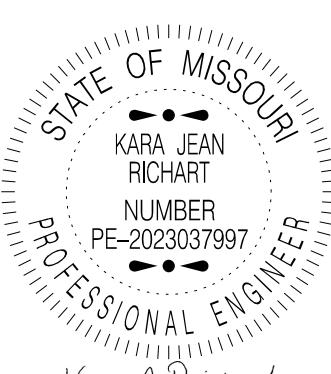


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 Kara Jean Richart Number PE-2023037997 12/01/2025 7:58:19 AM KARA JEAN RICHART - CIVIL MO-PE-2023037997	<p><b>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</b> 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636</p> <p>If a seal is present on this sheet, JSP's have been electronically sealed and dated.</p> <p>JOB NUMBER: JSU0200B GREENE COUNTY, MO DATE PREPARED: 10/27/2025</p> <p>ADDENDUM DATE:</p> <p>Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All</p>
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**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](http://www.modot.org) under "Doing Business with MoDOT", "Contractor Resources". Effective Wage Rates will be posted 10 days prior to the applicable bid opening. These supplemental bidding documents have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

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

General Provisions & Supplemental Specifications

Supplemental Plans to July 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.

**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.

Job No. JSU0200B  
Route: 413  
County: Greene

Notice to Proceed: March 23, 2026  
Contract Completion Date: November 1, 2026

**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
JSU0200B	56	\$7600

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.

### 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

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

**All Routes: 6:00 a.m. – 9:00 am and 4:00 p.m. – 6:00 p.m. Weekdays**

**3.4** Any work requiring a reduction in the number of through lanes of traffic shall be completed during nighttime hours. Nighttime hours shall be considered to be 8:00 p.m. to 6:00 a.m. for this project.

**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 **\$500 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. Project Contact for Contractor/Bidder Questions JSP-96-05A**

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

Melanie Belote, Project Contact  
Southwest District  
1107 W. Chestnut Expressway  
Springfield, MO 65802

Telephone Number: (417) 689-3783  
Email: [Melanie.Belote@modot.mo.gov](mailto:Melanie.Belote@modot.mo.gov)

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

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

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

Brad Gripka, Resident Engineer  
Southwest District  
2549 North Mayfair  
Springfield, MO 65803

Telephone Number: (417) 895-6720  
Email: [Donald.Gripka@modot.mo.gov](mailto:Donald.Gripka@modot.mo.gov)

**E. 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
MoDOT Customer Service: 417-895-7600
Greene County Sheriff's Department: 417-868-4040
City of Springfield Police Department: (417) 864-1810
City of Springfield Fire Department: (417) 874-2300

Emergency Only Numbers
911
*55 cell phone – Missouri Highway Patrol
417-864-1160 – MoDOT Incident Management Coordinator

**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.

F. Supplemental Revisions JSP-18-01KK

- Compliance with 2 CFR 200.216 – Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment.

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

- Stormwater Compliance Requirements

**1.0 Description.** This provision requires the contractor to provide a Water Pollution Control Manager (WPCM) for any project that includes land disturbance on the project site and the total area of land disturbance, both on the project site, and all Off-site support areas, is one (1) acre or more. Regardless of the area of Off-site disturbance, if no land disturbance occurs on the project site, these provisions do not apply. When a WPCM is required, all sections within this provision shall be applicable, including assessment of specified Liquidated Damages for failure to correct Stormwater Deficiencies, as specified herein. This provision is in addition to any other stormwater, environmental, and land disturbance requirements specified elsewhere in the contract.

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

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

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

**2.1 Duties of the WPCM:**

- (a) Be familiar with the stormwater requirements including the current MoDOT State Operating Permit for construction stormwater discharges/land disturbance activities; MoDOT's statewide Stormwater Pollution Prevention Plan (SWPPP); the Corps of Engineers Section 404 Permit, when applicable; the project specific SWPPP, the Project's Erosion & Sediment Control Plan; all applicable special provisions, specifications, and standard drawings; and this provision;
- (b) Successfully complete the MoDOT Stormwater Training Course within the last 4 years. The MoDOT Stormwater Training is a free online course available at MoDOT.org;
- (c) Attend the Pre-Activity Meeting for Grading and Land Disturbance and all subsequent Weekly Meetings in which grading activities are discussed;
- (d) Oversee and ensure all work is performed in accordance with the Project-specific SWPPP and all updates thereto, or as designated by the engineer;
- (e) Review the project site for compliance with the Project SWPPP, as needed, from the start of any grading operations until final stabilization is achieved, and take necessary actions to correct any known deficiencies to prevent pollution of the waters of the state or adjacent property owners prior to the engineer's weekly inspections;
- (f) Review and acknowledge receipt of each MoDOT Inspection Report (Land Disturbance Inspection Record) for the Project within forty eight (48) hours of receiving the report and ensure that all Stormwater Deficiencies noted on the report are corrected as soon as possible, but no later than stated in Section 5.0.

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

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

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

**5.0 Stormwater Deficiency Corrections.** All stormwater deficiencies identified in the Inspection Report shall be corrected by the contractor within 7 days of the inspection date or any extended period granted by the engineer when weather or field conditions prohibit the corrective work. If

the contractor does not initiate corrective measures within 5 calendar days of the inspection date or any extended period granted by the engineer, all work shall cease on the project except for work to correct these deficiencies, unless otherwise allowed by the engineer. All impact costs related to this halting of work, including, but not limited to stand-by time for equipment, shall be borne by the Contractor. Work shall not resume until the engineer approves the corrective work.

**5.1 Liquidated Damages.** If the Contractor fails to complete the correction of all Stormwater Deficiencies listed on the MoDOT Inspection Report within the specified time limit, the Commission will be damaged in various ways, including but not limited to, potential liability, required mitigation, environmental clean-up, fines, and penalties. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$2,000 per day for failure to correct one or more of the Stormwater Deficiencies listed on the Inspection Report within the specified time limit. In addition to the stipulated damages, the stoppage of work shall remain in effect until all corrections are complete.

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

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

**106.9 Buy America Requirements.**

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

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

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

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

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

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

be required to submit step certification documentation with the shipment for some selected steel and iron materials. The AASHTO Product Evaluation and Audit Solutions compliant supplier shall maintain the step certification documentation on file and shall provide this documentation to the engineer upon request.

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

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

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

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

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

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

contractor shall submit a domestic certification for all construction materials listed that are incorporated into the project.

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

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

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

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

- (A) For projects obligated on or after October 1, 2025, the product was manufactured in the United States; and
- (B) For projects obligated on or after October 1, 2026, the product was manufactured in the United States and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product.

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

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

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

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

- Third-Party Test Waiver for Concrete Aggregate

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

G. 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.

H. Access to Commercial Properties

**1.0 Description.** This improvement is in a highly commercial area. While working on and around commercial entrances, the contractor shall make every reasonable effort to minimize any interference to business and to pursue the work diligently. Under no circumstances shall the contractor block ingress/egress to and from businesses during the normal business hours of each business unless approved by the property owner and the engineer.

**1.1** The contractor shall contact each business at least one (1) week in advance to advise them of the work that will take place before working on each business entrance. In some cases where a property has more than one entrance, the property owner may have a preference on whether to have one entrance closed while it is worked on or whether to have the entrances worked on one-half at a time. The contractor is required to do the work according to each individual property owner's preference. The contractor shall not disturb any existing trees, shrubs, landscaping, small block walls or irrigation lines. The contractor shall be solely responsible for repairing any damage to the property caused by contractor operations.

**2.0 Basis of Payment.** No direct payment will be made to the contractor for all costs incurred with compliance of this provision.

I. Ethernet Network Switch

**1.0 Description.** The proposed location for the new Ethernet switch installation is as follows, and as shown on the plans.

- Sunshine & Zimmer

**2.0 Ethernet Switch.** The Ethernet switch and power supply will be MoDOT-furnished and configured. The contractor shall work together with MoDOT to install the Ethernet switch and power supply. The contractor shall furnish and install CAT 6 cable and fiber optic jumpers to complete connections to the fiber patch panel and installed hardware.

**2.1** The Ethernet switch and power supply shall be rack mounted in the ITS cabinet, as directed by the engineer.

**3.0 CAT 6 Cable.** The contractor shall furnish and install CAT 6 cable in the ITS cabinet, and shall complete the connections between the Ethernet switch in the ITS cabinet and traffic signal controller and battery backup system in the signal cabinet. All other devices shall be installed in

the ITS cabinet and connected with CAT 6 pigtails from that equipment, such as the POE injector, video detection system encoder, or other equipment in the ITS cabinet to the switch as shown on the plans.

**4.0 Method of Measurement.** This item will be measured per each Ethernet switch installed, complete in place, including the CAT 6 Ethernet cable connection.

**5.0 Basis of Payment.** The contract unit price for installing the MoDOT-Furnished Ethernet Switch in ITS cabinet shall include full compensation for installing MoDOT-Furnished Ethernet Switch, and for furnishing all labor, materials, appropriate connectors, fiber optic jumpers, tools, equipment and incidentals, and for doing all the work involved in installing Ethernet Switch, complete in place, as shown on the plans and specified in the Standard Specifications and these Special Provisions, and directed by the Engineer. No additional compensation shall be allowed.

**5.1** The contract unit price for furnishing and installing CAT6 Ethernet cable shall be paid under section M, CAT 6 Ethernet Cable.

Item No.	Item Description	Unit
910-99.02	Install MoDOT Furnished Ethernet Switch	each

J. Fiber Optic Cable

**1.0 Description.** This work shall consist of installing, splicing, and terminating fiber optic cables as shown on the plans. The work shall be in accordance with Sec 902 and 1092.

**2.0 Fiber Optic Cable Requirements**

See Section 902.12.6.3 Fiber Optic Interconnect Cable. The fiber optic cable shall be a 24 strand Single Mode Fiber Optic (SMFO). The 24 strands shall be bundled in groups of 6 per buffer tube. The buffer tubes containing fiber shall be blue, orange, green and brown. Each buffer tube shall contain 6 strands that will be blue, orange, green, brown, slate, and white. (See table below for graphical detail.)

24-STRAND FIBER OPTIC CABLE		
FIBER NO.	BUFFER TUBE	FIBER COLOR
1	BLUE	BLUE
2		ORANGE
3		GREEN
4		BROWN
5		SLATE
6		WHITE
7	ORANGE	BLUE
8		ORANGE
9		GREEN
10		BROWN
11		SLATE
12		WHITE
13	GREEN	BLUE
14		ORANGE
15		GREEN
16		BROWN
17		SLATE
18		WHITE
19	BROWN	BLUE
20		ORANGE
21		GREEN
22		BROWN
23		SLATE
24		WHITE

**2.1 Fiber Assignment .** The Fiber assignments shall be provided as part of the plans.

**2.2 Fiber Optic Cable Route Records.** The Contractor shall provide MoDOT with a cable route diagram indicating the actual cable route and foot marks, for all intersections, directional change points in the cable routing, and all termination points. The Contractor shall record these points during cable installation. Cable system As-Built drawings showing the exact cable route shall be provided by the Contractor to MoDOT. Information such as the location of slack cable and its quantity shall also be recorded in the cable route diagram. Each fiber connectors and patch panel connectors shall be tagged with its fiber number and associated field element location. Each tag shall be permanently attached by a nylon tie-lock to the cable or connectors.

**3.0 Acceptance Testing.** After the fiber optic cable installation, each fiber in each section shall be tested for attenuation and continuity as a minimum. The testing shall be conducted by a licensed independent testing agency, approved by MoDOT. Contractor shall make all necessary arrangements to facilitate the performance of all testing. Any sections that fail the testing shall be replaced at the contractor's expense and retested. No separate payments will be made for testing, to the contractor.

All testing shall be performed in an accepted manner and in accordance with the testing equipment manufacturer's recommendations. All data shall be recorded and submitted to the engineer.

**3.1 Attenuation** The end-to-end attenuation shall be measured for each link after installation by insertion loss testing.

The launch cable shall be connected to the light source and the receive cable to the power meter. The two reference cables shall then be connected via a termination hub. A reference power reading (P1) shall then be taken and recorded.

The system link to be tested shall then be inserted between the launch and receive cables using 2 termination hubs. A test power reading (P2) shall then be taken and recorded.

The link attenuation A) in dB shall be recorded as the mathematical difference between the reference power (P1) and the test power (P2).

Insertion loss testing shall be performed in both directions along the link. The direction of the test shall be recorded in the documentation. The testing shall be submitted on disk as well as a hardcopy.

**3.2 Transmitter/Receiver Power Levels** The output power levels at the network hardware transmitters and receivers shall be measured in milliwatts and recorded for system documentation.

The power meter shall be connected to the transmitter side of the equipment with a system jumper. The transmit power level shall then be read and recorded. The transmitter shall then be re-connected to the cable link and the power meter connected to the receiver side of the equipment. The receive power level shall then be read and recorded.

**3.3 Continuity** Continuity tests shall be used to determine whether a test or system jumper does or does not pass light. A continuity test shall also be used to assure the fibers have not been crossed over in the jumper and to assure that the transmit fiber goes to the receiver fiber.

To perform continuity test, a high-intensity flashlight shall be aimed into the connector at one end, while an observer watches for a flicker of light at the other end.

**3.4 Optical Time Domain Reflectometer (OTDR) Testing** An Optical Time Domain Reflectometer (OTDR) shall be used to evaluate the quality and length of cable reels prior to use. The fiber loss in dB/Km and the length of each reel shall be recorded in the documentation. The maximum attenuation of the cable shall be 3.5 dB/Km nominal, measured at room temperature at 850 nm [equivalent for single-mode]. This shall be submitted on disk with a copy of the software for review.

A hard copy of OTDR signature traces for all system links shall be made and provided in the documentation.

**4.0 Basis of Payment.** In accordance with Sec 902.25.

Item No.	Item Description	Unit
910-99.03	Misc. – Fiber Optic Cable, 24 – Fiber, Single Mode	LF

K. ITS/Fiber Splice Cabinet

**1.0 ITS/Fiber Cabinet.**

**1.1 ITS/Fiber Cabinet Requirements.** The cabinet shall be a Type 332 in accordance with the Traffic Signal Control Specifications published by the California Transportation and Housing Agency, Department of Transportation (Caltrans). The aluminum housing material shall be a minimum of 0.125 inches in thickness. All cabinets shall have a natural aluminum finish, free from blemishes. All seams shall be continuously welded and ground smooth. All fasteners must be stainless steel.

The housing shall feature two doors with latches, hinges and door gaskets. One cabinet door shall have louvers in the lower quarter and a replaceable filter for ventilation. All cabinet doors shall be equipped with No. 2 Corbin locks. Two keys shall be provided with each cabinet. An EIA 19-inch rack shall be installed including side panels where cabinet power distribution components will be mounted.

A thermostatically controlled fan shall be installed in the top of the cabinet capable of moving 100 CFM of ventilation airflow.

LED lighting fixtures suitable for mounting at the top of the 19-in rack shall be installed in both the front and rear of the cabinet. Each shall be wired through door activated switches.

One aluminum 19-inch rack mountable shelf shall be provided. The shelf shall be secured to the rack rails at all four corners.

**1.2 ITS/Fiber Cabinet Electrical Distribution.** A cabinet electrical distribution system consisting of the following elements shall be installed. Components shall be neatly arranged, mounted and wired on the lower quarter of the hinge-side rack side panel.

- One power wiring block for service conductors
- One 20 Amp single pole unit mount, feed-through circuit breaker
- One Edco SHA1210 surge suppressor or approved equivalent
- One 2 – gang outlet box with duplex outlets installed (quadruplex) with cover plate
- One 12 position minimum barrier type terminal strip providing access to AC+ where cabinet fan and light circuits will be landed
- One 12 position minimum copper AC neutral buss with set screws
- One 12 position minimum copper earth ground buss with set screws

**1.3 Fiber Distribution Unit (FDU).** Each cabinet shall be equipped with a 19-inch rack mounted fiber distribution unit to provide a termination, splicing and connection point for fiber optic cables. The fiber distribution unit shall be modular in design and support a minimum termination/connection capacity of 48 fibers, four splice trays and strain relief for up to four cables.

The connector panels shall be designed to accommodate ST connectors. ST couplings with ceramic inserts shall be provided to accommodate either multi-mode or single mode fibers as appropriate. The unit shall provide both front and rear hinged door access.

The unit shall be constructed of aluminum. Plastic access doors will be permitted. The unit shall be positioned in the 19-inch rack as to allow fiber cables to be routed with bending radii exceeding manufacturer's recommendation. The unit shall not conflict with other cabinet components or panels.

**1.4 Acceptance Testing.** Acceptance testing shall include a visual inspection and testing of lights, fan, power outlets. Use a device that measures resistance to ground using the three point fall-of-potential method to ensure that the resistance from the cabinet's earth ground buss to ground does not exceed 5 ohms. Install additional ground rods if necessary to achieve this requirement. Provide all equipment and personnel needed to safely conduct the tests, arrange for the Engineer's representative to witness the tests, and provide a written summary indicating test results.

**1.5 Basis of Payment.** Payment for the above items shall include all costs necessary to complete the work including installation, incidentals, and testing of a fully functional system, shall be paid for under Pay Item No. 910-43.95, Splice Cabinet.

L. Closed Circuit Television (CCTV) Assembly, Contractor Furnished and Installed

**1.0 General.**

**1.1 Description.** Install a Contractor furnished IP (Internet Protocol) closed circuit television (CCTV) assembly on the existing NW signal pole at the intersection of MO413 & McCurry , and install a Contractor furnished power supply and surge protection in the existing signal cabinet. Provide cables connecting the camera to the equipment in the signal cabinet and to ground and test for proper operation.

**2.0 Materials.**

**2.1** The contractor shall acquire the CCTV camera, all cables, mounting bracket, power supply, and surge suppressors to connect a working camera assembly to the pole, power supply and the existing network switch in the signal cabinet.

**2.2 CCTV Camera.** CCTV Camera will be an Axis Q6075-E PTZ camera.

**2.3 POE Injector.** The Power Over Ethernet (POE) injector shall be of a make and model produced by the manufacturer of the camera. The POE injector shall operate on standard 120 VAC at 60 Hz electrical service and shall not be affected by transient voltages, surges, and sags normally experienced on commercial power lines. The POE injector shall have an operating temperature range of -40 degrees F (-40 degrees C) to 158 degrees F (70 degrees C).

**2.4 Surge Protection.** The cable between the POE injector and the camera assembly shall be protected by a surge protection device in the cabinet that meets the following requirements:

- a) UL listed and labeled to current editions of UL 497B and UL 497C.

- b) Operating Temperature: -20 degrees F (- 28 degrees C) to 122 degrees F (50 degrees C).
- c) Operating Humidity: 95% RH non-condensing.
- d) Wall, DIN rail or 19" rack mountable.
- e) Three stage protection.
- f) Maximum Continuous Operating Voltage: 44-52 V.
- g) Data Rate: >100 Mbps.
- h) Frequency: 125 MHz.
- i) Surge Capacity: 10kA per mode (8x20  $\mu$ s).
- j) Maximum Let-Through Voltage <90Vpk.

**2.5 Cables.** Provide CAT 6e outdoor rated cable to carry power, video, and camera control between the camera and POE injector. Between the POE injector and the Ethernet switch an outdoor rated CAT 6e patch cable with factory terminated connectors shall be used. These cables shall meet requirements of applicable manufacturers listed in Section 2.2 above.

**2.6 Banding.** The contractor shall provide stainless steel bands to affix the camera mounting bracket to the pole. The banding shall be 1-inch wide, 0.044-inch thick, stainless steel.

### **3.0 Construction Requirements.**

**3.1** The contractor shall coordinate this work, as well as any ITS (Intelligent Transportation System) network changes, with the MoDOT Southwest District ITS Group in advance via an email to Marc Lewis at Marc.Lewis@modot.mo.gov.

**3.2** The contractor shall install the dome so that the pole does not block the camera's view of traffic, as directed by the engineer.

**3.3** Terminate all the cables on surge protectors, install the Contractor furnished power supply in the cabinet, and connect the camera power circuit to the power supply. Connect POE injector port to the existing Ethernet switch in the cabinet.

**3.4** Apply a rain repellent coating to the outside of the lower dome, following the coating manufacturer's instructions. The coating must be recommended by the CCTV manufacturer for use on their equipment.

### **4.0 Acceptance Testing.**

**4.1** Upon delivery of a shipment of camera assemblies, the Contractor shall conduct a visual inspection and test of the camera assemblies to check for manufacturing defects and shipping damage. The camera assembly shall be powered during this testing, and tests shall follow procedures developed by the manufacturer and approved by the engineer. The engineer will witness this testing and the contractor may witness this testing if he or she chooses. The Contractor shall be responsible for replacing all defective units uncovered by this testing.

**4.2** After installing the camera assembly, test it using the same procedures used when the camera assemblies were delivered. If the installed camera assembly fails to operate properly, and the problem cannot be fixed by changing the wiring or setup parameters, the camera assembly will be deemed defective and the contractor shall return it to the manufacturer for replacement at Contractor's expense. Except for costs borne by the manufacturer under their warranty agreement, the cost of replacement shall be borne entirely by the contractor.

**4.3** The MoDOT ITS Group shall inspect the CCTV assembly installation as well as the related network devices for proper operations prior to acceptance.

**5.0 Basis of Payment.** Measurement and payment for furnishing and installing the camera assembly including equipment testing, grounding testing, and all miscellaneous hardware required for a safe, fully operational camera assembly will be made as follows:

Item No.	Type	Description
910-37.00	Each	CCTV Camera Assembly

**5.1** Requirements for installation of the associated CAT 6 cable are shown elsewhere in these Job Special Provisions.

**M. CAT 6 Ethernet Cable**

**1.0 Cat 5e/Cat 6 Ethernet Cable Requirements.** The cable shall be outside plant rated (OSP), consisting of four (4) balanced twisted pairs of solid copper conductors, surrounded by a water blocking gel and designed for use in 10BASE-T through 1000BASE-T Ethernet networks. It shall be jacketed with a sunlight and abrasion resistant black, polyethylene outer jacket. The following performance compliance standards apply:

ANSI/TIA-568-C.2  
ANSI/ICEA S-107-704-2012  
RoHS-compliant/RoHS 2-compliant  
REACH-compliant

**1.1 Basis of Payment.** Payment for the above items shall include all costs necessary to complete the work including installation, incidentals, and testing of a fully functional system, shall be paid for under Pay Item No. 910-99.03, Cat6 Ethernet Cable.

**N. Add Circuit Breaker**

**1.0 Description.** Modify an existing breaker panel to handle an additional branch circuit. Provide a circuit breaker of appropriate capacity and any necessary mounting, cable management, or grounding hardware. Update the breaker schedule in the enclosure or label the breaker, as applicable.

**2.0 Basis of Payment.** Payment for adding the circuit breaker shall include all materials, equipment, tools, labor, and work incidental thereto. Payment will be made as follows:

Item No.	Type	Description
910-99.02	Each	Add Circuit Breaker