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.

12.0 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.

13.0 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 Railroad's protective service is

provided shall be removed before the close of each work day. Any excavation near the walkway, the contractor shall install a handrail with a 12 feet minimum clearance from centerline of track.

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

14.1 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 $5,000,000 each occurrence and an aggregate limit of at least $10,000,000 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 Railroad.
- Additional insured endorsement in favor of and acceptable to Railroad.
- Separation of insureds.
- The policy shall be primary and non-contributing with respect to any insurance carried by Railroad.

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

(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 Railroad.

(d) Railroad Protective Liability insurance naming only the Railroad as the Insured with coverage of at least $5,000,000 per occurrence and $10,000,000 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 include Evacuation Expense Coverage 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 Railroad 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.

14.2 Other Requirements:

14.2.1 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.

14.2.2 Contractor agrees to waive its right of recovery against Railroad for all claims and suits against Railroad. In addition, its insurers, through the terms of the policy or policy endorsement, waive their right of subrogation against Railroad 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 Railroad for loss of its owned or leased property or property under contractor's care, custody, or control.

14.2.3 Contractor is not allowed to self-insure without the prior written consent of Railroad. If granted by Railroad, any deductible, self-insured retention, or other financial responsibility for claims must be covered directly by contractor in lieu of insurance. Any and all Railroad 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.

14.2.4 Prior to commencing the Work, contractor must furnish to Railroad 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 Railroad in writing at least 30 days prior to any cancellation, non-renewal, substitution, or material alteration. Upon request from Railroad, 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: BNSF@certfocus.com
www.certfocus.com

Commission:
Ms. Brandi Baldwin
State Construction and Materials Engineer
MoDOT
P.O. Box 270
Jefferson City, MO 65102

14.2.5 Any insurance policy must be written by a reputable insurance company acceptable to Railroad 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.

14.2.6 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, Railroad 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.

14.2.7 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 Railroad as an additional insured, and requiring that the subcontractor release, defend and indemnify Railroad to the same extent and under the same terms and conditions as contractor is required to release, defend, and indemnify Railroad herein.

14.2.8 Failure to provide evidence as required by this section will entitle, but not require, Railroad 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.

14.2.9 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 Railroad will not be limited by the amount of the required insurance coverage.

14.2.10 For purposes of this section, Railroad means “Burlington Northern Santa Fe LLC”, “BNSF RAILWAY COMPANY” and the subsidiaries, successors, assigns and affiliates of each.

14.2.11 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:
Job No. J7P3425C/RRP-000S(627)
Webster County:
- US Highway 60/Route NN(A) new interchange, Construction of new MoDOT bridge A9353 over BNSF, US DOT# TBD MP TBD Thayer-North Sub in Diggins, MO
- At-grade crossing closures:
  - Bluebird Lane – DOT 667641B MP 228.13
  - Hummingbird Lane – DOT 667642H MP 228.64
  - Private Entrance – DOT 667643P MP 228.92
  - Tandy Road – DOT 667644W MP 229.17
  - Honor Camp Lane – DOT 667645D MP 229.73
  - Private Entrance/Green Brier Drive – DOT 667646K MP 230.31
  - Private Entrance – DOT 667647S MP 230.66
  - Private Entrance – DOT 667648Y MP 230.89
  - State Route NN – 667650A MP 231.51

14.2.12 The contractor must notify BNSF Manager of Public Projects at Kara.Brockamp@bnsf.com, when applying for railroad insurance coverage.

14.3 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.

14.4 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.

15.0 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

16.0 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.

17.0 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.

18.0 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.

18.1 If applicable to the project, the contractor must submit a plan for demolition, falsework, lifting plans over the Railroad property, shoring plans, and any other applicable plans the Railroad may require as well as means and methods to the Railroad for review and approval. All plans submitted to the Railroad must be signed and sealed by Professional Engineer licensed in the State of Missouri. These plans can be submitted along with the Right of Entry application; however, the Right of Entry will not be approved until all required plan submittals are approved by the Railroad. The Railroad may also require an onsite inspector to assure the work is carried out in accordance with the Railroad approved plans.

18.1.1 Payment for plan submittal, Railroad plan review and Railroad inspection fees.

The contractor shall be responsible for all costs associated with the generation and submittal of Railroad plans required for the right of entry agreement. The Commission will be responsible for and directly pay the Railroad for all Railroad review fees associated with these plan submittals and any onsite inspection and management fees charged by the Railroad. A line item (Railroad Plan Submittal) is provided for all costs associated with the generation and submittal of plans required for the Railroad right of entry agreement.

Item No.	Unit	Description
618-10.15	LS	Railroad Plan Submittal

P. 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.

Q. Special Drainage Structures

1.0 Description. This work covers the furnishing and installation of special drainage structures as shown in the plans and details.

2.0 Construction Requirements. Construction shall be in accordance with the Missouri Department of Transportation Standard Specifications and Plans, latest edition.

3.0 Method of Measurement.

3.1 Measurement of Special Inlet No. 1 shall be the depth for payment, as per the Special Sheets and as shown in the Culvert Section Plan Sheets.

3.2 Excavation for Special Inlets is paid for separately as Class 3 Excavation. See plans for quantities.

4.0 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. The following is the Pay Item No. for each type of structure listed above:

Pay Item No. 731-99.13, Special Inlet No. 1, per foot.

R. Temporary Pavement

1.0 Description. This work will include grading, furnishing, and placing, maintaining and removing temporary pavements as shown on the traffic control plans.

The contractor will be responsible for all costs for maintaining the temporary pavement while under traffic and removing the temporary pavement when no longer required.

2.0 Construction Requirements. This work shall conform to Section 202, Section 203, and Section 401 except as herein modified. As directed by the engineer, the contractor will grade and place the temporary pavement to a minimum depth of 8 inches of bituminous pavement base to provide a temporary driving surface. The contractor shall also be responsible to maintain the pavement while in use during stage construction.

2.1 Removal of Temporary Pavement. The contractor shall be required to remove all temporary pavements. When removing temporary pavements, the contractor shall take necessary care to avoid damage to the adjacent pavement that is to remain in place. Removal of temporary pavements may require full depth vertical saw cutting along the limits of the removal in order to avoid damage to the pavement to remain in place and to provide a smooth joint for construction of adjacent curb/curb and gutter or pavement. No direct payment will be made for saw cutting or removal. The contractor shall remove and dispose of the temporary pavement off the project, if necessary, when no longer required to maintain traffic.

3.0 Basis of Payment. Payment for the temporary pavement will be made under Item No:

401-01.07, 7 inches, Bituminous Pavement, per square yard

S. 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.

T. Pigmenting and Texturing Concrete

1.0 Description. This work shall consist of pigmenting, texturing, and sealing the concrete to give the appearance of brick pavers for the low-profile truck apron in the roundabout.

2.0 Materials. The Manufacturer shall submit to the Engineer, setting forth the brand name, designation (if any), composition and general description of the material to be used in the process of pigmenting. The manufacturer shall submit typical amounts of material to be used in the mixing of the concrete.

2.1 Pigment shall be red in color and shall be free from oil, grease, dirt, and nonferrous particles and shall cause no deleterious effects to the concrete mix. The designated concrete median strips and islands shall have a Red textured brick pattern similar to the intersection at Route 13 (Kansas Expressway) and Route 60 (James River Freeway) as approved by the engineer. The manufacturer shall guarantee that all materials used in the pigmenting process will have no deleterious effects on the strength and overall integrity of the concrete.

3.0 Texturing. After surface irregularities have been removed, the concrete shall be given a uniform surface finish to give the appearance of brick pavers. The method by which the surface is textured is left to the discretion of the Contractor. A stamp or roller device is preferred to maintain consistency. Hand texturing will be permitted in irregular areas where, in the opinion of the Engineer, a stamp or roller device would no longer be beneficial or would not give a satisfactory appearance to the surface of the concrete. Prior to placing the concrete, the Contractor and Engineer shall review all perceived areas where hand texturing may be necessary. The Engineer shall make all efforts to minimize the amount of area to be hand textured. The material used for tinting shall be mixed into the concrete prior to being placed. The contractor shall not be allowed to just place the tinting material on the surface. All median strips and islands shall have a 6-inch smooth edge on the top surface outlining the island or median strip for pavement marking. Tar paper shall be required around the border of the form so that the surrounding pavement will not be marred or stained.

4.0 Construction Requirements. This work shall be done in accordance with the requirements of Section 502 and 608.

5.0 Method of Measurement. Concrete areas shall be computed to the nearest 1/10 square yard.

6.0 Basis of Payment. Payment for the above described work including all materials, equipment, labor, and any other incidental work necessary to complete the item shall be considered as completely covered in pay items:

502-99.05, 8 in. Truck Apron (Pigmented & Textured), per square yard

U. 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.

1.3 MoDOT forces will be clearing trees with suitable bat habitat located in the area of construction Phase 1. MoDOT will leave stumps of four (4) to five (5) feet for contractor to clear and grub. Contractor will be responsible for removal of trees and stumps not removed by MoDOT in construction Phase 1. Any trees and stumps remaining in the are of construction Phase 1 may be removed at any time.

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

V. Temporary Pavement Marking Removal

1.0 Description. This work will include removing temporary pavement markings as shown on the traffic control plans.

2.0 Construction Requirements. This work shall conform to Section 620.50 of the Standard Specifications. In addition, the contractor will not be allowed to diamond grind; waterblasting, or shotblasting are the preferred removal methods.

3.0 Basis of Payment. Temporary pavement marking removal shall be incidental to the cost of each of the associated temporary pavement marking pay items shown on the contract plans.

W. Removal of Improvements

The contractor shall familiarize themselves with the size and scope of removals for this project. Removals will be done by phase, corresponding with the construction phasing. This specification is provided to identify project removals above and beyond typical on a project of this scope and size.

1.0 Scope of Work. The contractor is directed to the following tracts and the removals associated with each:

Parcel 25 – Pereznegron – Removals include but are not limited to: a house, RV hookups, and gravel driveway. All trash and debris shall be removed from parcel prior to project being considered complete.

Parcel 37 – Smith – Removals include but are not limited to: a house, fencing, and vehicles. All trash and debris shall be removed from parcel prior to project being considered complete.

Parcel 39 – Lakes, LLC – Removals include but are not limited to: several trailer homes and vehicles. All trash and debris shall be removed from parcel prior to project being considered complete.

Parcel 41 – Hamilton – The buildings on Parcel 41 are intended to be utilized for a project construction office. All trash and debris shall be removed from parcel prior to project being considered complete.

Parcel 42 – March – Removals include but are not limited to: a house, pool, barns, sheds, and vehicles. All trash and debris shall be removed from parcel prior to project being considered complete.

Parcel 45 – Kilgore – Removals include but are not limited to: a house and several sheds/barns. All trash and debris shall be removed from parcel prior to project being considered complete.

Parcel 72 – Lea – Removals include but are not limited to: commercial building, two (2) large signs and fencing. All trash and debris shall be removed from parcel prior to project being considered complete.

Parcel 73 – Rambo - Removals include but are not limited to: two (2) sheds/barns. All trash and debris shall be removed from parcel prior to project being considered complete.

Parcel 74 – Rambo – Removals include but are not limited to: one (1) shed and a number of trees. All trash and debris shall be removed from parcel prior to project being considered complete.

Parcel 88 – BNSF Railroad – Removals include: nine (9) paved at-grade crossings. The contractor shall notify BNSF prior to any removal activities within BNSF right-of-way. Ditch lines shall be restored as shown in the plans. All trash and debris shall be removed from BNSF right-of-way prior to project being considered complete.

The Contractor shall inform itself of the location of these tracts. No encroachment, storage of equipment and materials or construction on these tracts shall be permitted until notification by the Engineer is given that these tracts have been acquired as specified in these job special provisions.

1.1 Removals within MoDOT Right-of-Way. This project includes removals within MoDOT's existing right-of-way. Removals within the right-of-way shall be completed as follows:

Route 60 at Route A – This median crossover and access to US60 from Route A shall be removed as part of Phase 1 construction. Route A access to US60 shall be routed to the Route O/US60 intersection until phase 2 construction is completed.

Route 60 at Route NN/Springfield Avenue – This median crossover shall be removed as part of Phase 3 construction at such a time as Route 60 access to Route NN via the interchange is completed. Access from WB Route 60 to Springfield Avenue shall be removed as part of Phase 1 construction. The EB left turn lane at Route 60 and Route NN/Springfield Avenue shall be removed as part of Phase 2 with traffic directed to the Route 60 and Route O intersection.

Route 60 at Route O – This median crossover and temporary J-turns shall be removed as part of Phase 3 construction, once access to Route NN to the interchange is completed. Route O access to Route 60 shall be removed as part of Phase 2, at such a time as the new interchange is completed.

Route 60 at Bluebird Lane – Access to Bluebird Lane from US60 shall be removed as part of Phase 4 construction at such a time as alternate access to Bluebird Lane from Route NN or Route Z is provided. This removal shall be done as part of the at-grade rail crossing removal.

Route 60 at Hummingbird Lane - Access to Hummingbird Lane from Route 60 shall be removed as part of Phase 4 construction at such a time as alternate access to Hummingbird Lane from Route NN or Route Z is provided. This removal shall be done as part of the at-grade rail crossing removal.

Burlington Road at Parcel 19 (Smith) Private Crossing – Access to Parcel 19 from Burlington Road shall be removed as part of Phase 4 construction at such a time as alternate access to Parcel 19 is from Route NN or Route Z is provided. This removal shall be done as part of the at-grade rail crossing removal.

Burlington Road at Tandy Road - Access to Tandy Road from Burlington Road shall be removed as part of Phase 4 construction at such a time as alternate access to Tandy Road from Route NN or Route Z is provided. This removal shall be done as part of the at-grade rail crossing removal.

Route 60 at Honor Camp Lane - Access to Honor Camp Road from Route 60 shall be maintained and the entrance narrowed as shown on the plans as part of Phase 4 construction at such a time as alternate access to Honor Camp Road from Route NN or Route Z is provided. A utility gate with lock shall be constructed at this location to allow MoDOT and private utilities access. This shall be done as part of the at-grade rail crossing removal.

Route 60 at Green Brier Drive - Access to Green Briar Drive from Route 60 shall be removed as part of Phase 4 construction at such a time as alternate access to Green Briar Drive from Route NN or Route Z is provided. This removal shall be done as part of the at-grade rail crossing removal.

Route 60 at Parcel 37 (Smith) Private Crossing - Access to Parcel 37 from EB US60 shall be removed as part of Phase 4 construction at such a time as alternate access to Parcel

37 is from Route NN or Route Z is provided. This removal shall be done as part of the at-grade rail crossing removal.

Route 60 at Parcel 38 (Fleetwood) Private Crossing - Access to Parcel 38 from EB US60 shall be removed as part of Phase 4 construction at such a time as alternate access to Parcel 38 is from Route NN or Route Z is provided. This removal shall be done as part of the at-grade rail crossing removal.

Diggins Commuter Lot – The commuter lot located along existing Springfield Avenue in Diggins, shall be removed, and not replaced as part of this project as per agreement with City of Diggins.

WB Route 60 Transverse Rumble strips – Transverse rumble strips near stations 664+00 and 665+50 in the westbound lanes of Route 60 shall be milled and filled.

The existing ditch line along Route 60 shall be restored where these removals take place. The ditches shall be graded to drain following the existing drainage patterns.

2.0 Basis of Payment. Payment for all costs associated with these removals will be considered included in the lump sum price contract item for REMOVAL OF IMPROVMENTS. No direct payment will be made for this provision.

X. Damage to Existing Pavement, Shoulders, Side Roads, and Entrances

1.0 Description. This work shall consist of repairing any damage to existing pavement, shoulders, side roads and entrances caused by contractor operations. This shall include, but is not limited to, damage caused by the traffic during contractor operations within the project limits including the work zone signing.

2.0 Construction Requirements. Any cracking gouging, or other damage to the existing pavement, shoulders, side roads, or entrances from general construction shall be repaired within twenty-four (24) hours of the time of damage at the contractor's expense. Repair of the damaged pavement, shoulders, side roads, or entrances shall be as determined by the engineer.

3.0 Method of Measurement. No measurement of damaged pavement or shoulder areas or damaged side roads or entrances as described above shall be made.

4.0 Basis of Payment. No payment will be made for repairs to existing pavement, shoulders, side roads or entrances damaged by contractor expenses.

Y. Demolition and Removal Contract JSP-99-08

1.0 Description.

1.1 Possession of Building. The contractor's attention is directed to the fact that not all parcels are in possession of the Commission. Those parcels that have been acquired are as indicated on the plans. The contractor is not to enter the buildings or properties until notified by the engineer. It is anticipated that possession of all parcels will be obtained and available for removal within the next 12 months, although the acquisition may take place at a later date. The contractor will be given a notice to remove for each parcel when it is in the possession of the Commission.

1.2 The contractor's attention is directed to the fact that since some parcels were not in the possession of the Commission prior to the preparation of the bid proposal, an asbestos survey was not completed for each parcel. The buildings will be surveyed as soon as possession is obtained, and if Asbestos Containing Materials (ACM) are identified, the contractor shall be required to remove them in accordance with Sec 202.40.

2.0 Notice to Remove. The Commission will issue a notice to remove for each parcel listed in the contract. The Commission reserves the right to designate in the notice to remove the order of work. The contractor shall not begin demolition on any building until the designated date in the notice to remove document. The contractor is further advised that removal of hazardous substances from the buildings may delay the issuance of the notice to remove and that the contractor is not to enter any properties nor conduct any demolition of any building until the hazardous material is removed.

2.1 The Commission does not warrant that the listings or depictions of hazardous materials in the bidding documents are complete or accurately reflect either all hazardous materials or their precise locations within or adjacent to the project limits.

2.2 Contract Completion Time. All buildings shall be demolished and removed in accordance with the Contract Documents and within the following time limits:

(a) First Notice to Remove. For the first notice to remove and subsequent notices issued within 30 calendar days of the date of the first notice, the contractor shall complete the work within 90 calendar days of the date of the first notice.

(b) Subsequent Notices to Remove. For subsequent notices to remove issued more than 30 calendar days after the date of the first notice, the contractor shall complete the work included in the subsequent notice(s) within 60 calendar days of the date of such notice(s).

Z. Field Verification of Existing Drainage Structures

1.0 Description. Contractor is responsible for field verifying the location and elevations of existing structures and pipes prior to beginning construction on each proposed structure. There is no direct payment for field measurements of existing structures.

AA. Contractor Furnished Surveying and Staking – SW

In addition to the requirements of Section 627 of the Missouri Standard Specifications for Highway Construction, the following shall apply:

1.0 Description. The Contractor shall be responsible for all layout required on the project. This responsibility shall include, but not be limited to the following: Construction signing, transition milling, pavement marking, etc. Additionally, this work shall consist of placing hub stakes to monitor settlement in fills greater than 15 feet in height.

1.2 Requirement. Fill embankments greater than 15 feet in height shall be monitored for settlement under the observation of the Engineer. Once embankment construction is completed a series of hub stakes shall be installed in the subgrade for the purpose of monitoring settlement. The stakes shall be located and surveyed as directed by the Engineer. Elevations of the stakes shall be initially recorded and then obtained every 2 weeks. A copy of the survey record shall be

forwarded to the Engineer after each survey interval. Settlement will be considered complete when it is less than 0.01 foot per two week period for two consecutive weeks.

1.1 The above list is not all inclusive. The Contractor shall have the primary responsibility for these operations. The Contractor shall provide the Resident Engineer (RE) with a staking plan layout for the approval prior to the installation of signs. The RE will also provide assistance during this layout provided a request is submitted to the RE or Construction Project Manager forty-eight (48) hours in advance. This will ensure that all permanently mounted traffic control devices remain consistent with District polity and avoid re-staking. If the Contractor installs any signs without engineer approval, all costs associated with re-staking and/or relocation will be at the contractor's expense.

1.2 The intent of this provision is to increase the quality of our work zones and minimize negative impacts to the Contractor's schedule that can result from delays in staking.

1.3 Any adjustments to the plan quantities or line numbers established in the contract shall be approved by the Engineer.

2.0 Basis of Payment. No direct payment will be made to cover the costs associated with these additional requirements. All costs will be considered completely covered by the unit bid price submitted for Contactor Furnished Surveying and Staking.

BB. Paved Ditch

1.0 Description. Paved ditch is being provided along BNSF right-of-way and along the MSE walls.

1.1 Paved ditch shall be constructed according to the detail shown on the plans and in accordance with Section 609 of the Missouri Standard Specifications for Highway Construction.

2.0 Basis of Payment. All costs will be considered completely covered by the unit bid price submitted for Item No. 609-10.60, Paved Ditch, per square yard.

CC. Embankment Construction

1.0 Description. This work shall consist of constructing the embankment associated with this project. A Geotechnical Investigation encountered soft compressible foundation materials.

2.0 Construction. Type B Pore Pressure Measuring Devices shall monitor the foundation materials and govern the rate of placement of the embankment and a soil surcharge construction. Type B Pore Pressure Measuring Devices shall be at locations as specified by the Engineer and in accordance with Standard Specifications 203, 204 and with Standard Plans. Pore Pressure Measuring Devices will also serve as settlement gauges. Elevations of the top of the Pore Pressure Measuring Devices shall be obtained in accordance with Paragraph 1.2, Job Special Provision AA.

3.0 Basis of Payment. No direct payment will be made to the contractor to recover the cost of equipment, labor, materials, or time required for construction and disposal of soil surcharge. The work for constructing the Pore Pressure Measuring Devices shall be measured and Payment for all expenses incurred shall be considered as included in and completely covered by the contract unit price for Item No. 204-30.10, "Pore Pressure Measuring Device", per each.

DD. Utility Gate

1.0 Description. The contractor shall be responsible for providing and installing a 20' Utility Gate at location shown on the plans.

1.1 Construction Requirements: Utility Gate shall be steel, constructed of 1 ¾ inch steel tubing, and shall conform to Section 607 of the Standard Specifications

2.0 Basis of Payment. No direct payment will be made to cover costs associated with installation of Utility Gates, all cost for installation of Utility Gates will be covered by:

Item No. 607-99.02 Misc 20' Utility Gate, per each

EE. Aggregate Piers

1.0 Description. Ground improvements are required to improve bearing capacity for the construction of the MSE wall fill for Walls No. A9351, A9352, A9354 and A9355. Ground improvements shall be in accordance with the job special provisions, contract plans and as directed by the Engineer.

This work shall consist of furnishing design calculations, shop drawings, materials, and labor necessary to construct either aggregate piers, trenches, or other approved ground improvement methods over the horizontal limits and between the top and bottom elevations specified on the contract plans or as modified on the approved shop drawings.

1.1 These ground improvements are in addition to the five (5) ft. modified subgrade shown on the plans.

2.0 General Scope and Requirements. The work included in this Job Special Provision shall consist of providing an engineered design, all labor, equipment, materials, water, and power; performing all operations necessary to complete the intended improvements for the project; cleaning up the area upon completion of the work; and providing all other operations that are incidental to the work specified herein. Key aspects of the work to be performed or furnished by the Contractor include, but are not limited to, the following:

1. Complete an engineered ground improvement design

2. Complete additional testing of existing soil conditions as necessary to complete the design.

3. Coordinate with relevant utility companies to avoid damage to utilities including, but not limited to, sewer, gas, water, and telecommunication lines.

4. Construct aggregate piers of the diameter and spacing shown in the approved shop drawings.

5. Lay out the aggregate piers in accordance with the approved shop drawings.

6. Provide appropriate equipment and experienced operators for the installation of the ground improvements.

7. Furnish select granular material for the ground improvements.

8. Conduct testing of the ground improvements.

9. Control and dispose of water resulting from ground improvement construction Operations. Comply with all local, state, and federal environmental requirements.

10. Demobilize equipment and clean up the site.

2.1.1 The Contractor, with approval of the Engineer, may use alternative methods of ground improvements other than the aggregate piers or trenches 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 AASHTO or similar industry standards.

3.0 Preconstruction Submittals.

3.1 The Contractor shall submit to the Engineer for review the following at least thirty (30) calendar days prior to commencing the ground improvements work.

3.2 Qualifications. Submit evidence of successful installation of aggregate piers on five (5) or more projects for similar applications of highway embankments or retaining walls using the same installation technique within the past five (5) years. Attach references that include the name, address, and telephone number of the owner of the specific projects. In addition, resumes of the following key personnel shall be included in the submission:

Project Manager

Superintendent(s)

Project Engineer(s)

Probe Operator

The field superintendent shall have a minimum of three (3) years of experience installing the aggregate piers using the proposed technique. The probe operator shall have a minimum of one year of experience operating the probe for similar aggregate pier construction.

If during the construction, the Contractor proposes to change any of the key personnel, the resume of the proposed replacement person shall be submitted and approved by the Engineer prior to assuming responsibilities on the project.

3.3 Design. Submit ground improvement design calculations meeting the minimum requirements of this Job Special Provision and sealed in accordance with the laws relating to architects and professional Engineers (Chapter 327, RSMo.).

3.3 Installation and Work Plan. Submit construction shop drawings showing aggregate pier (or selected ground improvement) locations, depths, and identification numbers. Provide a

description of the equipment and detailed construction procedures to be used for constructing the aggregate piers including the plan for disposing of water during construction. Provide a description of the equipment (augers, temporary casing, tremie pipes, etc.) and detailed construction procedures to be used for constructing the Aggregate Piers (Special). Submit the source of the proposed aggregate pier select granular material and the proposed gradation.

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 fourteen (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. Provide crushed stone for ground improvement backfill that is clean, hard, unweathered stone free from organics, trash, or other deleterious materials. When tested according to AASHTO T 96, the crushed stone shall have a maximum loss of 40 percent at 500 revolutions. The gradation shall conform to the following:

Percent Passing			
3 inch	2 inch	0.75 inch	0.5 inch
90-100	40-90	0-10	0-5

Alternate gradations may be submitted by the Contractor and shall demonstrate suitable performance during initial aggregate pier testing. Maintain the same gradation throughout the aggregate pier construction.

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

5.0 Equipment.

5.1 Vibrator. Provide a down-hole vibrator capable of providing a minimum of 100 kW and a minimum centrifugal force of 15 tons gyrating about a vertical axis. The minimum double amplitude (peak to peak measurement) of the probe tip shall not be less than 0.5 inch in a horizontal direction when the probe is in a free suspended position.

5.2 Probe and Follower Tubes. Use a probe and follower tubes of sufficient length to reach the elevations shown in the plans and approved shop drawings. Use a probe, in conjunction with the available pressure to the tip jet, capable of penetrating to the required tip elevation. Use a probe and follower tubes with visible markings in 12-inch increments to enable measurement of penetration and re-penetration depths.

6.0 Design. Regardless of the method chosen, the ground improvement shall meet the following performance requirements.

(a) Provide an allowable bearing pressure to exceed the design bearing pressure of the MSE walls as determined by the wall fabricator's engineer and using the provided soils report and any additional subsurface information obtained by the Contractor.

(b) Allow no more than 1 inch of post-construction deflection.

(c) The design shall be compatible with other elements of the project.

6.1 The aggregate piers or trenches design need not consider seismic loadings unless otherwise required as part of the performance requirements shown on the plans.

6.2 The ground improvement shall, at a minimum, extend from at least 2' in front of the face of the MSE Walls and underneath the MSE walls for the full length of the reinforcement.

6.3 The ground improvement shall extend from the bottom of the modified subgrade to the underlying limestone or shale bedrock.

7.0 Construction of Aggregate Piers.

7.1 Initial Aggregate Pier Construction. The first two (2) aggregate piers installed at any wall location to the required depths and locations shown in the approved shop drawings, and meeting the requirements of this specification shall serve as the quality control basis for the remainder of aggregate piers to be installed at that wall location. Any deviations from the method utilized in the initial aggregate pier placement in the subsequent columns must be approved by the Engineer prior to use. Perform Standard Penetration Tests (SPTs) in the presence of the Engineer on the initial aggregate piers to verify the granular material is dense with a minimum N60 value of 30. Maximum interval between SPTs is 2.5 feet. The Engineer shall approve the initial aggregate piers and results of the SPTs prior to proceeding with installation of the remaining aggregate piers.

7.2 Aggregate Pier Construction.

1. Penetrate to the required minimum tip elevation shown in the approved shop drawings. Preboring of stiff strata or obstructions is allowed if necessary.

2. Provide methods for supplying a sufficient quantity of air or water to the tip of the probe to widen the probe hole to allow adequate space for stone backfill placement around the probe. Maintain the flow of air or water from the bottom jet at all times to prevent caving or collapse of the hole and to form a clean aggregate pier.

3. After penetration to the treatment depth, slowly retrieve the vibrator in 12- to 18-inch increments to allow backfill placement.

4. Compact the backfill in each lift by re-penetrating it at least twice with the horizontally vibrating probe so as to densify and force the stone radially into the surrounding in-situ soil. Re-penetrate the stone in each increment a sufficient number of times to develop a significant increase in amperage.

5. Install each aggregate pier so that each completed column is continuous throughout its length.

7.3 Tolerances. Maintain the following tolerances:

Horizontal: Center of the completed column shall be within 8 inches of the plan location.

Vertical: Completed column shall not deviate more than 3 percent of the column diameter from the vertical.

Diameter: Completed aggregate pier diameter shall not be less than 10 percent below the plan column diameter, unless excessive ground heave occurs due to the presence of unexpected stiff strata of soil. Such heave will be cause to allow a reduction in the column diameter requirements.

If any column falls outside of these tolerances, an additional aggregate pier will be required to be installed at the Contractor's expense. Furthermore, the Engineer will require additional aggregate piers at the Contractor's expense if the average effective diameter of any group of 50 consecutively installed aggregate piers is less than the diameter shown on the shop drawings.

7.4 Obstructions. In the event subsurface obstructions are encountered during construction of an aggregate pier which cannot be penetrated with reasonable effort, construct the aggregate pier from the depth of the obstruction to the surface. Depending on the depth and location of the obstruction, the Engineer may direct construction of a replacement aggregate pier at the contract unit rate.

8.0 Testing.

8.1 Standard Penetration Testing. A minimum of one aggregate pier shall be tested each day aggregate piers are installed using the Standard Penetration Test (SPT). Maximum interval between SPTs is 2.5 feet. The minimum N60 value is 30 for dense material. The SPT hammer shall have been calibrated within the past 24 months.

9.0 Contractor Quality Control.

9.1 The Contractor shall monitor the ground improvement installation and submit daily progress reports to the Engineer including the following:

1. Aggregate piers identified by location number and date constructed.

2. Elevation of top and bottom of each aggregate pier.

3. Estimate of ground heave or subsidence.

4. Vibrator power consumption (ammeter readings) during penetration and compaction of each increment of aggregate pier constructed.

5. Auger diameter, temporary casing length, and diameter of each Aggregate Pier (Special) constructed.

6. Jetting pressure (air or water).

7. Details of obstructions, delays, and any unusual ground conditions.

8. Quantity of stone placed in each 5-foot interval of column constructed and total granular material used per aggregate pier.

9. Amount of water used per column.

10. Results of SPTs.

9.2 Settlement Monitoring. The contractor shall monitor post-construction settlement.

9.2.1 Monitoring of post-construction settlement shall begin after a section of wall has reached its full height and shall be measured weekly for at least four (4) weeks and may cease after no settlement is noted on consecutive measurements and with approval of the Engineer. Measurements shall be made at 25' intervals along the wall.

10.0 Method of Measurement. No measurement will be made.

11.0 Basis of Payment. Payment for the above described work, including all material, equipment, labor, and any other incidental work necessary, will be considered completely covered in pay items:

702-99.01, Aggregate Piers Mobilization and Testing, per lump sum

702-99.03, Aggregate Piers, per linear foot depth

FF. Jet Grouting

1.1 Scope & Project Objectives

1.1.1 This Section specifies requirements for furnishing all labor, equipment, materials, and supplies necessary for soil stabilization by jet grouting as required to meet the project objectives specified herein.

1.1.2 The work shall consist of installing, monitoring, and testing of Jet Grout within the limits indicated on Special Sheet 10 of 10 in the contract plans.

1.1.3 In connection with the Jet Grouting program, as shown on the drawings, the Jet Grouting Contractor shall provide all labor, materials, and equipment to accomplish the following items of work:

Mobilization & Demobilization
Drilling
Jet Grouting
Quality Control/Quality Assurance and verification
Spoil containment, collection, and disposal.

1.1.4 This section is intended for a performance type specification in so far that the Contractor shall be responsible for selecting jet grouting parameters, equipment, and construction methods of the Jet Grouted elements to meet the specified requirements of the Engineer.

1.2.1 Project Objectives: Construction of single pile as an isolated column, with the following characteristics:

(1) Minimum column diameter
(2) Minimum UCS
(3) Vertical and horizontal tolerances

(4) Uniformity (if required)

1.2 Definitions

1.2.1 Double Fluid Jet Grouting: The jet grouting technique where one fluid, typically neat cement grout, is injected at high velocity through horizontal radial nozzle(s) and is assisted by a second fluid, typically air, delivered through a coaxial nozzle(s), to directly erode and mix with the in-situ soil.

1.2.2 Fresh-on-fresh sequence (also referred to as wet-on-wet): Method that involves jet grouting elements successively without waiting for the grout to harden in the overlapping elements.

1.2.3 Horizontal Jet Grouting: Treatment performed from horizontal or sub-horizontal borehole (within +/- 20 degrees from the horizontal plane).

1.2.4 Hydraulic conductivity: The k value used in Darcy's law for flow through soil. ASTM and many engineers and geologists who deal with groundwater now use the term "hydraulic conductivity". The term "permeability" is reserved for those properties of soil and rock alone that determine the flow through it of any fluid including gas, water, oil, and contaminants.

1.2.5 Jet Grouted Slab: A horizontal structure formed by vertical jet grouting. The primary role of a slab is frequently to minimize water inflow during excavation of the soil above it. Slabs can also serve as struts.

1.2.6 Jet Grouting Parameters: Pressure of the fluid(s) within the jet grouting string; flow rate of the fluid(s); grout composition; rotational speed of the jet grouting string; rate of withdrawal or insertion of the jet grouting string; and number and size of nozzles.

1.2.7 Jet Grouting String: Jointed rods with single, double, or triple inner conduit that conveys the jet grouting fluid(s) to the monitor.

1.2.8 Jet Grouting Supervisor: The individual on site who is in practical and responsible charge for the jet grouting work.

1.2.9 Jet Grouting: An in-situ injection technique employed with specialized equipment that includes grout pump(s), grout mixer, drill rig, drill rods and injection monitor with horizontal radial nozzles delivering high velocity fluids to erode, mix, and stabilize in-situ soils using an engineered grout slurry.

1.2.10 Monitor (adjusted for single, double, and triple systems): A single, double, or triple fluid drill pipe attached to the end of a drilling string and designed to deliver one to three fluids of the Jet Grouting process, typically air, water, and/or grout. The monitor has one or more injection points (nozzles).

1.2.11 Pre-drilling: Method that utilizes traditional soil drilling techniques and/or equipment to pre-bore each jet grout hole prior to jet grouting.

1.2.12 Prejetting, precutting or prewashing: The method in which the jet grouting of an element is facilitated by a preliminary disaggregation phase consisting of jetting with water and/or other fluids.

1.2.13 Primary-secondary sequence: Method in which installation of an overlapping element cannot commence before a specified hardening time or achievement of predetermined strength of the adjacent previously constructed elements(s).

1.2.14 Single Fluid Jet Grouting: The jet grouting technique where a single fluid, typically neat cement grout, is injected at high velocity through horizontal radial nozzle(s) to directly erode and mix with the in-situ soil.

1.2.15 Soil-cement element: A column, partial column (sector) or panel (planar shape also known as fans), of soil-cement formed by jet grouting, used as a component of a soil-cement structure.

1.2.16 Soil-cement structure: A single zone or block of jet grout elements that are partially or fully interlocked as indicated on the Contract Drawings. Soil cement structures shall be comprised of soil cement elements of sufficient pattern and spacing as to stabilize the soil mass within the limits shown on the Contract Drawings to meet the performance requirements specified in this Section.

1.2.17 Soil-cement: Mixture of grout slurry and in-situ soils formed by the jet grouting process.

1.2.18 Specific energy: pressure times flow divided by lift rate. Pressure can be measured at the pump or at the drill rig and is not measured at the nozzle. Lift rate is average uplift distance per unit time. Pressure at the pump can be affected by line type, size, and distance to the rig for constant applied pressure. The energy of the air is usually negligible in this calculation, but does contribute significantly to column diameter. This parameter can be graphed to quickly check jetting records and can be correlated to diameter for all other aspects (especially number of fluids) staying constant during the test program.

1.2.19 Spoil Return: All materials including but not limited to liquids, semi-solids, and solids, which are discharged above ground surface during, or as a result of jet grouting. Spoils consist of native soil, ground water, grout, and erosional water (if any) injected as part of the jet grouting process.

1.2.20 Structural reinforcement: members inserted into the jet grout column to provide additional strength, including deformed bars, high strength steel threadbars, steel casing, or steel beams.

1.2.21 Triple Fluid Jet Grouting: The jet grouting technique where one fluid, typically water, is injected at high velocity through horizontal radial nozzle(s) and is assisted by a second fluid, typically air delivered through a coaxial nozzle(s), to erode the in-situ soil, while a separate nozzle placed lower on the monitor delivers a third fluid, typically neat cement grout, at lower velocity to simultaneously fill the soil zone eroded by the cutting fluids (air and water).

1.2.22 UCS: Unconfined Compressive Strength at 28days

1.2.23 Uniformity: The amount of uniformly mixed material measured by core recovery. It is calculated as the total length of recovered core minus the sum of the lengths of unmixed soil regions or lumps that extend across the entire diameter of the core divided by the total core run length expressed as a percentage.

1.2.24 Young's Modulus E50: Secant modulus of the stress strain curve at 50% of failure strength (UCS).

1.3 Qualifications: Due to the specialized nature of the jet grouting portion of the work, the Jet Grouting Contractor shall be pre-qualified before bidding on this work. Contractors must meet the following experience criteria:

1.3.1 Project Experience: The Jet grouting Contractor must have at least five years jet grouting experience over the last ten years; and have completed at least five (5) Jet Grouting projects, with at least two (2) projects having objectives and jet-grouting system (single, double, or triple) similar to those of this project and in the same type of soil.

1.3.2 Personnel Experience: The Jet grouting supervisor must have at least three (3) years on site experience managing jet grouting field operations of similar size and scope, and must have supervised at least two (2) projects within the past five (5) years employing the jet grouting technique proposed for this project. The supervisor shall have experience and knowledge of all aspects of jet grouting as required for the project and shall be present at the work site at all times during jet grouting operations.

1.4 Submittals

1.4.1 The Engineer will approve or reject the Contractor's qualifications within 15 calendar days after receipt of a completed qualifications submission. Additional time required due to incomplete or unacceptable submittals will not be cause for time extension or impact or delay claims. All costs associated with incomplete or unacceptable submittals shall be borne by the Contractor.

1.4.2 Qualifications: The following shall be submitted to the Engineer by the grouting Contractor at least 30 calendar days prior to commencing the ground improvements work:

1.4.2.1 A list of at least (5) previously completed projects for review by the Engineer. The list shall include a description of the project location, scope and magnitude, and contact person with phone number.

1.4.2.2 A list of at least (2) previously completed projects of similar scope and purpose for review by the Engineer. The list shall include a description of the project, relative size, and contact person with phone number.

The following shall be submitted to the Engineer by the grouting Contractor at least 30 calendar days prior to commencing the ground improvement work:

1.4.2.3 Resumes of the management, supervisory, and key personnel, for approval by the Owner's representative, in accordance with qualifications of article 1.3 above.

1.4.3 Jet Grouting Equipment: The following shall be submitted to the Engineer by the grouting Contractor at least 30 calendar days prior to commencing the ground improvement work:

1.4.3.1 Catalog cuts, details of grout mixers, pumps, drill rigs, and a plan view of the jet grout equipment arrangement proposed for use on this project, noting any equipment that has been modified or is of unique construction.

1.4.3.2 Examples of field data collection forms, including a sample copy of daily field report as described in article 3.4.

1.4.4 Grout Mix Design: The following shall be submitted to the Engineer by the grouting Contractor at least 30 calendar days prior to commencing the ground improvement work:

1.4.4.1 Mix design for the project indicating sources and types of grout materials, including (if available) field test data from previous projects. If the grouting Contractor intends to deviate from the materials defined in Section 2.1 of this specification, it shall submit evidence of satisfactory use of the proposed material from past projects with similar soil conditions or pre-construction trials.

1.4.4.2 Method for verifying grout mix proportions.

1.4.5 Field Demonstration Test Program

1.4.5.1 Details of proposed field demonstration test program for jet grouting, as specified in Section 3.1. This shall include location of test columns, layout of test pattern, jet grouting parameters to be used and variables to be tested during test program, and details of proposed quality control/quality assurance testing to meet acceptance criteria specified in article 3.5. Test program plan shall be submitted to the Engineer by the grouting Contractor at least 30 calendar days prior to commencing the ground improvement work: The Engineer shall review and comment within 15 days of receipt of complete submittal.

1.4.5.2 Following performance of the field demonstration test program and prior to beginning production jet grouting operations, submit a summary of the test program including details regarding as-built layout of test area, drilling procedures, grout mixture, jet grouting parameters, quality control/quality assurance records and test results, and proposed jet grouting parameters for use in production grouting based on test program. The Engineer shall review and comment within 15 days of receipt of complete submittal.

1.4.6 Jet Grouting Procedure: The following shall be submitted to the Engineer by the grouting Contractor at least 30 calendar days prior to commencing the ground improvement work:

1.4.6.1 General Work Procedures Plan outlining the spacing, location, depth, and general sequence to achieve the specified criteria detailed in this specification. Jet Grout element locations shall be dimensionally referenced to the contract drawings and shown on layout plans of suitable scale to effectively indicate the details of the layout. If pre-drilling of jet grout holes is required, describe the methods and type of equipment to be used.

1.4.6.2 A general jet grout spoil return management plan outlining waste containment methods during jet grouting and treatment and removal plans for jet grout spoil return. Include estimated width of annulus for spoil return and corrective actions to be taken if spoil return is not free-flowing, interrupted or episodic.

1.4.6.3 Jet grout site specific safety plan or job hazard analysis

Jet grouting has some special safety issues including but not limited to high fluid pressures and nozzle exit velocities. A thorough understanding of safety risks and protocols must be presented in this safety plan prior to site work.

1.4.7 Quality assurance, quality control and verification procedures to be used for the field test and production work.

(a) Details of the procedures to obtain soil-cement samples; and catalog cuts or shop fabrication drawings of the soil-cement sampling device and curing boxes. See article 3.3.
(b) Proposed details and formats of all required tabular and graphical data presentations that will be submitted to the Engineer during the course of the Work. This will include submittal of a copy of the reports used for data monitoring and recording, as described in article 3.3.
(c) Details for hydraulic conductivity testing and/or water-tightness testing if specified.
(d) Details of column diameter and overlap verification

1.4.8 Daily Reports

Within one business day after the end of a work shift, the daily reports as described in 3.4 shall be submitted to the Owner's representative by the grouting Contractor.

2.0 MATERIALS & EQUIPMENT

2.1 Materials

The grout slurry may consist of a homogeneous mixture of any of the following materials:

2.1.1 Cement, Portland, type I or II, ASTM C-150 or AASHTO M85

2.1.2 Ground granulated blast furnace slag ASTM C989Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars

2.1.3 Flyash Class C or F, ASTM C618 or AASHTO M295.

2.1.4 Potable Water or approved other source shall be free of deleterious materials that may adversely affect the grout.

2.1.5 Bentonite, if required, powdered bentonite per API Standard 13A

2.1.6 The ratios of the material components, by weight, shall be proposed by the Contractor, confirmed during the preconstruction test program, and reviewed by the Engineer. Once accepted, grout slurry composition shall not be changed unless requested in writing by the Contractor and accepted in writing by the Engineer.

2.2 Equipment

2.2.1 General: All equipment used for drilling boreholes; lowering, raising, and rotating jet monitors; mixing grout; supplying pressurized grout and air-water to jet monitors; and jet monitors shall have proven performance records for use in Jet Grouting work, as demonstrated by the information to be submitted under Section 1.4.

2.2.2 Drilling Equipment: Use drilling equipment of a type and capacity suitable for drilling required hole diameters and depths, and lowering, raising, and rotating jet grout monitors to the depths and at the rates required to perform the work as shown on the Contract Drawings and as specified herein. The drill rig shall be equipped with automated controls to regulate and maintain consistent rod lift rate and rod RPM, and shall have pressure gauges and flow meters for all fluids injected.

2.2.3 Grout Mixing and Injection Equipment: Use grout mixers and holding tanks, water tanks, air compressors, and pumps of sufficient capacity to ensure adequate supply of grout, air, and water at required pressure to the Jet Grouting monitors during a full work shift to produce grout elements of the quality and dimensions necessary. In general grout mixers are high shear type and equipped with load cells to accurately weigh and proportion each component of the grout mix. Under no circumstances should paddle type mixers be utilized.

2.2.4 Jet-Grouting pump: Shall be capable, with the nozzles proposed, of providing the required pressure and flow rate adequate for the execution of the work.

2.2.5 Compressor (for double and triple fluid Jet-Grouting): Shall be capable of producing the pressure and flow rate values proposed by the Contractor depending on the parameters chosen.

2.2.6 Filling grout pump (for triple Jet-Grouting): Shall be capable of producing the pressure and flow rate proposed by the Contractor depending on the parameter chosen.

2.2.7 Jet Grout Tools: Use Jet Grouting monitors with appropriate nozzles with the capacity suitable for producing jet grout elements in the soil types identified during Subsurface Explorations performed at the site, and of the size and depth shown on the Contract Drawings and as specified herein. The drill hole diameter shall be sufficiently large to be a clear path for continuous spoil return during all jetting operations.

2.2.8 Equipment Instrumentation: Provide instrumentation that allows continuous monitoring and automatic recording of data throughout the jet grouting operations. As a minimum, the following shall be provided:

2.2.8.1 Pressure gauges/devices at the drilling rig to automatically record pressures of cement grout, water, and air during the grouting process.

2.2.8.2 Flow meter(s) to monitor and record the rate and total volume of grouting fluids through the grouting monitor at every element.

2.2.8.3 Devices that automatically monitor and record the rate of monitor rotation and withdrawal. The Contractor must maintain his equipment in good operating condition and should have parts readily available to repair or replace defective equipment.

3.0 EXECUTION

3.1 Test Program

3.1.1 Prior to production work, a test program shall be conducted by the Contractor in accordance with the accepted work plan. The test program shall be used to optimize/verify the various parameters including type of jet-grouting (single, double, or triple), necessity of pre-jetting with water, grout mix composition, fluid(s) flows and pressures, rotational speed, lift rate, spoil return, grout, and number and size of nozzles; and confirm that resultant in situ soil-cement properties and dimensions meet required design criteria.

3.1.2 The test program will be observed, reviewed, and verified for contract conformance by the Engineer. The test program shall be installed in areas near the planned production work at a location agreed upon between the Engineer and jet grouting subcontractor and in representative soils and depths anticipated to be found during production work.

3.1.3 Each test section shall consist of a plan of elements suitable to demonstrate feasibility and installed to the same elevations specified for the production jet grouting work.

3.1.4 The test elements shall be exposed by excavation (where possible) and measured for geometric properties. If full-depth excavation is not feasible, core samples or other testing method shall be used to demonstrate column size/geometry. In cases where excavation is not reasonable, coring at the centroid of a group of three (3) elements shall be carried out, as a minimum.

Where coring is used to verify diameter, verticality shall be measured for each test column and the coreholes to verify the location of the elements at the final depth.

Three acceptable/representative specimens from each column shall be sent to an independent Laboratory for the tests required to satisfy the criteria specified in article 3.5.

3.1.5 Perform hydraulic conductivity testing if specified when jet grouting is used for water cutoff purposes. Hydraulic conductivity testing procedures shall be proposed by the Contractor and approved by the Engineer.

3.1.6 The results of the test program and the recommended jet grouting parameters for the production work shall be submitted in a report to the Engineer for review. The Contractor, at their expense, may be required to repeat the construction of a test section if the results of the test program do not meet the project requirements. The test program shall confirm that the resultant soil-cement properties met the required design criteria prior to the Contractor proceeding with production work.

3.2 Production Work

3.2.1 Execute production jet grouting using the same jet grout tooling, materials, and procedures as demonstrated from the satisfactory set of test elements.

3.2.2 Install jet grout elements, such that continuous spoil return up the borehole annulus is achieved during all work. When spoils return is lost, the Contractor shall stop jetting and reestablish spoils return prior to resuming jet grouting.

3.2.3 Horizontal location and verticality/deviation shall meet the requirements of 3.5.5.

3.2.4 The sequence of jet grout column installation and the need to perform pre-jetting is the responsibility of the jet grouting Contractor and will be based on the results of the successful test program.

3.2.5 Maintain a clean site and dispose of all spoil debris, water, and spilled material during jet grouting operations.

3.2.6 Equipment for mixing, holding, and pumping grout shall be in a secure location and shall be operated to minimize spillage of material. No material will be allowed to enter storm drains or other drainage courses.

3.2.7 The Contractor shall monitor nearby grade, structures, and utilities during all jetting work.

3.2.8 If jet-grouting is interrupted during the execution of a column, the re-start of the jetting shall be undertaken at least 6 inches below the stopping point.

This does not apply when reaming the hole for spoil blockages as described in section 3.2.2 above.

3.2.9 Site access shall be provided to the Engineer for observation of the work.

3.2.10 If reinforcement is required, the Contractor shall install it at the design location in the fresh column, immediately after the completion of the jet-grouted column or shall install in a borehole drilled in the hardened column.

3.3 Quality Control/Quality Assurance

3.3.1 All Jet Grouting shall be performed in the presence of the Engineer. The Engineer shall be notified prior to initiating jet grouting. Monitoring and logging of Jet Grouting operations for both test areas and production work shall be performed by the jet grouting Contractor.

3.3.2 The Contractor's equipment shall be configured to record and continuously show all fluid flows and pressures, rotational speed, depth, and rod lift rates. The rod lift rate and rod RPM shall be set by the driller then automatically controlled by the drill rig and automatically recorded on the jet grout installation log during the entire jet grouting process. The Engineer shall be provided means to monitor this information in real time on request.

3.3.3 All the data monitored and recorded, as described in Section 3.3.2, shall be made available within one working day (Section 1.5.8) to the Engineer in a format previously agreed on prior to the work. The Contractor shall supply the Engineer with the software used for this task. The software shall be capable of processing the recorded data and presenting the data graphically in a satisfactory manner.

3.3.4 Grout mix proportions shall be measured and documented by the Contractor per the submittal requirements in section 1.4.4 above. Appropriate records shall be kept by the Contractor and submitted to the Engineer to verify that grout mixture(s) are as accepted. Include daily quantities of materials used in Daily Reports.

3.3.5 Throughout the jet grouting operations, perform continuous coring to full depth on 2 percent of production columns to obtain drill cores of the jet grouted soil. The core will be evaluated by the Engineer for compliance with specific acceptance criteria defined in 3.5 herein. The Contractor shall be notified immediately if the soil-cement samples do not meet the acceptance criteria outlined herein.

3.3.6 Perform borehole deviation measurements on 2 percent of the columns.

3.4 Daily Reports

3.4.1 Within one business day of a work shift, submit summary daily reports during production jet grouting that provide the information listed below. A sample of the report form proposed for use by the Contractor shall be submitted to the Engineer for approval prior to the start of work.

Daily reports shall include the following:

Equipment and Personnel on site

Work initiated and completed

Production interruptions

Grouting Records

(a) Jet grout element number, size, and location.
(b) Time and date of beginning and completion of each grout element, including interruptions to the jetting process or material supply.
(c) Grout mix data, including mix proportions and unit weight density measurements.
(d) Injection pressure of all fluids used to construct each grout element.
(e) Flow rates of all fluids used to construct each grout element.
(f) Rotation rate and lift rate of jet rods for each grout element.
(g) Total grout quantity used for each element.
(h) Top and bottom elevations of the jet grout element.
(i) Whether flow of spoils return was continuous.

Total quantities of materials used for that day.

Observations of any unusual, or unanticipated conditions including obstructions, stoppages, loss of circulation, etc., impacts on instrumentation or monitoring.

Applicable verification testing done.

3.4.2 Continuous recording of jet grouting parameters shall be provided for each production column to verify consistency with the test program results.

3.5 Acceptance Criteria. Installation records from 3.3 and daily reports from 3.4 documenting that the selected parameters from the test program were accurately repeated for the production work.

3.5.1 Coring / Uniformity:

Full-depth core samples retrieved by the contractor shall be used to evaluate uniformity.

Core recovery (expressed as a percentage) is equal to the total length of recovered core divided by the total core run length. Length of recovered core includes lengths of treated and untreated soil.

Percent treatment is calculated as the total length of recovered core minus the sum of the lengths of unmixed soil regions or lumps that extend across the entire diameter of the core divided by the total core run length expressed as a percentage.

Uniformity is acceptable if percent treatment is at least 80 percent for every 5-ft core run. If the minimum percent treatment cannot be confirmed by coring in coarse sandy or gravelly soil, downhole camera/video can be used to confirm uniformity.

If the contractor uses core runs shorter than 5 ft (e.g., 3 ft), then the recovery and percent treatment can be calculated by adding equal amounts of core run length on either side of the short core run length to make up a total 5-ft run length for calculation purposes.

3.5.2 Unconfined Compressive Strength of Jet Grout Soil Cement Mix: At least 90 percent of all jet grout samples tested shall have a minimum 28-day unconfined compressive strength of 100 psi.

3.5.3 Borehole deviation and horizontal tolerances: The center of the elements shall not be more than 3" from the indicated plan location provided by Engineer.

Deviations shall be less than required for adequate column overlap.

4.0 MEASUREMENT AND PAYMENT

4.1 Method of Measurement. Jet Grouting shall be measured as follows:

Mobilization and demobilization and testing will be measured on a lump sum basis. Mobilization pay item will be deemed complete when the Contractor's equipment is set up and ready to commence jet grouting operations. Demobilization item will be complete when all equipment is removed. Test program will be deemed complete when the test elements are installed, and the test grouting report is submitted and the results accepted by the Engineer.

Jet grouting will be measured on unit cost basis per ton. Jet grouting will be deemed complete when all the columns are installed and accepted by the Engineer.

No separate measurement will be made for the Contractor's Quality Assurance-Quality Control Program, including verification testing, all of which shall be considered part of the Work of jet grouting. However, if coring is utilized as a verification test, coring will be measured by the linear foot of core hole.

4.2 Basis of Payment. Payment for the above described work, including all material, equipment, labor, and any other incidental work necessary, shall be considered as completely covered in pay items:

702-99.01, Jet Grouting Mobilization and Testing, per lump sum.
702-99.02, Concrete Grout, per ton

No separate payment will be made for the Contractor's Quality Assurance-Quality Control Program, including verification testing, all of which shall be considered part of the Work of jet grouting. However, if coring is utilized as a verification test, payment will be made on a unit price basis per linear foot of core hole.

GG. Construction Phasing

1.0 Description. Construction phasing shall be as laid out in the plans. Any changes to construction phasing shall be approved by Engineer prior to construction.

2.0 General Scope and Requirements. The work included in this Job Special Provision shall consist of providing all labor, equipment, materials and performing all operations necessary to complete the intended improvements of this project.

2.1 Phasing. Construction phasing shall be as follows.

Subproject A (See JSP B)

(a) Phase 1: Construct Route A and the North Outer Road as shown in the plans. Remove existing access at Route NN/Springfield Avenue. Remove existing access at Route

A/US60 once NOR is complete and access to US 60 via Route O is established. Reduce speed on Route A to 45 mph. Temporary pavement shall be used along Route A as shown in plans to maintain 2-way traffic on Route A at all times. Install detour signage for Route A to Route O.

Subproject B (See JSP B)

(a) Phase 2A: Construct temporary pavement for J-Turn from Route NN south of Route 60 to Route O. Direct traffic to Route 60/Route O intersection. Reduce EB/WB to single lane traffic during construction activities. Reduce speed on Route 60 EB and WB to 55 mph.
(b) Phase 2B: Construct EB Route 60 lanes outside of the existing pavement. Reduce EB Route 60 to a single lane (outside) during construction activities using temporary concrete traffic barrier (partially pinned). Reduce speed on Route 60 EB and WB to 55 mph. Install detour signage for Route A prior to start of construction.
(c) Phase 2C: Construct remainder of EB Route 60 lanes, Ramp 2, Ramp 4, retaining wall A9352, retaining wall A9354, south bent of Route A bridge over Route 60 and north bent of Route NN bridge over BNSF. EB Route 60 remains reduced to single lane traffic shifted to new pavement and inside lane. Ramp 2 and Ramp 4 to remain closed with channelizers until completion of Phase 2. Speed reduction to 55 mph remains through construction. Route A detour remains in place through construction.
(d) Phase 2D: Construct Ramp 1, Ramp 3, retaining wall A9351, north bent of Route A bridge over Route 60, and remainder of Route A north of Route 60. Reduce WB Route 60 traffic to single lane (inside) during construction activities using channelizers. Speed reduction to 55 mph remains through construction. Route A detour remains through construction. Upon completion of Phase 2D construction, Ramp 1 and Ramp 3 will open for WB traffic to access Route A.
(e) Phase 2E: Construct Route A bridge over Route 60. Reduce EB and WB Route 60 to single lane (outside) to construct intermediate bent and bridge. Speed reduction to 55 mph remains through construction. Upon completion of Phase 2 construction, speed reductions and Route A detour shall be removed. Access to US 60 from Route O pavement shall be removed. J-turn and median crossover at Route O shall remain until Route NN connection to new interchange is complete.

Subproject C (See JSP B)

(a) Phase 3: Construction Route NN south of BNSF including roundabout at existing Route NN. Temporary pavement shall be used along Route NN as shown in plans to maintain 2-way traffic on Route NN at all times. Upon completion of Phase 3, J-turns on US60, median crossover at Route O, median crossover at Route NN, and BNSF rail crossing at Route NN shall be removed.
(b) Phase 4: Construct South Outer Road. Maintain access to properties and sideroads by constructing entrances one half at a time. Removal of at-grade rail crossings shall be completed as soon as possible following alternate access via south outer road is provided. Removals on Route 60 shall be completed at time of rail crossing removal. Standard shoulder closure signage shall be used on Route 60.

3.0 Basis of Payment. Payment for all costs associated with developing, implementing and maintaining Construction Phasing and all other costs associated with this provision, will be considered included in the unit price of each contract item. No direct pay will be made for this provision.

HH. Right-of-Way Clearance – Delayed Possession

1.0 Description. The right of way for this project has been acquired except for:

Parcel 15 (Robert Shannon and Wanda Embrey) – RW and TCE
Parcel 23 (Steven and Amanda Neal) – RW, PE and TCE
Parcel 25 (Kensinger Heritage Trust) – RW, PE and TCE
Parcel 26 (Lucas and Leslie Kensinger) – RW, PE and TCE
Parcel 28 (Kimberly Dawn Brooks) – RW, PE and TCE
Parcel 29 (Elias Pereznegron and Olivia River) – RW, PE and TCE
Parcel 31 (Mark and Letecia Scott) – RW, PE and TCE
Parcel 31a (Missouri DOC) – RW and TCE
Parcel 38 (Richard P. and Clara L. Fleetwood, Trustees) – RW, PE and TCE
Parcel 41 (George W. and Linda L. Hamilton) – RW
Parcel 51 (Roger and Cassie Sawyers) – RW and PE
Parcel 72 (Roger and Anita Lea, trustees of Lea Joint Rev Liv Trust) – RW and TCE
Parcel 75 (Heritage Initiatives LLC) – RW
Parcel 76 (D and F Storage, LLC) – RW and TCE
Parcel 78 (Stidham Homes LLC) – RW and TCE
Parcel 88 (BNSF Railroad) – TCE

1.1 The contractor shall inform itself of the location of this tract. No encroachment, storage of equipment and materials or construction on these tracts shall be permitted until notification by the engineer is given that these tracts have been acquired.

1.2 The contractor shall schedule its work utilizing the available right of way until these tracts are cleared for construction, which is estimated to be December 9, 2024. However, this date expressly is not a warranty by or contractually binding on the Commission as the date the five Tracts will be clear for construction. No encroachment, storage of equipment and materials or construction on these tracts shall be permitted until the contractor is notified by the engineer that these tracts have been acquired.

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1.3 The contractor shall have no claim for damage for delay, disruption, interference or otherwise as a result of the unavailability of **Parcels listed above in Item 1.0.** The contractor may be given an extension of time upon proof of actual delay caused by the unavailability of these tracts as approved by the engineer.

II. Property Owner Notification

1.0 Description. It shall be the contractor's responsibility to inform and notify the adjacent property owner 48 hours prior to starting any construction activities that may impact driveway and parking lot access or occur along the frontage of the property owner's parcel. Notification shall be in written form and include the contractor's contact information, the Engineer's contact information, and an estimated schedule of work and the associated impacts.

2.0 Basis of Payment. No direct payment will be made to the contractor for the labor, equipment, material, or time required to comply with this provision.

JJ. 404 Permit Delay

1.0 Description. The contractor and the Commission understand and agree that there has been and may continue to be a delay in the issuance of the 404 Permit for this project. This permit delay may result in restraints on the contractor's ability to perform work on this project.

2.0 The 404 permit is anticipated to be issued by the Corps of Engineers by the notice to proceed date of this project, however, this date is not warranted, and a later date is equally possible. The contractor and the Commission understand and agree that due to a delay in the issuance of the 404 Permit, the work site for this job, or parts of it, may not be available for the contractor to commence work on the job site until after the notice to proceed. Therefore, the parties mutually agree that the notice to proceed on this project will not be issued until the 404 Permit has been issued, unless the engineer and the contractor mutually decide that the notice to proceed should be issued on an earlier date.

2.1 The contractor will not have general access to the work site for construction purposes until the date the notice to proceed is issued. However, the contractor and its subcontractors may proceed to order necessary supplies, materials, and equipment for this project, and may visit the available portions of the job site to prepare for the later construction work, prior to the date the notice to proceed is issued.

2.2 The contractor is required to plan its order of work, manpower and equipment loading, and bid, taking into consideration all effects of delayed issuance of the 404 Permit. Any effects, impacts, cumulative impacts or consequences of delay in issuance of the 404 Permit shall be non-compensable. This shall include any claim for extra work, as well as delay effects on work not delayed, suspension or acceleration of the work, differing site condition, interference or otherwise.

2.3 The contractor and the Commission understand and agree that by executing this contract, the contractor releases the Commission from any possible liability under this contract or for a possible breach of this contract for failing to make the job site available until the notice to proceed is issued in accordance with the terms of this contract, or for failing to timely and promptly issue the notice to proceed to the contractor, and for all direct and indirect, incidental, or consequential damages or losses the contractor may suffer from this delay in making the job site available or issuing a timely notice to proceed. The contractor further waives any possible claim, action, cause of action, or right to sue the Commission, Missouri Department of Transportation, or their members, employees, agents of representatives which the contractor may have by contract, at law or in equity, concerning the delay in issuing the notice to proceed of making the job site available, or any liability, losses, or damages the contractor may have experienced as a result of those Commission actions.

2.4 The contractors SOLE REMEDY for any delay in issuance of the 404 Permit is that the completion date of this contract shall be extended, day for day, for each day that delayed issuance of the 404 Permit actually interferes with the major items of work as of the time of the occurrence both as shown by the contractor's current progress schedule and as determined by the engineer.

2.5 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.

KK. Delayed Receipt of Railroad Clearance Certification

1.0 Description. The contractor should be aware that MoDOT has not received the required Railroad Clearance certification at the time of advertisement for bid; however, MoDOT anticipates that the required Railroad Clearance Certification will be provided prior to the project's "Notice to Proceed" date for construction operations. If MoDOT cannot provide the Railroad Clearance certification prior to the project's "Notice to Proceed" notification, the contractor will not have access to any Burlington Northern Santa Fe Railroad property until the Railroad Certifications have been provided to and reviewed by FHWA.

2.0 Basis of Payment. No direct pay shall be provided for any labor, equipment, time or materials necessary to complete this work. The contractor shall have no claim, or basis for any claim or suit whatsoever, resulting from compliance with this provision. Any allowance for time extensions, that results from a delay in railroad clearance, will be covered under Sec 108.14 of the current Missouri Standard Specifications for Highway Construction.

LL. Rigid Geogrid to Enhance Aggregate Base or to Enhance Rock Base NJSP-18-11B

1.0 Description. This work shall consist of furnishing and installing rigid geogrid base reinforcement, over a separation geotextile, on a prepared subgrade prior to the placement of the aggregate base or rock base as shown in the plans or as directed by the engineer.

2.0 Materials. The rigid geogrid shall be manufactured from a punched and drawn polypropylene sheet integrally formed into a biaxial or triaxial grid structure designed to provide significant mechanical interlock with the aggregate material being reinforced. The rigid geogrid structure shall be dimensionally stable to retain its reinforcement and interlock capabilities under repeated dynamic loads while in service and shall have high resistance to damage during construction, ultraviolet degradation, and all naturally encountered forms of chemicals, alkalis, acids, and biological degradation encountered in the materials being reinforced. Woven or flexible geogrids will not be allowed. A separation geotextile meeting the requirements of Sec 1011.3.4 shall be used in conjunction with the rigid geogrid. All aggregate base shall comply with Sec 304 and all rock base shall comply with Sec 303.

2.1 Physical Properties. The rigid geogrid shall meet the following properties:

Property	Test Method	Units	Geogrid Requirements1	
			MD	XMD
Rigid Geogrid Type	Observed	Punched & Drawn Polypropylene		
Aperture Shape	Observed	Equilateral Triangular, Rectangle, or Square		
Minimum Roll Width	Observed	feet	9	
Minimum Index Proerties (Unless indicated otherwise)				
Rib Thickness	Observed	inch	0.05	0.05
Maximum Aperture Dimensions[6,7]	Calipered	inch	1.3	1.3
Tensile Strength @ 2 % Strain	ASTM D6637	lbs/ft	410	620
Tensile Streingth @ 5 % Strain	ASTM D6637	lbs/ft	810	1340
Ultimate Tensile Strength	ASTM D6637	lbs/ft	1310	1970
Structural Integrity				
Junction Efficiency[2]	ASTM D7737 Method A	Percent	93	
Flexural Stiffness[3]	ASTM D7748	mg-cm	750,000	
Aperture Stability[4]	GRI GG9	m-N/deg	0.65	
Durability				
Resistance to Installation Damage[5]	ASTM D 6637	%SC / %SW / %GP	95 / 93 / 90	
UV Resistance @ 500 hours	ASTM D 4355	Percent	100	
Resistance to Chemical Degradation	EPA 9090 Emersion Testing	Percent	100	

Notes:
1. Minimum Average Roll Values (MARVs) determined in accordance with ASTM 4759, unless indicated otherwise. MD = Machine Direction; XMD = Cross-Machine Direction
2. Load transfer capability expressed as a percentage of ultimate tensile strength.
3. Resistance to bending force determined in accordance with ASTM D7748, using specimens of width two ribs wide, with transverse ribs cut flush with exterior edges of longitudinal ribs (as a “ladder”), and of length sufficiantly long to enable measurement of the overhang dimension.
4. Resistance to in-plane rotational movement measured by applying a 20 kg-cm (2 m-N) moment to the central junction of a 9 inch x 9 inch specimen restrained at its perimeter in accordance with GRI GG9.
5. Resistance to loss of load capacity or structural integrity when subjected to mechanical installation stress in clayey sand (SC), well-graded sand (SW), and crushed stone classified as poorly graded gravel (GP). The rigid geogrid shall be sampled shall be in accordance with ASTM D5818 and load capacity shall be determined in accordance with ASTM D6637.
6. Nominal dimensions rounded to the nearest one tenth of an inch.
7. Maximum MD or XMD shall be no greater than or equal to 2*D85 of the aggregate base. Minimum MD or XD shall be no less than 1.0 inches.

2.2 Acceptance. The contractor shall furnish a manufacturer’s certification to the engineer for each lot of material furnished stating the name of the manufacturer, the chemical composition and certifying that the material supplied is in accordance with this specification. The certification shall include or have attached typical results of tests from specific lots for all specified requirements. A rigid geogrid will be rejected at installation if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transport, handling or storage.

2.3 Handling. Each roll shall be clearly marked with manufacturer’s name, brand name, lot number. During all periods of shipping and storage, the separation geotextile and rigid geogrid shall be protected from temperatures greater than 140 deg. F and all deleterious materials that

might otherwise become affixed to the rigid geogrid and affect its performance. The manufacturer's recommendations shall be followed regarding protection from direct sunlight. The separation geotextile and rigid geogrid shall be stored off the ground in a clean, dry environment.

3.0 Construction. The separation geotextile and rigid geogrid shall be installed in accordance with the manufacturer's recommendations and with this job special provision.

3.1 Site Preparation. The surface shall be smooth and free of stumps, large stones, sharp objects, and debris that may puncture the separation geotextile or damage the rigid geogrid.

3.2 Separation Geotextile.

3.2.1 The separation geotextile fabric shall be used on all subgrades that require the rigid geogrid to prevent the infiltration of fines.

3.2.2 Separation Geotextile Installation. The separation geotextile shall be laid out smooth and applied with tension to minimize wrinkles or folds on the prepared subgrade. The separation geotextile shall be oriented such that the roll length runs parallel to the construction centerline.

3.2.3 Exposure. The separation geotextile shall be covered with rigid geogrid material the same day of placement to protect against unnecessary exposure.

3.2.4 Overlaps. The end of separation geotextile rolls and adjacent separation geotextile rolls shall be overlapped a minimum of 3 feet. The overlap shall be in the direction of anticipated aggregate placement and shall be held in place by U-staples, washer pins or aggregate piles.

3.3 Rigid Geogrid Installation. The ridid geogrid shall be laid out smooth and applied with tension to minimize wrinkles or folds on the separation geotextile. The rigid geogrid shall be oriented such that the roll length runs parallel to the construction centerline.

3.3.1 Exposure. The rigid geogrid shall be covered with aggregate base material the same day of placement to protect against unnecessary exposure.

3.3.2 Overlaps. The end of rigid geogrid rolls and adjacent rigid geogrid rolls shall be overlapped a minimum of 3 feet. The overlap shall be in the direction of anticipated aggregate placement and shall be held in place by U-staples, washer pins or aggregate piles.

3.3.3 Intermediate Splicing. The rigid geogrid may require intermediate splices to provide for a smooth layout minimizing wrinkles or folds around curves. Each splice shall be overlapped a minimum of 3 feet and kept taut with fasteners.

3.4 Aggregate Placement. Materials shall be placed onto the rigid geogrid from the edge or over previously placed aggregate. A minimum of 6 inches of crushed aggregate shall be placed over the rigid geogrid before construction equipment is allowed on the material. Construction equipment will not be allowed directly on the rigid geogrid. Rollers shall not use vibratory compaction. Avoid sudden stops or sharp turns when operation construction equipment over the rigid geogrid.

3.5 Damaged Areas. If any separation geotextile or rigid geogrid is damaged during installation, the contractor shall repair or replace the separation geotextile and rigid geogrid in accordance

with manufacturer's recommendations. The contractor shall replace any separation geotextile and rigid geogrid damaged prior to or during installation at no expense to the commission.

4.0 Method of Measurement. Measurement of the separation geotextile and rigid geogrid will be made to the nearest square yard. Incidental overlaps for connections and splices are not included in the pay item.

5.0 Basis of Payment. Payment for the rigid geogrid will be paid for at the contract unit price for 304-99.05, Rigid Geogrid to Enhance Aggregate or Rock Base, per square yard. Payment for the separation geotextile will be paid for at the contract unit price for 624-01.04A, Separation Geotextile, per square yard.

MM. Concrete and Asphalt Joint Sealer

1.0 Description. This work shall consist of furnishing and installing concrete and asphalt joint sealer where new permanent pavement abuts existing pavements or along seams between varying types of pavement (asphalt/concrete).

2.0 Materials. Concrete and asphalt joint sealer shall be in accordance with Standard Specification 1057.5 and ASTM D 6690, Type II.

3.0 Basis of Payment. No direct pay will be made for Concrete and Asphalt Joint Sealer. All costs associated with placement of concrete and asphalt joint sealer shall be considered incidental to costs for alternate pavements

NN. Special Consideration of Change Orders and Value Engineering JSP-21-07

1.0 Description. Increased Federal Share has been approved by the FHWA for an innovative technology or practice. The Commission will receive an additional five percent Federal Share of the overall contract value due to innovations within the following pay item(s).

Pay Item Number	Pay Item Description	Innovation
7034234	SLAB ON CONCRTE NU-GIRDER (WITH TRANSPARENT FORMS)	Transparent Forms

Due to the increased Federal Share, the project components related to the innovation(s) described above must be constructed with the materials, quantities, methods and innovations as shown on the project plans and specifications. If the contractor requests materials, quantities, methods or innovations other than those included in the plans and specifications, the request must be reviewed and approved by the Commission and FHWA. Approved changes to the innovation items above shall be at no additional cost to the Commission and shall not increase the contract time.

2.0 Special Consideration of Change Orders and Value Engineering Change Proposals (VECP). Change ordering and/or value engineering the pay item(s) listed in section 1.0 jeopardize the ability for the Commission to receive an additional Federal Share for the overall

contract value. Special consideration should be given to the change order value for removing or modifying such item(s) from the contract ensuring the benefit outweighs the cost.

3.0 Contacting Financial Services. If it is determined that the proposed change order and/or VECP outweighs the additional overall five percent Federal Share value, the Engineer shall notify the MoDOT project manager.

OO. DBE Prompt Payment Reporting JSP-24-05A

1.0 Description.

1.1 This provision will only apply to contracts that have a Disadvantaged Business Enterprise (DBE) goal greater than 0% and have at least one DBE subcontractor.

1.2 MoDOT monitors the payments made by prime contractors and subcontractors to DBEs for compliance with DBE payment monitoring rules as outlined in 49 CFR 26.37. To facilitate this monitoring, MoDOT requires prime contractors to report their remitted payments to DBEs and subcontractors to report their remitted payments to lower-tier DBEs.

1.3 Tracking of DBE payments are made through the Signet™ application (Signet). Signet is a third-party service, supported by the vendor, for usage by the prime contractor and all subcontractors. Signet is only a reporting tool; it does not process financial transactions. MoDOT does not provide direct technical support for Signet. Information about Signet may be found at https://infotechinc.zendesk.com/hc/en-us/articles/360058810073-Signet-Get-started-with-the-Signet-service.

1.4 Upon completion of the first pay estimate on the contract, Signet will automatically send an email to the prime contractor prompting registration. The prime will be required to pay a one-time, fixed fee of $1,000 for this contract directly to the Signet vendor. Use of Signet to track DBE payments will be available for the life of the contract, regardless of the contract value, contract duration, number of subcontractors, or payments reported. No additional fee will be charged to subcontractors that are required to report payments or DBEs that are required to verify payments through Signet. The contractor may also, at no additional cost, report payments through Signet to subcontractors that are not DBEs.

1.5 After each estimate, when contractor reporting of payments is complete, the subcontractor will receive an email notifying them of the payment and requesting verification of the reported payment. A subcontractor that has not completed registration with Signet will be prompted to do so at this time.

1.6 Users will be set up automatically based on information in MoDOT's vendor list. Additional users under each contractor may be added once registration has been completed within Signet. The current vendor list can be found at https://www.modot.org/bid-opening-info.

1.7 For purposes of this requirement, payer is defined as the prime contractor or subcontractor that reports a payment in Signet to a vendor that is either a subcontractor, trucker, manufacturer, regular dealer, or broker. Payee is defined as the vendor that receives notification of payment through Signet from the prime contractor or a higher-tier subcontractor. Payment is defined as issuing an Electronic Funds Transfer (EFT) or mailing a check to a payee.

2.0 Requirements. Payers must report remitted payment to DBEs within Signet, for work performed by the DBE subcontractor, DBE trucking, materials supplied from a DBE manufacturer, dealer, or broker, as well as a return of retainage (and/or other amounts withheld), within 15 calendar days.

2.1 Prime contractors must report remitted payments to DBEs within 15 calendar days of each payment it receives from MoDOT. Prime contractors must also report payments to non-DBE subcontractors if that subcontractor is making payment to a lower tier DBE subcontractor, trucker, manufacturer, regular dealer, or broker.

2.2 The payer must report the following information within Signet:

a. The name of the payee.
b. The dollar amount of the payment to the payee.
c. The date the payment was made.
d. Any retainage or other amount withheld (if any) and the reason for the withholding (if other than retainage).
e. The DBE function performed for this payment (e.g., contracting, trucking, or supplying as a manufacturer, dealer, or broker).
f. Other information required by Signet.

The payer must report its return of retainage (and/or other amounts withheld) in separate, standalone payment entries (i.e., without being comingled with a payment for work performed or materials supplied).

2.3 In the event that no work has been completed by a DBE during the estimate period, such that no payment is due to a DBE subcontractor, trucker, manufacturer, regular dealer, or broker, then the prime contractor will mark payment complete within Signet, and no other payments are required to be reported.

2.4 Each subcontractor making a payment to a lower-tier DBE must report remitted payments within Signet, as detailed in Section 2.2, within 15 days of receipt of each payment from the prime contractor.

2.5 DBE payees must verify in Signet each payment reported by a payer within 15 calendar days of the payment being reported by the payer. This verification includes whether the payment was received, and if so, whether it was as expected.

3.0 Basis of Payment. A fixed cost of $1,000 will be paid on this contract for the required software to report payments to DBEs through Signet. Regardless of the number of projects in a contract, a single payment will be made under item 108-10.00, SIGNET DBE REPORTING, per lump sum. The engineer reserves the right to underrun this item for any reason. Any additional costs for registration, software, usage, time, labor, or other costs will be considered incidental and no direct payment will be made.

PP. <u>CRISI – Federal Rail Administration Grant Obligation Delay</u>

1.0 Description. The contractor and the Commission understand and agree that there has been and may continue to be a delay in the obligation of funds related to the Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program grant for this project. This grant

obligation delay may result in restraints on the contractor's ability to commence work on this project.

2.0 The CRISI grant funds obligation is anticipated to be issued by the Federal Rail Administration (FRA) by the notice to proceed date of this project, however, this date is not warrantied and a later date is potentially possible. The contractor and the Commission understand and agree that due to a delay in the obligation of funds by FRA related to the subject CRISI grant, the contractor may not be allowed to commence work on the job site or parts of it until after the notice to proceed. Therefore, the parties mutually agree that the notice to proceed on this project will not be issued until the FRA has issued proper notice of the obligation of funds for the subject CRISI grant, unless the engineer and the contractor mutually decide that the notice to proceed should be issued on an earlier date.

2.1 The contractor will not have general access to the work site for construction purposes until the date the notice to proceed is issued. However, the contractor and its subcontractors may proceed to order necessary supplies, materials, and equipment for this project, and may visit the available portions of the job site to prepare for the later construction work, prior to the date the notice to proceed is issued.

2.2 The contractor is required to plan its order of work, manpower and equipment loading, and bid, taking into consideration all effects of delayed CRISI grant funds obligation. Any effects, impacts, cumulative impacts or consequences of delay in the obligation of CRISI grant funds shall be noncompensable. This shall include any claim for extra work, as well as delay effects on work not delayed, suspension or acceleration of the work, differing site condition, interference or otherwise.

2.3 The contractor and the Commission understand and agree that by executing this contract, the contractor releases the Commission from any possible liability under this contract or for a possible breach of this contract for failing to make the job site available until the notice to proceed is issued in accordance with the terms of this contract, or for failing to timely and promptly issue the notice to proceed to the contractor, and for all direct and indirect, incidental, or consequential damages or losses the contractor may suffer from this delay in making the job site available or issuing a timely notice to proceed. The contractor further waives any possible claim, action, cause of action, or right to sue the Commission, Missouri Department of Transportation, or their members, employees, agents of representatives which the contractor may have by contract, at law or in equity, concerning the delay in issuing the notice to proceed of making the job site available, or any liability, losses, or damages the contractor may have experienced as a result of those Commission actions.

2.4 The contractors SOLE REMEDY for any delay in CRISI grant funds obligation is that the completion date of this contract shall be extended, day for day, for each day that delayed obligation of the CRISI grant funding actually interferes with the major items of work as of the time of the occurrence both as shown by the contractor's current progress schedule and as determined by the engineer.

2.5 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.

QQ. Notice to Bidders

1.0 Description This provision is provided to notify bidders of items/conditions specific to the J7P3425C roadway project.

2.0 Construction Phasing. Job Special Provision GG has been provided as the preferred schedule for construction activities. Contractor shall be familiar with the construction phasing included in the plans, as well as the completion dates as specified in Special Provision B, G, and H.

3.0 BNSF Railroad. This project includes construction activities on and near the BNSF Railway's right of-way. Contractor shall be familiar with Special Provision O, Special Provision KK and any additional requirements for construction activities on or near railroad right-of-way.

4.0 Right-of-Way. This project is being let with partial right-of-way clearance. Contractor shall be familiar with the parcels that have been cleared at time of letting, and shall not encroach on any parcel until such notice is given, see Special Provision HH. MoDOT will notify Contractor as parcels are acquired.

5.0 Ground Improvements. Ground improvements are included in this project scope. Contractor shall have familiarity and experience with aggregate piers and jet grouting to ensure proper ground improvement.

6.0 Utilities. Some utility relocation work may be continuing (or may still be underway) after the project is awarded. Contractor shall plan accordingly and adjust sequence of operations to accommodate any utility relocation activity. See Special Provision I – Utilities.

7.0 Village of Diggins Water and Sanitary Sewer. Water and sewer main relocations for the the Village of Diggins are included in this project. The exact locations of the water and sewer mains along existing Route NN and the North Outer Road are not known at this time. See Special Provision I – Utilities.

8.0 Tree Clearing. Tree clearing for construction Phase 1 is being completed by MoDOT forces. MoDOT forces will clear all trees with suitable bat habitat during the required October 16 through March 31 timeframe. See Special Provision U for further information.

9.0 Basis of Payment. This provision is being provided to alert bidders of specific provisions included with this project. No additional payment beyond what is specified in each provision referenced above will be made for this provision.