Job No.:	JKU0010	JKU0415
Route:	7	7
County:	Jackson	Jackson

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

Job No.:	JKU0010	JKU0415	
Route:	7	7	
County:	Jackson	Jackson	

Job No.:	JKU0010	JKU0415
Route:	7	7
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 W. CAPITOL AVE.
JEFFERSON CITY, MO 65102
Phone 1-888-275-6636

Olsson
7301 W. 133rd Street, Suite 200
Overland Park, KS 66213
Certificate of Authority: 001592
Consultant Phone: 913-381-1170

If a seal is present on this sheet, JSP's have been electronically sealed and dated.

JOB NUMBER: JKU0010 & JKU0415
JACKSON COUNTY, MO
DATE PREPARED: 9/23/2025

ADDENDUM DATE:
R001 November 10, 2025

Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All

Job No.:	JKU0010	JKU0415
Route:	7	7
County:	Jackson	Jackson

JOB
SPECIAL PROVISION

A. General - Federal JSP-09-02L

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 2025 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 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.:	JKU0010	JKU0415
Route:	7	7
County:	Jackson	Jackson

Notice to Proceed: January 5, 2026
Completion Date: November 1, 2026

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

Job Number	Calendar Days	Daily Road User Cost
JKU0010	160	$7,600
JKU0415	60	$7,600

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the completion date specified in Section 2.0, 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 **$2,000** 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 above specified 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 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 10 minutes to prevent congestion from escalating to 15 minute or above threshold. If disruption of the traffic flow occurs and traffic is backed up in queues of 15 minute delays or longer, then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone that generate text and/or email notifications where available. The engineer monitoring the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable.

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

3.0 Work Hour Restrictions.

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

Memorial Day
Labor Day
Thanksgiving
Christmas
New Year's Day

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

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

3.1.2 World Cup. All lanes and shoulders shall be scheduled to be open to traffic from 12:00 noon Tuesday June 9th, 2026 to 7:00 p.m. Tuesday, July 16th, 2026 for the World Cup. All construction equipment and traffic control related items, including signs, shall be removed from MoDOT right of way during this time period as directed by the Engineer.

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.

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.

Jodie Puhr – Project Contact
Kansas City District
600 NE Colbern Rd
Lee's Summit, MO 64086

Telephone Number: 816-607-2254
Email: jodie.puhr@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

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:

Russell Penner, Resident Engineer
Kansas City District
600 NE Colbern Rd
Lee's Summit, MO 64086

Telephone Number: 816-347-4143
Email: russell.penner@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 the police or other emergency agencies for incident management. In case of traffic accidents or the need for police to direct or restore traffic flow through the job site, the contractor shall notify police or other emergency agencies immediately as needed. The area engineer's office shall also be notified when the contractor requests emergency assistance.

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

Missouri Highway Patrol (816) 622-0800
Blue Springs Police Department (816) 228-0151
Central Jackson County Fire Protection District (816) 229-2522
Jackson County Sheriff Department (816) 541-8017

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

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

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

F. Supplemental Revisions JSP-18-01JJ

- 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.

- 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 dynamic modulus of elasticity and percent length change for each individual concrete specimen. Raw data shall include initial measurements made at zero cycles and every subsequent measurement of concrete specimens. Raw data shall include the cycle count and date each measurement was taken. Test results shall also include properties of the concrete mixture as required by AASHTO T 161. This shall include the gradation of the coarse aggregate sample. If AASHTO T 152 is used to measure fresh air content, then the aggregate correction factor for the mix determined in accordance with AASHTO T 152 shall also be included.

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

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

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

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

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

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

G. Utilities JSP-93-26F

1.0 For informational purposes only, the following is a list of names, 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**
AT&T Distribution Tim Bushart 2121 East 63rd Street Kansas City, MO 64160 Phone: (816) 803-2608 Email: tb2697@att.com	None	Communications
City of Blue Springs Dennis Dovel 903 W. Main Street Blue Springs, MO 64015 Phone: (816) 228-0265 Email: ddovel@bluespringsgov.com	Yes Section 2.1	Water
Comcast Communications Dallas Swofford 4700 Little Blue Parkway Independence, MO 64057 Phone: (816) 394-4600 Email: Dallas_Swofford@comcast.com	None	Communications
Evergy Distribution Jason Taylor Phone: (660) 351-5049 Email: jason.taylor@evergy.com	Yes Section 2.2	Power

Extenet Systems LLC Extenet Systems LLC 5844 John Hickman Parkway Suite 600 Frisco, TX 75034 Phone: (866) 892-5327 Email: noc@extenetsystems.com	None	Communications
Spire Richi Garcia 3025 SE Clover Drive Lees Summit, MO 64082 Phone: (816) 507-0713 Email: Richi.Garcia@spireenergy.com	Yes Section 2.3	Gas
LUMEN Rick Redel 711 E. 19th St Kansas City, MO 64108 Phone: (816) 518-2804 Email: richard.redel@lumen.com	None	Communications
Verizon Joseph W (Joe) Bullimore Jr 10740 Nall Ave Overland Park, Kansas 66211 Phone: (913) 609-1024 Email: joseph.bullimore@one.verizon.com	None	Communications
Charter Communications John Laster 6555 Winchester Ave. Kansas City, MO 64133 Phone: (913) 643-1922 Phone: (816) 400-6408 Email: John.Laster@charter.com	None	Communications
Blue Springs School District Shawn Purvism 1801 NW Vesper Blue Springs, MO 64015 Phone: (816) 874-3200 Email: spurvis@bssd.net	None	Communications

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

information indicating existence, location, and status of any facility. Such verification includes direct contact with the listed utilities.

2.0 Project Specific Notes (JKU0010)

2.1 The City of Blue Springs has one fire hydrant that will be impacted by the project near the HyVee grocery store. The City of Blue Springs has a water main relocation along Mock Ave. near the Small Sliders restaurant. Designs for the relocation of the fire hydrant and the water mains are still in progress as of 9/19/2025. These relocations should be complete prior to NTP. There are also several water valves that will need to be adjusted during construction. The Contractor shall contact the respective utility with any questions regarding the adjustment of these facilities. Payment for all necessary work required for the adjustment of these facilities shall be completely covered by Pay Item 609-99.02 Water Valve and Manhole Height Adjustment per each, as included elsewhere is this contract.

2.2 Evergy has a power pole that will be impacted by the project along Route 7 just south of the Smoothie King. The design for this relocation is still in progress as of 9/15/2025 and it is unclear whether the relocation will be completed prior to the NTP.

2.3 Spire gas has three gas valves that will need to be adjusted during construction. The Contractor shall coordinate with Spire directly at least two weeks prior to construction for scheduling.

3.0 Project Specific Notes (JKU0415)

3.1 The City of Blue Springs has a water valve within the project limits that will need to be adjusted during construction. The Contractor shall contact the respective utility with any questions regarding the adjustment of these facilities. Payment for all necessary work required for the adjustment of these facilities shall be completely covered by Pay Item 609-99.02 Water Valve and Manhole Height Adjustment per each, as included elsewhere is this contract. The City of Blue Springs has a project within the project limits that is currently out to bid as of 9/19/25. If the project is not completed prior to Contractor Notice to Proceed, the Contractor shall coordinate relocations with the City of Blue Springs.

3.2 Spire has a gas line running parallel to Route 7 within the limits of the proposed detention basin. Relocation will be required. Still waiting on a design from Spire as of 9/19/2025. It is unclear whether relocation will be complete prior to Notice to Proceed.

3.3 Lumen has underground facilities that parallel I-70 and head south along Route 7. Lumen has prepared their relocation plan and should be relocated prior to the Notice to Proceed.

H. Coordination with Other Entities

1.0 Description. The contractor shall coordinate traffic control, staging and any other items as determined by the engineer with other entities. The contractor will be required to attend coordination meetings and provide information regarding the project as directed by the engineer to the affected entities.

City of Blue Springs – Must be invited to pre-construction conference and notified 2 weeks in advance of work on City streets and 1 week in advance of changes in traffic patterns on City streets.

Contact:

Patrick Capranica, Project Contact
City of Blue Springs
903 West Main Street
Blue Springs, MO 64015

Telephone Number: 816-228-0121
Email: pcapranica@bluespringsgov.com

2.0 Basis of Payment. No direct payment will be made to the contractor to recover the cost of equipment, labor, materials, or time required to fulfill the above provision.

I. Notice to Bidders of Third Party Concurrence in Award JSP-98-19

1.0 Bidders are advised that Commission is party to a contract with City of Blue Springs, Missouri which provides that City of Blue Springs, Missouri shall provide substantial funds for construction of Job No. JKU0010 by reason of which City of Blue Springs, Missouri has the right to concur or not concur in Commission's award of a contract for this job.

2.0 Bidders acknowledge that their bids are made with knowledge of and subject to the condition of City of Blue Springs, Missouri concurrence in and prior authorization of any award of a contract for this job by Commission.

3.0 Bidders agree that they shall be estopped, both in law and equity, to assert any right to award of a contract for this job by Commission should City of Blue Springs, Missouri not concur in that award for any reason.

J. Optional Pavements

1.0 Description. This work shall consist of a pavement composed of either Portland cement concrete or asphaltic concrete constructed on a prepared subgrade. This work shall be performed in accordance with the standard specifications and as shown on the plans or established by the engineer.

2.0 The quantities shown reflect the total square yards of pavement surface designated for each pavement type as computed and shown on the plans.

2.1 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.

2.2 No additional payment will be made for aggregate base quantities outside the limits of the final surface area as computed and shown on the plans. When A2 shoulders are specified, payment for aggregate base will be as shown on the plans.

2.3 The grading shown on the plans was designed for the thinner pavement option. For projects with grading in the contract, there will be no adjustment of the earthwork quantities due to adjusting the roadway subgrade for optional pavements.

2.4 The contractor shall comply with Sections 401 through 403 for the asphalt option and Sections 501 and 502 for the concrete option.

2.5 Pavement options composed of Portland cement concrete shall have contrast pavement marking for intermittent markings (skips), dotted lines, and solid intersection lane lines. The pavement markings shall be in accordance with Section 620. No additional payment will be made for the contrast pavement markings.

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

4.0 Basis of Payment. The accepted quantity of the chosen option will be paid for at the contract unit bid price for Item:

403-99.05, Ramp Optional Pavement - I-70 Ramp, per Sy
403-99.05, Optional Pavement - Route 7, per Sy
403-99.05, Optional Pavement - South Outer Road, per Sy

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 Price Adjustment for Fuel. If the contractor accepts the option for fuel adjustment in the bid proposal, a fuel adjustment will be applied in accordance with Sec 109.14 for the type of pavement constructed.

K. Linear Grading for ADA Facilities

1.0 Description. This work shall consist of altering the existing roadside features to the required grade and cross sections shown in the plans (if applicable), or to comply with typical sections, running slopes, drop-off and side-slope standards, consistent with the guidelines set forth in the Americans with Disabilities Act (ADA). This work shall be in accordance with Sections 202 and 207 and accompanying provisions except as modified herein.

2.0 Construction Requirements. The roadside shall be brought to the required grade and cross section as established in Section 1.0 of this provision, to a uniform appearance, free of sharp breaks or humps. Minor deviations will be allowed, to take advantage of favorable topography, as approved by the engineer.

2.1 The contractor shall remove all existing roadside improvements necessary to facilitate the new sidewalk and curb ramp construction, along with any other roadside removal items at, or adjacent to the pedestrian pathway, as noted in the plans or as approved by the engineer. This shall include the removal and/or saw cutting at existing raised islands or median strips to construct the pedestrian pathway. The contractor shall pay special care to existing utility facilities to be used in place or relocated by others.

2.2 The contractor shall be responsible for all excavation and embankment work necessary to facilitate construction of new ADA compliant facilities; normally consisting of subgrade and subsequent finished grading for sidewalks, curbs, curb ramps; and may include miscellaneous grading work for items such as ditches, entrances, paved approaches, driveways, and pipes, at or adjacent to proposed new sidewalk facilities.

2.3 By this provision, it may be necessary to excavate, stockpile, and haul some material within the project limits. Due to staging and/or Right-of-Way constraints, it may be necessary to waste unusable material off of Right-of-Way, and/or haul a replacement volume of material back to achieve the desired grades.

2.4 All removals of Portland or Asphaltic Concrete performed under this provision will require saw-cutting a neat/clean edge along the removal lines at no direct pay, unless otherwise provided for in the contract.

3.0 Method of Measurement. Measurement of Linear Grading for ADA Facilities will be made along the length of the new sidewalk and/or curb ramp installed, along each side of the roadway where sidewalk work is to be performed. Measurement will be made to the nearest 1-foot for each sidewalk work area, totaled, and paid to the nearest 1-foot for final pay. Final field measurement will not be required except where appreciable errors are found, or authorized changes have been made.

4.0 Basis of Payment. The accepted quantities of Linear Grading for ADA Facilities will be paid for at the contract unit price for item 207-99.03, Linear Grading for ADA Facilities, per linear foot, and will be considered as full compensation for all labor, equipment, material, waste fees, disposal agreements, material acquisition, or other construction costs involved to complete the described work.

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

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

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

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

2.1 The ADA Checklist is not to be considered all-inclusive, nor does it supersede any other contract requirements. The ADA checklist is a required guide for the contractor to use during the construction of the pedestrian facilities and a basis for the commission's acceptance of work. Prior to work being performed, the contractor shall bring to the engineer's attention any planned work that is in conflict with the design or with the requirement shown in the checklist. This notification shall be made in writing. Situations may arise where the checklist may not fully address all requirements needed to construct a facility to the full requirements of current ADA law. In those situations, the contractor shall propose a solution to the engineer that is compliant

with current ADA law using the following hierarchy of resources: 2010 ADA Standards for Accessible Design, Draft Public Rights of Way Accessibility Guidelines (PROWAG) dated November 23, 2005, MoDOT's Engineering Policy Guidelines (EPG), or a solution approved by the U.S. Access Board.

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

3.0 Coordination of Construction.

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

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

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

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

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

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

5.1 No direct payment will be made to the contractor to recover the cost of equipment, labor, materials, or time required to fulfill the above provisions, unless specified elsewhere in the contract documents.

M. ADA Material Testing Frequency Modifications JSP-23-01A

1.0 Description. This provision revises the Inspection and Testing Plan (ITP) for the construction of ADA compliant features to better match the nature of the work. The minimum Quality Control (QC) testing frequencies shall be as stated in these provisions.

2.0 Compaction Test on Base Rock Under Sidewalk, Curb Ramps and Paved Approaches. (Revises ITP Sec 304.3.4) The required test frequency shall be one per 600 tons.

3.0 Gradation Test on Base Rock Under Sidewalk, Curb Ramps and Paved Approaches. (Revises ITP Sec 304.4.1) The required frequency shall be one per 500 tons.

4.0 Concrete Plant Checklists. (Revises ITP Sec 501) Submittal of the 501 Concrete Plant Checklist shall be once per week when the contractor is only pouring curb, sidewalk, paved approaches, and curb ramps.

5.0 Concrete Median, Median Strip, Sidewalk, Curb Ramps, Steps and Paved Approaches. The required frequency shall remain as stated in ITP Sec 608 and further detailed in Sec 608.3.7.

6.0 Concrete Curb. (Revises ITP Sec 609 only for Concrete Curb) For concrete curb, the required frequency shall be equivalent to ITP Sec 608 (concrete median, median strip, sidewalk, curb ramps, steps, and paved approaches), and Sec 608.3.7.

N. Modified Type S Curb

1.0 Description. This work shall consist of constructing the Modified Type S Curb as shown on the plans and shall meet all requirements of Section 609.10.

2.0 Basis of Payment. Section 609.10.5 is supplemented by the following:

2.1 All expenses incurred by the contractor by reason of their compliance with this provision shall be considered as completely covered by the contract unit price for Item No. 609-99.03, “Modified Type S Curb”, per linear feet.

O. Type H Barrier

1.0 Description. This work shall consist of constructing the Type H Barrier as shown on the plans and shall meet all requirements of Section 617.

2.0 Basis of Payment. Section 617.10.5 is supplemented by the following:

2.1 All expenses incurred by the contractor by reason of their compliance with this provision shall be considered as completely covered by the contract unit price for Item

617-99.03, “Type H Barrier with Footing”, per linear feet.

P. Special Concrete Curb & Gutter

1.0 Description. This work shall consist of constructing the Special Concrete Curb & Gutter as shown on the plans and shall meet all requirements of Section 609.20.

2.0 Basis of Payment. Section 609.20.5 is supplemented by the following:

2.1 All expenses incurred by the contractor by reason of their compliance with this provision shall be considered as completely covered by the contract unit price for:

Item No. 609-99.03, “APWA 2 Ft Curb and Gutter”, per linear feet

Q. Special Inlets

1.0 Description. This work shall consist of constructing precast Inlets as shown on the plans and shall meet all requirements of Section 731 for precast construction.

2.0 Method of Measurement. The quantities will be paid for in accordance with Section 731.4.

3.0 Basis of Payment. Section 731.5 is supplemented by the following:

3.1 All expenses incurred by the contractor by reason of their compliance with this provision shall be considered as completely covered by the contract unit price per each for the following:

Item No. 731-99.02, “3’. x 3’ Special S-1 Inlet”, per each.

R. Adjusting Junction Box Top

1.0 Description. This work shall consist of adjusting junction box top as shown on the plans and shall meet all requirements of Section 604 for miscellaneous drainage construction.

2.0 Method of Measurement. The quantities will be paid for in accordance with Section 604.20.

3.0 Basis of Payment. Section 604.20.2 is supplemented by the following:

3.1 All expenses incurred by the contractor by reason of their compliance with this provision shall be considered as completely covered by the contract unit price per each for the following:

Item No. 604-99.02, “Adjusting Junction Box Top”, per each

S. Access to Commercial and Private Properties

1.0 Description. While working on entrances or adjacent properties, the contractor shall make every reasonable effort to minimize any interference to the properties and to pursue the work diligently. Under no circumstances shall the contractor completely block ingress/egress to and from businesses during the normal business hours of each business unless as approved in advance by the property owner and the engineer.

1.1 The contractor shall contact each business to advise them of the work that will take place before working around 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 at a time or whether to have each entrance constructed one-half at a time. The contractor is required to work according to each property owner's preference. The contractor shall notify each property owner at least one-week prior entrance construction within their property limits to advise them of the work that will take place and the timeframe of the work.

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

T. Damage to Existing Pavement, Side Roads and Entrances

1.0 Description. This work shall consist of repairing any damage to existing pavement, curb, ramps and/or shoulders caused by contractor operations. This shall include damage caused either directly or indirectly by contractor operations, including but not limited to, damage caused by the traffic during contractor operations.

2.0 Construction Requirements. Any cracking, gouging, or other damage to the existing pavement, curb, ramps and/or 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, curb, ramps, or shoulder areas as described above shall be made.

4.0 Basis of Payment. No payment will be made for repairs to existing pavement, curb, ramps and/or shoulders damaged by contractor operations

U. Contractor Quality Control and Daily Reporting

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

2.0 Quality Control Plan.

(a) The name and contact information of the person in responsible charge of the QC testing.

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

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

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

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

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

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

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

3.3 Contractor Daily Work Reporting. The contractor shall submit to the engineer a Contractor Daily Work Report (CDWR) for each calendar day that work is performed. The CDWR shall include all information listed in 3.3.2.

3.3.1 The CDWR information may be provided on the MoDOT-provided form or an approved contractor form. Each CDWR shall be digitally signed by the contractor and uploaded to the MoDOT SharePoint® site no later than two (2) business days following the end of each week.

3.3.2 CDWR information:
(a) Date and Contract Identification Number
(b) Weather conditions, rainfall amounts, high/low ambient temperatures
(c) List of subcontractors who performed work
(d) Description of all work performed, including general location (ex. Sta, offset, log mile, etc.), and any testing performed.
(e) Date range of days when no work was performed since the previous DWR

(f) Pertinent traffic control information (changes, delays, accidents, etc.)
(g) Statement: “All items installed meet or exceed contract requirements.”

4.0 Work Planning and Scheduling.

4.1 Two-week Schedule. Each week, the contractor shall submit to the engineer a schedule that outlines the planned project activities for the following two-week period. The two-week schedule shall detail all work and traffic control events planned for that period and any Hold Points specified by the engineer.

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

4.3 Pre-Activity Meeting. A pre-activity meeting is required in advance of the start of each new activity, except when waived by the engineer. The purpose of this meeting is to review construction details of the new activity. Discussion topics should include: safety precautions, QC testing, traffic impacts, and any required Hold Points.

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

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

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

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

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

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

V. Curb Ramps and Sidewalk

1.0 Description. Construction of concrete curbs, aprons, curb ramps, transition areas, sidewalk and landings shall be in accordance with applicable portions of Sections 608 & 609 of the Standard Specification and Standard Plans for Highway Construction 608.10, as shown on the plans, and meet ADA requirements.

2.0 Construction Requirements. This work shall include, but is not limited to, sidewalk construction including landings, joint construction, aggregate base, compaction, apron modifications, transition area, curb ramp construction, Type S Curb or Type A Curb installation (as required), tie bars or dowel bars (as required), clean-up, etc. for each location shown on the plans.

The following requirements shall be applicable to construction of this project:

- Existing curb, curb and gutter, sidewalk, shoulders, etc. that are adjacent to a designated curb ramp and/or sidewalk improvement area that is damaged during construction shall be replaced/repaired to match existing materials and condition.

- Variable height curb along the roadside may be constructed monolithic or separate depending on construction operations. Integral curb shall be doweled to the existing gutter or pavement. - Integral or Type S-curb shall be used along the existing right-of-way when constructing curb ramps as shown on the plans. The cost of the curb is included in pay limits of the curb ramp.

- The transition area shall be 8” thick and tied to the existing roadway pavement and existing paved approach or sidewalk it is matching.

- Curing compound for all concrete construction shall be a clear or translucent color. The white pigmented option or other colored compound will not be allowed.

- Adjacent grass areas, landscaping, irrigation lines, pavement, etc. disturbed by curb ramp or sidewalk construction shall be repaired or replaced to match or exceed existing conditions. Sod quantities are included for adjacent areas. More or less sod may be required depending on actual field conditions.

3.0 Method of Measurement. Curb ramps and concrete sidewalk will be measured to the nearest 1/10 square yard. Measurement of incidental items required to complete all aspects of construction for the above noted items at each new curb ramp and sidewalk location will not be made individually unless specified elsewhere in the contract.

4.0 Basis of Payment. All costs incurred by the contractor by reason of compliance to satisfy the above requirements shall be considered incidental to and completely covered by the contract unit price for each of the pay items within the contract.

W. 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.

X. Permanent Aggregate Edge Treatment NJSP-15-40B

1.0 Description. This work shall consist of furnishing and installing a permanent aggregate edge treatment along the edge of shoulder or pavement as shown on the plans or as directed by the engineer.

2.0 Construction Requirements. Aggregate shall be simultaneously deposited and spread on the sub-grade and shall not be deposited on the pavement or shoulder and bladed into place. Aggregate material shall be shaped according to the typical section and compacted until there is no visible evidence of further consolidation.

3.0 Material Requirements. Material used for the aggregate edge treatment shall be Type 1, 5, or 7 Aggregate in accordance with Sec 1007 or an allowable substitute approved by the engineer. Bituminous cold millings meeting the gradation for Type 1, 5 or 7 Aggregate may be used in lieu of aggregate. Limestone screenings or other material with excessive fines will not be allowed. Material will be accepted based on certification in lieu of testing contingent upon satisfactory results being obtained in the field.

4.0 Measurement by Weight. Measurement of the aggregate edge treatment material shall be per ton and in accordance with Sec 310.5.3.

5.0 Basis of Payment. The accepted quantities of aggregate edge treatment will be paid for at the contract unit price for 304-99.10, Permanent Aggregate Edge Treatment, per ton and will be full compensation for all labor, equipment, and material to complete the described work. No fuel adjustment will be made for Permanent Aggregate Edge Treatment.

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

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

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

2.1 Locations (1) JKU0415 – I-70 EB Lane Closure, on shoulder.

2.2 Locations (1) JKU0010 – Route 7 NB Approach to Interchange, in outside thru lane.

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

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

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

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

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

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

MoDOT Maintenance Lot
9101 East 40th Terrace
Kansas City, MO 64133
Phone: 816-317-5201

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

3.0 Network Communication Devices. Devices such as CCTV cameras and domes, video encoders, device servers, Ethernet switches, media converters, and radio assemblies are to be

transported to the address listed below. The contractor shall notify the Commission's representative 24 hours prior to each delivery by calling phone number listed below and providing details for the delivery.

Scout TMC
600 NE Colbern Rd.
Lee's Summit, MO 64086
Phone: 816-607-2000

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

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

AA. Tree Clearing Restriction JSP-07-05C

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

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

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

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

BB. Tree Pruning

1.0 Description. This work shall consist of trimming or pruning vegetation next to the sidewalks within the project limits. This work shall be done within right of way or easement.

2.0 Construction Requirements. All tree limbs or other vegetation encroaching onto or over the sidewalk shall be removed to provide a minimum overhead clearance of at least 80 inches from the elevation of the existing sidewalk and shall provide a horizontal clearance to at least the edge of the existing sidewalk.

2.1 Any tree limbs or vegetative clippings removed by the contractor shall be disposed of off the right of way at the contractor's expense.

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

CC. Modified Type A Gutter

1.0 Description. This work shall consist of constructing Modified Type A Gutter as shown on the plans and shall meet all requirements of Section 609 for Paved Drainage.

2.0 Method of Measurement. Modified Type A Gutter shall be measured to the nearest linear foot.

3.0 Basis of Payment. Accepted construction of the Modified Type A Gutter will be paid for at the contract unit price bid for item:

607-11.01, Modified Concrete Gutter Type A, per linear foot

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

DD. Steel Plate

1.0 Description. This work shall consist of installing a steel plate as shown on the plans.

2.0 Construction Requirements. The contractor shall refer to the construction plans detailing the locations of the steel plates. The contractor shall pay special attention during construction to ensure proper drainage is achieved where the steel plates are to be installed.

2.1 The one half (½) inch steel slip-resistant plate shall be installed flush with the top of the Modified Type A Gutter or sidewalk and secured to the top of the angle iron. The steel slip-resistant plate shall have a minimum static coefficient of friction of 0.6 and be ADA compliant.

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

4.0 Basis of Payment. All labor, equipment and materials required to install the steel plate as shown on the plans and by this specification will be considered completely covered by Pay Item No. 604-99.04, Steel Plate, square foot. No direct payment will be made for other incidental items required for installation of the steel plates.

EE. Service Signing

1.0 Description. All installation, relocation and repair of Missouri LOGO and Tourist Oriented Destination Signs (TODS) shall be coordinated between the engineer, contractor, and the designated Missouri LOGO representative.

1.1 It shall be noted by the contractor that Missouri LOGOS is responsible for the installation, relocation and repair of all LOGO and TODS Signs on MoDOT owned right of way. The contractor shall be solely responsible and liable for determining any impact to LOGO or TODS Signing due to contractor operations during construction of this contract. The contractor shall be responsible for notifying Missouri LOGOS at the time of the preconstruction meeting when a

service sign is determined to be impacted and advise Missouri LOGOS of the project details. The Missouri LOGO representative will attend these meetings at their discretion. The Missouri LOGO representative shall be contacted 24 hours a day, 7 days per week at (573) 291-6788.

1.2 When Missouri LOGOS has to perform work within the limits of the project, Missouri LOGOS will conduct work so as not to interfere with or hinder the progress or completion of the work being performed by the contractor. Full cooperation of the contractors involved, in careful and complete coordination of their respective activities in the area, will be required.

2.0 Basis of Payment. No direct payment will be made to the contractor to recover the cost of equipment, labor, materials, or time required to fulfill this provision.

FF. Liquidated Damages Specified JSP-93-28A

1.0 Description. To construct Soil Nail Wall A9505, the contractor will be allowed to close the outside northbound lane of Route 7 as detailed in the plans. The total duration of the closure shall be no more than 110 calendar days. If all northbound lanes of Route 7 are not open to traffic within 110 calendar days, 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 **$7,600** per day for each full day that all northbound lanes of Route 7 are 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 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.

GG. 8 ft. X 4 ft. Concrete Box Culvert

1.0 Description. This work shall consist of installing 8 ft. X 4 ft. Concrete Box Culvert as shown on the plans and shall meet all requirements of Section 703, 731, and 733 or as directed by the Engineer.

2.0 Material and Construction Requirements. The Concrete Box Culvert shall be constructed in accordance with Section 703.2 and 703.3 if cast-in-place. The Concrete Box Culvert shall be constructed in accordance with Section 733.2 and 733.3 if RCB is precast. All materials and construction methods including, but not limited to, concrete, reinforcing, shoring, grading, backfill, compaction, sealing, headwalls, and wingwalls shall be considered as part of this pay item.

3.0 Method of Measurement. 8 ft. X 4 ft. Concrete Box Culvert shall be measured to the nearest 1.0 linear foot, including the wingwalls. All aspects of the Concrete Box Culvert are included in this measurement.

4.0 Basis of Payment. All costs incurred by the contractor by reason of their compliance with this provision shall be considered as included in and completely covered by the unit price for Item No. 703-99.03 “8X4 Reinforced Concrete Box with Wingwalls ”, per linear foot. All materials and construction methods including, but not limited to, concrete, reinforcing, shoring, grading, backfill, compaction, sealing, headwalls, and wing walls shall be considered as part of this pay item.

HH. Class 3 Excavation

1.0 Description. No determination or geotechnical data is available to precisely determine if the Class 3 Excavation work on this project will include significant quantities of rock excavation. Field observations would suggest that rock excavation is likely along this project in various locations.

2.0 Basis of Payment. All excavation quantities regardless of encountering rock shall be paid for as Class 3 Excavation as noted on the plans.

II. Class 4 Excavation

1.0 Description. No determination or geotechnical data is available to precisely determine if the Class 4 Excavation work on this project will include significant quantities of rock excavation. Field observations would suggest that rock excavation is likely along this project in various locations.

2.0 Basis of Payment. All excavation quantities regardless of encountering rock shall be paid for as Class 4 Excavation as noted on the plans.

JJ. McDonalds Small Block Wall System

1.0 Description. Construction of the Small Block Wall System shall be in accordance with applicable portions of Section 720 of the Standard Specifications for Highway Construction.

2.0 Construction Requirements. The Contractor shall be responsible for the following construction requirements:

- Field determines wall height and length requirements at the noted approximate locations shown on the plans.
- Remove and reinstall existing small blocks required to construct the wall system. Materials for reuse shall include, but are not limited to, the block wall and block cap units.
- Contractor to install new leveling pad, drainage fill, drainage tile, topsoil backfill, etc.
- Verify and ensure that all sidewalk and wall construction will satisfy all MoDOT and Americans Disabilities Act (ADA) requirements for sidewalk width and slope requirements.

4.0 Method of Measurement. Measurement for Small Block Wall Systems will be made per square foot of exposed wall above the sidewalk.

5.0 Basis of Payment. All costs incurred by the Contractor by reason of compliance including excavation to satisfy the above requirements for Small Block Wall System shall be considered incidental to and completely covered in the bid item 720-99-04, Rebuild Exist. McDonalds Small Block Wall, per square foot.

KK. Fiber Optic Cable and Equipment

1.0 Description. All fiber optic cable required for this project shall be all dielectric, gel filled, duct type, with loose buffer tubes and shall conform to these special provisions. The fiber optic cables shall connect the ITS field. The Single Mode Fiber Optic (SMFO) fibers shall contain single mode (SM) dual-window (1310 nm and 1550 nm) fibers.

The optical fibers shall be contained within loose buffer tubes. The loose buffer tubes shall be stranded around an all dielectric central member. Aramid yarn and/or fiberglass shall be used as a primary strength member, and a polyethylene outside jacket shall provide for overall protection.

Fiber optic cables shall be provided and installed as shown in the plans and specifications. The fiber optic cable shall be installed with a minimum number of splices. No additional splice vault locations will be permitted. The contractor shall utilize the maximum cable lengths possible, and avoid additional splices in the backbone 24 count cable and 48 count cable.

All fiber optic cable on this project shall be from the same manufacturer, who is regularly engaged in the production of this material. If availability and delivery schedule does not allow fiber optic cable to be from the same manufacturer, multiple manufacturers may be used if approved by the engineer.

All fiber optic cable shall be installed with a tracer wire in the same conduit occupied by the fiber cable. Install a blue jacketed No. 14 AWG (2.5 mm^2) stranded copper wire for locating purposes in the conduit. The tracer wire shall be pulled into all cabinets and device bases. Inside cabinets or device bases the tracer wire shall be terminated on a protected terminal that is isolated from the cabinet or base ground and labeled "TRACER". Tracer wire shall be continuously connected along the fiber so the tracer wire only has to be toned and energized at the cabinet or equipment location. When continuous runs of tracer wire cannot be installed, connectors approved by the engineer shall be used in a splice vault to electrically bond the tracer wires. These connectors shall be insulated. Tracer wires ending in a splice vault shall be capped and labeled "TRACER". One loop of slack tracer wire shall be installed in each pull box, but additional slack is not required inside cabinets or equipment bases.

The fiber optic cable shall be qualified as compliant with Chapter XVII, Title 7, Part 1755.900 of the Code of Federal Regulations, "REA specification for filled fiber optic cables".

Each buffer tube shall be terminated in its own splice tray and each tray shall contain a maximum of 12 splices. Pictures must be taken of each fiber splice enclosure when all work has been completed and that documentation must be submitted to the engineer along with OTDR traces. The first splice location must be inspected and approved by the engineer and Scout technical staff before the contractor continues with fiber optic cable splicing.

1.1 Material. Each optical fiber shall be made of glass that is manufactured by Corning or licensed by Corning and consist of a doped silica core surrounded by concentric silica cladding.

All fibers in the buffer tube shall be usable fibers, and shall be sufficiently free of surface imperfections and inclusions to meet the optical, mechanical, and environmental requirements of these specifications.

The individual fiber coating shall be a dual layered, UV cured acrylate. The coating shall be mechanically or chemically strippable without damaging the fiber.

The cable shall comply with the optical and mechanical requirements over an operating temperature range of -40° F. to +158° F. The cable shall be tested in accordance with EIA-455-3A (FOTP-3), "Procedure to Measure Temperature Cycling Effects on Optical Fiber, Optical Cable, and Other Passive Fiber Optic Components." The attenuation shall be measured at 1310 nm and 1550 nm.

Fibers within the finished cable shall meet the requirements in the following table:

Fiber Characteristics Table

Parameters	Value
Mode	Single
Type	Step Index
Core diameter	8.3 µm (nominal)
Cladding diameter	125 µm ±1.0 µm
Core to Cladding Offset	≤ 0.6 µm
Coating Diameter	245 µm ±10 µm
Cladding Non-circularity defined as: [1-(min. cladding dia ÷max. cladding dia.)]x100	≤ 1.0%
Proof/Tensile Test	100 kpsi, min.
Attenuation @ 1,310 nm	≤ 0.40 dB/km
Attenuation @ 1,550 nm	≤ 0.35 dB/km
Attenuation at the Water Peak	≤ 2.1 dB/km @ 1383 ±3nm
Chromatic Dispersion:	
Zero Dispersion Wavelength	1301.5 to 1321.5 nm
Zero Dispersion Slope at zero dispersion wavelength	≤ 0.092 ps/(nm^2*km)
Maximum Dispersion:	3.3 ps/(nm*km) for 1285 - 1330 nm <18 ps/(nm*km) for 1550 nm
Cut-Off Wavelength	<1260 nm
Mode Field Diameter (Petermann II)	9.3 ±0.5 µm at 1310 nm 10.5 ±1.0 µm at 1550 nm

1.2 Color Coding. Optical fibers shall be distinguishable from others in the same buffer tube by means of color coding according to the following:

1. Blue (BL)	5. Slate (SL)	9. Yellow (YL)
2. Orange (OR)	6. White (WT)	10. Violet (VL)
3. Green (GR)	7. Red (RD)	11. Rose (RS)
4. Brown (BR)	8. Black (BK)	12. Aqua (AQ)

The colors shall be targeted in accordance with the Munsell color shades and shall meet EIA/TIA-598A "Color Coding of Fiber Optic Cables." The color formulation shall be compatible with the fiber coating and the buffer tube filling compound, and be heat stable. It shall not fade or smear or be susceptible to migration and it shall not affect the transmission characteristics of the optical fibers and shall not cause fibers to stick together.

1.3 Cable Construction. The fiber optic cable shall consist of, but not be limited to, the following components:

A. Buffer tubes
B. Central member
C. Filler rods if needed
D. Stranding
E. Core and cable flooding
F. Tensile strength member
G. Ripcord
H. Outer jacket
I. Glass fibers as described above

1.3.1 Buffer Tubes. Loose buffer tubes shall provide clearance between the fibers and the inside of the tube to allow for expansion without constraining the fiber. The fibers shall be loose or suspended within the tubes and shall not adhere to the inside of the tube.

The loose buffer tubes shall be extruded from a material having a coefficient of friction sufficiently low to allow free movement of the fibers. The material shall be tough and abrasion resistant to provide mechanical and environmental protection of the fibers, yet designed to permit safe intentional "scoring" and breakout, without damaging or degrading the internal fibers.

Buffer tube filling compound shall be a homogenous hydrocarbon-based gel with anti-oxidant additives. It shall prevent water intrusion and migration. The filling compound shall be non-toxic and dermatologically safe to exposed skin. It shall be chemically and mechanically compatible with all cable components, non-nutritive to fungus, non-hydroscopic and electrically non-conductive. The filling compound shall be free from dirt and foreign matter and shall be readily removable with conventional nontoxic solvents.

Buffer tubes shall be stranded around a central member by a method, such as the reverse oscillation stranding process that will prevent stress on the fibers when the cable jacket is placed under strain.

Each buffer tube shall be distinguishable from other buffer tubes in the cable by using the same color coding as specified above for fibers.

1.3.2 Central Member. The central member, which functions as an anti-buckling element, shall be a glass reinforced plastic rod with similar expansion and contraction characteristics as the optical fibers and buffer tubes. To provide the proper spacing between buffer tubes during stranding, a symmetrical linear overcoat of polyethylene may be applied to the central member to achieve the optimum diameter.

1.3.3 Filler rods. Fillers may be included in the cable cross-section. Filler rods shall be solid medium or high-density polyethylene. The diameter of filler rods shall be the same as the outer

diameter of the buffer tubes.

1.3.4 Stranding. Completed buffer tubes shall be stranded around the overcoated central member using stranding methods, lay lengths and positioning such that the cable shall meet mechanical, environmental and performance specifications. A polyester binding shall be applied over the stranded buffer tubes to hold them in place. Binders shall be applied with sufficient tension to secure the buffer tubes to the central member without crushing the buffer tubes. The binders shall be non-hydroscopic, non-wicking (or rendered so by the flooding compound), and dielectric with low shrinkage.

1.3.5 Core and Cable Flooding. The cable core interstices shall be filled with a polyolefin based compound to prevent water ingress and migration. The flooding compound shall be homogeneous, non-hydroscopic, electrically non-conductive, and non-nutritive to fungus. The compound shall also be nontoxic, dermatologically safe and compatible with all other cable components.

1.3.6 Tensile Strength Member. Tensile strength shall be provided by high tensile strength aramid yarns and/or fiberglass which shall be helically stranded evenly around the cable core and shall not adhere to other cable components.

1.3.7 Ripcord. The cable shall contain at least one ripcord under the jacket for easy sheath removal.

1.3.8 Outer jacket. The jacket shall be free of holes, splits, and blisters and shall be medium or high density polyethylene (PE), or medium density cross-linked polyethylene with minimum nominal jacket thickness of 37 mils. Jacketing material shall be applied directly over the tensile strength members and flooding compound and shall not adhere to the aramid yarn strength material. The polyethylene shall contain carbon black to provide ultraviolet light protection and shall not promote the growth of fungus. The jacket or sheath shall be marked with the manufacturer's name, the words "Optical Cable" or "Fiber Optic Cable", the number of fibers, "SM" or "Single Mode", year of manufacture, and sequential measurement markings every 3 feet. The actual length of the cable shall be within 1 percent of the length marking. The marking shall be in a contrasting color to the cable jacket (Yellow or White are preferred). The height of the marking shall be approximately 2.5 mm (.098 inch).

1.4 General Cable Performance Specifications. The fiber optic cable shall withstand water penetration when tested with a one-meter static head or equivalent continuous pressure applied at one end of a one-meter length of filled cable for one hour. No water shall leak through the open cable end. Testing shall be done in accordance with EIA-455-82A (FOTP-82), "Fluid Penetration Test for Fluid-Blocked Fiber Optic Cable."

A representative sample of cable shall be tested in accordance with EIA-455-81B (FOTP-81), "Compound Flow (Drip) Test for Filled Fiber Optic Cable". No preconditioning period shall be conducted. The cable shall exhibit no flow (drip or leak) at 176° F as defined in the test method.

Crush resistance of the finished fiber optic cables shall be 220 N/cm applied uniformly over the length of the cable without showing evidence of cracking or splitting when tested in accordance with EIA-455-41A (FOTP-41), "Compressive Loading Resistance of Fiber Optic Cables". The average increase in attenuation for the fibers shall be ≤ 0.10 dB/km at 1550 nm for a cable subjected to this load. The cable shall not exhibit any measurable increase in attenuation after

removal of load. Testing shall be in accordance with EIA-455-41A (FOTP-41), except that the load shall be applied at the rate of 3 mm to 20 mm per minute and maintained for 10 minutes.

The cable shall withstand 25 cycles of mechanical flexing at a rate of 30 ±1 cycles/minute. The average increase in attenuation for the fibers shall be ≤ 0.20 dB/km at 1550 nm at the completion of the test. Outer cable jacket cracking or splitting observed under 10x magnification shall constitute failure. The test shall be conducted in accordance with EIA-455-104A (FOTP-104), "Fiber Optic Cable Cyclic Flexing Test," with the sheave diameter a maximum of 20 times the outside diameter of the cable. The cable shall be tested in accordance with Test Conditions I and II of (FOTP-104). Impact testing shall be conducted in accordance with EIA-455-25B (FOTP-25) "Impact Testing of Fiber Optic Cables and Cable Assemblies." The cable shall withstand 20 impact cycles. The average increase in attenuation for the fibers shall be ≤ 0.20 dB/km at 1550 nm. The cable jacket shall not exhibit evidence of cracking or splitting.

The finished cable shall withstand a tensile load of 2669 N (600 lbs.) without exhibiting an average increase in attenuation of greater than 0.20 dB. The test shall be conducted in accordance with EIA-455-33A (FOTP-33), "Fiber Optic Cable Tensile Loading and Bending Test." The load shall be applied for one-half hour in Test Condition II of the EIA-455-33A (FOTP-33) procedure.

1.5 Packaging and Shipping Requirements. Documentation of compliance to the required specifications shall be provided to the engineer prior to ordering the material.

Attention is directed to "Fiber Optic Testing," elsewhere in these special provisions.

The completed cable shall be packaged for shipment on reels. The cable shall be wrapped in weather and temperature resistant covering. Both ends of the cable shall be sealed to prevent the ingress of moisture.

Each end of the cable shall be securely fastened to the reel to prevent the cable from coming loose during transit. Six feet of cable length on each end of the cable shall be accessible for testing. The complete outer jacket marking shall be visible on this six feet of cable length.

Each cable reel shall have a durable weatherproof label or tag showing the manufacturer's name, the cable type, the actual length of cable on the reel, the contractor's name, the contract number, and the reel number. A shipping record shall also be included in a weatherproof envelope showing the above information and also include the date of manufacture, cable characteristics (size, attenuation, bandwidth, etc.), factory test results, cable identification number and any other pertinent information.

The minimum hub diameter of the reel shall be at least thirty times the diameter of the cable. The F/O cable shall be in one continuous length per reel with no factory splices in the fiber. Each reel shall be marked to indicate the direction the reel should be rolled to prevent loosening of the cable.

Installation procedures and technical support information shall be furnished at the time of delivery.

2.0 Cable Installation. The contractor shall submit for review the planned procedures for pulling and or blowing the fiber optic cable to the engineer for review and approval at least 20 working days prior to installing cables. Mechanical aids may be used to assist cable installation.

If cable is pulled a tension measuring device or break away swivel shall be incorporated into the pulling line and attached to the cable, to ensure that the tension does not exceed 2669N (600lb). The cable grips for installing fiber optic cable shall have a ball bearing swivel attached to prevent the cable from twisting during installation. Pulling of fiber optic cable shall be with even tension. F/O cable ends shall be properly sealed during installation.

The break away tension limiting device shall be set to release at or below the manufacturer's maximum recommended pulling tension. One break away tension limiting device is required for each cable being pulled.

During cable installation, the bend radius shall be maintained at a minimum of twenty times the outside diameter of the cable. The cable shall not be stressed beyond the minimum bend radius at any time during installation and handling.

Fiber optic cable shall be installed using a cable pulling lubricant recommended by the fiber optic cable manufacturer and/or the inner duct or conduit manufacturer and a non-abrasive pull tape conforming to the provisions described under "Conduit" elsewhere in these special provisions. When lubricant is used, lubricant shall cover the fiber optic cable for entire pull.

Fiber optic cable shall be installed without splices except where specifically allowed on the plans or described in these special provisions. The fiber optic cables shall be spliced only at splice vault/handholes associated with bandwidth managers, aggregators, CCTV camera sites, DMS sites, radar detector sites or other VDS sites, unless shown otherwise in the plans. The engineer may allow additional splices between these specified locations. The slack shall be divided equally on each side of the splice enclosure.

Six feet of slack fiber optic cable shall be provided in all splice vaults/handholes that do not contain splices unless noted otherwise on the plans. At splice vaults/handholes that contain splices 50 feet of slack fiber shall be provided on each side of the splice enclosure. At cabinet assemblies, 50 feet of slack fiber shall be stored in the adjacent splice vaults/handholes and 10 feet stored within the cabinet and fiber distribution unit.

The contractor shall record sequential markings at all splice vault/handholes. The contractor shall after pulling, cut off and discard the first 10 feet of the fiber optic cable. This 10 feet has not been included in the conduit and cable routing tables on the plan sheets and shall be considered incidental to other items of work. The contractor shall account for this length. The remaining cable length in the splice vault/handhole must meet the slack cable length requirements.

Following installation of the cable in conduit, all conduit entrances in cabinet assemblies, pull boxes and splice vault/handholes shall be sealed with duct plugs and sealing compound to prevent the ingress of moisture, foreign materials and rodents. No residual tension should remain on the cable after installation, except the weight of the cable.

2.1 Splicing. The contractor shall submit a splicing plan for the engineer’s review and approval. Approval of the splicing plan shall occur prior to any installation of fiber optic cable. The contractor’s splicing plan shall include all information shown in the splicing diagrams, included in the plans, and be in a similar format.

The contractor shall cut only the fibers to be terminated/spliced at a location according to the design plans. Unused fibers or fibers that are continuous through a splice location are to be coiled, labeled and left loose in the tray.

Optical fibers shall be spliced using the fusion type method. Alignment shall be via fiber cores and not via fiber diameters. Mechanical splices shall not be permitted.

Splice losses shall average less than or equal to 0.05 dB/splice between any two optical ports and shall not exceed 0.10 dB for any splice.

The completed splices shall be placed in a splice tray. The splice tray shall then be placed in the splice enclosure.

Termination splices shall join the fibers in the fiber optic cable span to the fibers in pigtails. The termination splices shall be placed in a splice tray and the splice tray(s) shall then be placed in the fiber distribution unit (FDU). The individual fibers shall be looped a minimum of one full turn within the splice tray to avoid micro bending. A 51 mm (2 inches) minimum bend radius shall be maintained during installation and after placing in the optical fiber splice tray. Each fiber shall be individually restrained in a splice tray. The optical fibers in buffer tubes and the placement of the optical fibers in the splice tray shall be such that there is no discernable tensile force on the optical fiber.

All splices shall be protected with a thermal shrink sleeve.

All fiber cables shall be labeled in the cabinet assemblies and splice vault/handholes with permanent vinyl markers. Labels shall identify the destination cabinet assembly number or splice vault/handhole number of the fiber. Pigtail ends shall also be labeled to identify the destination cabinet assembly number or splice vault/handhole number of the fiber.

3.0 Passive Cable Assemblies and Components. The fiber optic cable assemblies and components shall be compatible components, designed for the purpose intended, and manufactured by a company regularly engaged in the production of material for the fiber optic industry. All components or assemblies shall be best quality, non-corroding, with a design life of at least 20 years. All components or assemblies of the same type shall be from the same manufacturer.

3.1 General. Fiber optic cable terminations shall include pigtails and jumpers. Breakout cables shall comply with the specifications for pigtails.

All components shall be the size and type required for the specified fiber.

All fiber optic cable on this project shall be from the same manufacturer, who is regularly engaged in the production of this material.

3.2 Fiber Optic Splice Enclosures. The fiber optic splice enclosure (also referred to as simply “closures”) shall consist of an outer enclosure, an inner enclosure and splice trays, and shall conform to the following special provisions.

The fiber optic splice enclosure shall be designed for a temperature range of -40° F. to +158° F. The fiber optic splice enclosure shall be designed for splice vault/handhole applications. The splice enclosure shall and have enough room for up to 144 splices and shall have a length of 28

inches and a diameter of 6.6 inches. The enclosures shall be designed for cable entrance into the end of the enclosure.

All materials in the enclosures shall be non-reactive and shall not support galvanic cell action. The outer enclosure shall be compatible with the other enclosure components, the inner enclosure, splice trays, and cables.

The outer enclosure shall protect the splices from mechanical damage, shall provide strain relief for the cable, and shall be resistant to salt corrosion. The outer enclosure shall be waterproof, and re-enterable, corrosion resistant, rodent proof, and air tight. The outer enclosure shall be flash-tested at 103 kPa. (15 psi.). The inner enclosure shall be of metallic construction.

The inner enclosure shall be compatible with the outer enclosure and the splice trays and shall allow access to and removal of individual splice trays.

The splice trays shall be constructed of rigid plastic or metal.

Adequate splice trays shall be provided to splice all fibers entering the enclosure, plus 12 additional fibers.

The contractor shall install the fiber optic splice enclosure in the splice vault/handholes where splicing is required. The fiber optic splice enclosures shall be securely fastened to the splice vault/handhole using standard hardware. The contractor shall provide all mounting hardware required to securely mount the enclosures to the splice vault/handhole.

The fiber optic splice enclosure shall be mounted in a manner that allows the cables to enter at the end of the enclosure without exceeding the minimum bending radius specification for any of the cables contained within the splice vault/handhole. A vertical mounting bracket made for the splice enclosure shall be installed and the splice enclosure shall be securely strapped to that mounting bracket.

Upon completion of the splices, the splice trays shall be secured to the inner enclosure. The enclosure shall be sealed using a procedure recommended by the manufacturer that will provide a waterproof environment for the splices.

Care shall be taken at the cable entry points to ensure a tight waterproof seal is made which will not leak upon aging. It is acceptable to have multiple pigtail-fibers enter the fiber optic splice enclosure through one hole as long as all spaces between the cables are adequately sealed.

3.3 Fiber Optic Cable Assemblies. Cable assemblies (jumpers and pigtails) shall be products of the same manufacturer. The cable used for cable assemblies shall be made of fiber meeting the performance requirements of these special provisions for the fiber optic cable being connected, except that the operating temperature shall be modified to -4° F. to +158° F. Manufacturer's attenuation test results shall be provided for all cable assemblies.

3.3.1 Pigtails. Pigtails shall be of simplex (one fiber) construction, in 900 micrometer tight buffer form, surrounded by aramid yarn for strength, with a connector on one end. The outer jacket shall be yellow PVC with a nominal diameter of 3 mm (.118 inch), marked with the manufacturer's identification information. All pigtails shall be at least one meter in length. Pigtails installed in conduit shall follow the installation procedures outlined for fiber optic cables,

except that the pulling tension shall not exceed 890 N (200 lb.). Pigtail connectors shall be factory terminated. Field terminations shall not be permitted.

3.3.2 Jumpers. Jumpers may be of simplex or duplex design. Duplex jumpers shall be of duplex round cable construction and shall not have zip cord (Siamese) construction. All jumpers shall be at least 2 meters (6.5 feet) in length, sufficient to avoid stress and allow orderly routing. Jumpers shall have connectors on both ends.

The outer jacket of duplex jumpers shall be yellow. The two inner simplex jackets shall be contrasting colors to provide easy visual identification for polarity. Jumper connectors shall be factory terminated. Field terminations shall not be permitted.

3.3.3 Connectors. Connectors shall be of the type shown on the plans. No index-matching fluids, gels or anti-reflection coating shall be applied to the end of the fiber. The connector operating temperature range shall be -4°F to +158°F. Insertion loss shall not exceed 0.4 dB and the return reflection loss shall be at least 35 dB. Connection durability shall be less than a 0.2 dB change per 500 mating cycles per EIA-455-21A (FOTP-21). All terminations shall provide a minimum 222 N (50 lb.) pull out strength. The installed connector loss shall be less than 0.9 dB. Connectors shall have a yellow color body or boot.

All connectors installed on pigtails and jumpers shall be factory-installed and tested. Factory test results shall be documented and submitted to the engineer prior to installing any connectors. There shall be no installation of connectors in the field.
All unmated connectors shall have protective caps installed.

3.4 Fiber Testing. The contractor shall test and document any fibers that are spliced and terminated at both ends. The contractor shall complete power meter and OTDR traces in both directions and document that those results meet the loss requirements listed above. The contractor shall complete a summary worksheet for each test and also provide the actual fiber trace for each test. The fiber trace shall be formatted and scaled so losses can be recognized when visually reviewing the fiber trace report. The contractor shall submit a proposed testing summary worksheet to the Engineer for review before any fiber splicing work begins on the project.

4.0 Method of Measurement. Measurement of fiber optic cable and tracer wire will be made to the nearest linear foot as shown on the plans. Contract quantities will be verified using the documented fiber sheath readings in and out of every fiber pull box and splice enclosure. Fiber optic splicing, testing and documentation is considered subsidiary to the fiber optic cable line item.

5.0 Basis of Payment. Accepted fiber optic cable will be paid for at the unit price for each of the pay items included in the contract. No direct payment will be made for pigtails, jumpers, or connectors, fiber optic splice closure, fiber optic distribution units, fiber distribution frames or any other incidental items necessary to complete the fiber splicing work unless specifically provided as a pay item in the contract.

Item No.	Description	Unit
9108352	Fiber Optic Cable, 24-Strand	LF

LL. KC Scout Vault

1.0 Description. All KC Scout pull boxes that contain fiber optic splices (splice vaults) in this contract shall be circular and constructed and installed as detailed on the plans or as directed by the engineer. These circular pull boxes shall be constructed of one piece polymer concrete and shall be referred to as splice vaults. The splice vault shall have a minimum depth of 48" and come with a minimum of four stainless steel hooks to be used for hanging the fiber optic cable. For those locations where fiber and conduit is routing through the box, the preformed Class 2 Pull Box shall be used.

Covers on all KC Scout pull boxes or splice vaults shall be embossed with "KC SCOUT ITS" unless otherwise directed by the engineer.

1.1 Conduit Openings. Conduit shall enter the splice vault through the side of the box. If it is necessary to increase the excavation depth and extend the pull box or splice vault, no direct payment will be made. The holes shall be round and no more than 1/2 inch larger than the conduit and shall be made as recommended by the manufacturer. All conduit entrances into pull boxes shall be sealed with an expandable foam sealer around the conduits to prevent the entering of foreign material into the pull boxes. .

1.2 Excavation and Backfilling. The excavated opening outside pull boxes or splice vaults shall be wide enough to allow compaction of the backfill material. Cinders, broken concrete, broken rock or other hard or undesirable material shall not be used for backfilling. The backfill material shall be placed in layers not to exceed 6 inches deep and each layer shall be thoroughly compacted before the next layer is placed. All disturbed areas shall be seeded and mulched in accordance with Sec 802 and 805. No direct pay will be made for seeding and mulching disturbed areas.

Removed concrete and soil shall become the property of the contractor and shall be disposed of off the right of way. No direct pay will be made for removal of paved surfaces or the disposition of excess material off of the right of way.

1.3 Drains. All ITS pull boxes will be constructed with a stone drain that is 2' deeper than the bottom of the pull box. No direct pay will be made for stone drains.

2.0 Method of Measurement. Measurement all pull boxes shall be made per each structure. All concrete pads, special covers, and grounding requirements for splice locations shall be included in the unit price for Fiber Splice Vault or Fiber Optic Pullbox.

No additional pay will be made for installation of pull box or splice vault in rock.

3.0 Basis of Payment. The pay items for Pull Boxes and Splice Vaults are:

Item No.	Description	Unit
910-99.02	KC Scout Fiber Optic Splice Vault	EA

MM. Scout ITS Conduits

1.0 General. These plans depict conduit routing in schematic form only. The contractor shall determine final routing based on actual field conditions prior to construction at each site,

including utility locator service markings, to assure no conflicts with existing utilities, including State owned underground lighting, ITS, traffic signal, or cathodic protection facilities. The contractor shall field review necessary routing of conduit and location of pull boxes and splice vaults prior to submittal of bid to determine the types and extent of incidental removal, relocation and replacement items to include in the price of conduit, pull boxes, and splice vaults. Section 902.16 shall apply except as modified herein.

Before preparing a bid, the contractor shall visit the site of the work and make his own determination of the amount of rock, unclassified, or other materials that might be encountered in his trenching or pushing operations. No additional pay will be made for differences in material encountered.

1.1 Material. All material shall conform specifically as follows:

Item	Section
Electrical Conduit	1060
Junction Boxes	1062

All non-metallic conduits shall be color-coded yellow for electrical cables, and powder blue for fiber optic cable. Any conduit on structure shall be galvanized rigid metallic conduit.

All HDPE conduit and materials shall have a minimum SDR of 11 and be compliant with ASTM D3035.

All conduit splices shall be made with conduit couplers in accordance with conduit manufacturer recommendations. Coupler materials to be used for conduit splices shall be submitted to the engineer for review and approval along with the manufacturer's recommendations and installation procedures. All conduit couplers are incidental to the linear feet of conduit being installed.

HDPE SDR11 conduit shall be required for all trenched or bored conduits.

Trenching and Pushing depths and installation shall be constructed with the following minimum covers:

Conduit under Paved areas including Roadway, Shoulders, Paved Medians and Sidewalks:

Pushed Conduit - minimum 42 inches below top of paved areas.

Conduit under Non-Paved Areas:

Conduit in Trench - minimum 30 inches of cover

Conduit shall slope to a pull box at a minimum rate of 0.5 percent, unless otherwise shown on plans. A change in direction of conduit shall be accomplished by bending the conduit uniformly to a radius that will fit the location or by the use of standard bends. The minimum bending radius of all conduits shall be the greater of the following: 20 times the diameter of the fiber optic cable or six times the internal diameter of the conduit.

Open ends of conduit placed for future use shall be capped or plugged with water tight mechanical terminations. Pull ropes shall be placed in all empty conduits. Pull ropes shall be polypropylene with a minimum tensile strength of 1,250 lbs.

All conduit ends shall be deburred before installing any cabling, including fiber optic cable and power cable.

If approved by the engineer, conduit may be installed by trenching, plowing, pushing or directional boring; however, payment will be made by the method specified in the contract for that conduit.

1.2 Conduit in Trench. Trenches shall be excavated to the width and depth necessary for conduit installation. Material which might cause mechanical damage to the conduit shall not be used for backfilling below an elevation 6 inches above the conduit. The bottom of the trench shall be free of such material before the conduit is placed. No conduit shall be placed without approval of the trench by the engineer. All trenches shall be backfilled as soon as practicable after installation of conduit. Backfill material shall be deposited in the trench in layers not exceeding 6 inches deep.

1.2.1 In lieu of trenching, conduits may be installed by plowing. When installation is accomplished by plowing, it shall be done with a vibratory type plow which will place conduits at the minimum depths shown above and recompact the soil over the installation approximately to original in-place density. The contractor shall not plow conduit in areas of rock.

1.2.2 Orange burial tape imprinted with “CAUTION-BURIED FIBER OPTIC CABLE BELOW” shall be installed at approximately 1/3 to1/2 of the depth of cover over any trenched conduits. The orange burial tape shall be color durable, and chemically resistant. Where excavation is made across parkways or driveways, sod, topsoil and crushed stone or gravel shall be replaced as soon as practicable to its former condition. Concrete or bituminous surfaces and stabilized bases shall be restored to their former condition. The entire area involved shall be left in a neat, presentable condition.

1.3 Pushed Conduit. If pushed conduit is specified or shown on the plans, the conduit shall be installed without disturbing the existing surface. Pushed conduit may be placed by jacking, pushing, boring or other approved means.

1.4 Power Service Conduit. Conduit between the contractor installed power supply pedestal and the utility service point shall meet the requirements of the specific electric utility company. This utility conduit must be installed by the contractor according to the utility company’s requirements and the cost of this conduit is incidental to the cost of the Type 2 power supply.

2.0 Method of Measurement. Measurement of conduit in trench and pushed conduit will be made to the nearest linear foot as shown on the plans. Contract quantities will be adjusted using the documented fiber cable sheath readings along all conduit runs. If the contractor decides to bore conduit runs instead of trenching, then those additional boring lengths will only be measured and paid as trenched conduit.

No additional pay will be made for trenching or pushing operations in rock, unclassified, or other materials.

No additional pay will be made for conduit couplers or conduit splicing. Couplers used for conduit splicing are incidental to the linear feet of conduit installed.

Contractor shall not damage paved drainage ditches or unmarked pavement underdrains. Contractor has the option to bore under or trench around concrete drainage ditches or underdrains. No additional pay will be made for routing around paved drainage ditches or underdrains. Any damage to paved drainage ditches or underdrains due to contractor's operations shall be replaced at contractor's expense.

3.0 Basis of Payment. The accepted conduit system will be paid for at the unit price for each of the pay items included in the contract. No direct payment will be made for any incidental items necessary to complete the work unless specifically provided as a pay item in the contract.

3.1 Conduit shall only be paid as Pushed Conduit for only the length that is specified in the plans. Conduit couplers that are utilized to connect pushed conduit to trenched conduit shall be incidental to the linear feet of conduit installed.

Item No.	Type	Item Description
910-52.00	LF	Conduit, 2 in. Rigid, in Trench
910-52.01	LF	Conduit, 3 in. Rigid, in Trench
910-72.01	LF	Conduit, 3 in. Pushed

NN. Liquidated Damanges Specified for KC Scout ITS & MoDOT Communications

1.0 Description. If the KC Scout Fiber Optic cabling is not complete and fully operational within a forty-eight (48) hour period from the time of disconnect, 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 behing computed or quantified.

Therefore, if the contractor fails to complete the work within the specified timelines or exceeds the maximum allowable downtime for KC Scout Fiber Optic Equipment, liquidated damages shall be assessed at a rate of **$75 per hour** for each full hour beyond the allowable downtime that the backbone fiber optic network is not complete and operational. Liquidated damages shall also apply for delays in restoring MoDOT Traffic Signal equipment if downtime exceeds the approved limits. The rate for these damages shall be **$75 per hour**. The liquidated damages outlined herein are not penalties but are intended to compensate MoDOT and KC Scout for additional costs and disruptions resulting from delays.

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

All work performed under this provision shall conform to the standards and specifications of the Missouri Department of Transportation (MoDOT) and KC Scout, including all applicable design, installation, and operational guidelines. The contractor shall coordinate with MoDOT and KC Scout to ensure compliance with all applicable requirements.

2.0 General Requirements. The contractor shall disconnect, and re-install existing KC Scout Backbone Fiber Optic equipment in accordance with the approved plans and specifications. All necessary permits and approvals shall be obtained by the contractor prior to the commencement of work. Contact **Mark Sommerhauser (816-607-2243)** for construction

scheduling and timeline related discussions. The contractor shall provide qualified personnel experienced in the installation and maintenance of fiber optic and ITS equipment to perform the work.

3.0 Construction Requirements and Downtime Management.

1. To minimize disruption, the contractor shall plan and execute work to limit the downtime of KC Scout Backbone Fiber Optic Equipment to a maximum of 1 consecutive 48 hour period. This includes all tasks necessary to restore the backbone connection of KC Scout equipment. Ancillary equipment, such as the local Radar and CCTV detection devices (at the I-70 and Mo-7 interchange) may be down for a longer duration if required due to construction phasing requirements.
2. Any downtime required for MoDOT Traffic Signal equipment beyond the 48-hour limit for KC Scout equipment shall be coordinated with MoDOT and approved in advance.
3. The contractor shall provide a detailed work schedule and outage plan for review and approval by MoDOT and KC Scout at least 14 days prior to the start of construction.
4. The contractor shall notify MoDOT and KC Scout at least 48 hours before initiating any downtime.
5. The contractor shall ensure that all materials and installations meet or exceed the requirements of MoDOT and KC Scout standards.
6. The work shall be subject to inspection by MoDOT and KC Scout personnel to verify compliance with specifications and standards. The contractor shall address any deficiencies identified during inspections promptly and to the satisfaction of MoDOT and KC Scout.
7. The contractor shall submit a final report summarizing the work performed, including a record of downtimes and compliance with the 48-hour limitation for KC Scout Fiber Optic Equipment.
8. Failure to restore KC Scout Fiber Optic Equipment within the 48-hour downtime limit shall result in penalties as outlined in the contract documents.
9. Additional penalties may apply for unauthorized or unapproved downtime of MoDOT Traffic Signal equipment.

OO. Temporary Traffic Signals

1.0 Description. This work involves the furnishing, installation, maintenance, relocations and removal of temporary traffic signal through all phases of construction.

2.0 Materials. Temporary signals conform to Sec 902.

2.1 At a minimum, installation of these temporary signals and lighting shall require connection to a power source and the following items:

Vehicle Detection System
Signal Heads, Type 3C (3-section head with Type I bracket)
Trailer Mounted Traffic Signal
Controller Assembly Housing (see requirements below)
Cable, 1 Conductor, Power (8 AWG minimum)
Cable, 12 AWG 5 or 7 conductor (for signal heads)
Power Supply Assembly

This list is not intended to be all-inclusive and other items may be necessary for the proper operation of these signals.

3.0 Construction Requirements. Temporary signals shall be furnished, installed, relocated and maintained to properly handle traffic, as required to facilitate signal change over. Signals shall be installed as shown on the plans and as described in this special provision or as directed by the engineer. Exact placement of temporary signals may be adjusted to improve visibility or operations, with approval of the engineer.

3.1 The temporary signal installation and relocation during different phases of construction shall be maintained in operational condition until the new permanent signals and street lights are installed and operational.

3.1.1 If the temporary signal installations becomes inoperable due to alterations, malfunctions or periods of shutdown for required maintenance or when one-way traffic control is required, the contractor shall provide adequate traffic control, including flaggers. In addition, adequate traffic control, including flaggers, shall be provided during the startup and shut down of this installation. Sign WO20-7b, Flagger (Symbol), shall be displayed in advance of the flaggers. The contractor shall submit traffic control plans to the engineer for approval at least five (5) business days prior to implementation.

3.2 The temporary signals shall be removed after the new signals are up and operational. All equipment shall remain the property of the contactor.

3.4 The contractor shall be responsible for arranging the electrical power needs required for the installation and operation of the temporary traffic signals with Evergy.

4.0 Basis of Payment. Payment for furnishing, installation, operation, relocation, maintenance and removal of this temporary traffic signal installation, including all items required for proper operation of this installation, will be completely covered by the contract unit price for Pay Item No. 902-94.00 Temporary Traffic Signals, per lump sum.

PP. Temporary Signal Timing

1.0 Description. The contractor is responsible for developing and inputting the timing for the temporary signals. Traffic signals shall include non-intrusive detection for all approaches and be capable of running in time-base coordination (if required). All movements shall be provided with the same phasing configuration as current (if facilitating cut-over onto new equipment with temporary signals). Signal timings for temporary traffic signals shall be developed by the Contractor and submitted to MoDOT for approval at least ten (10) business days prior to implementation. Signal timings shall be monitored and adjusted as required throughout construction.

2.0 Basis of Payment. All expenses incurred by the contractor by reason of their compliance with this provision shall be considered as completely covered by the unit prices bid for Pay Item No. 902-94.00 Temporary Traffic Signals, per lump sum.

1 DELETED QQ. ~~Uninterruptible Power Supply~~

1.0 Description. This work shall consist of providing and installing an "Uninterruptible Power Supply" (UPS) interruptible at the specified locations within the plans interchange. The system shall be specifically constructed and approved for the use with the NEMA signal controller.

1.1 In order to match other systems used in the area, the UPS shall be an Alpha FXM 1100 system. The system shall be comprised of the following items:

1 each Alpha outdoor enclosure S6, w/Generator option ATS/MBS & Auto GTS, battery cable kit (Alpha-026-53-26)
1 each Novus FXM 1100 Battery backup unit without Ethernet (ALPHA-017-230-21)
1 each 48V Alpha guard battery monitor (ALPHA-012-306-21)
4 each Alpha Gel battery 195GXL (ALPHA-181230-10

2.0 Installation. The UPS system shall be installed as per the manufactures recommendations. The system shall be mounted to the new Type 2 power supply as designated in the plans. The UPS cabinet shall contain circuitry to separate auxiliary equipment (lighting) from primary equipment (signal controller and fiber splice cabinet) during battery backup operation. In addition, the cabinet shall have circuitry to switch the signal from normal operation to flash operation during battery backup operation.

3.0 Communications.

3.1 The UPS cabinet shall have Ethernet connection capability.

3.1.1 Ethernet Cable. Any Ethernet cable run outside of the signal cabinet shall be environmentally hardened shielded and outdoor rated 350 MHz Category 5e cable. The cable shall be riser rated, 24 AWG solid copper, have Polyolefin insulation, UV and oil resistant PVC jacket. Pair 1 shall be Blue, White/Blue, Pair 2 shall be Orange, White/Orange, Pair 3 shall be Green, White/Green and Pair 4 shall be Brown, White/Brown. The operating temperature shall be from -40° C to +70°C. The cable shall conform to the following standards: ISO/IEC 11801 Category 5e, NEMA WC 63, and ANSI/TIA/EIA 568-B.2 Category 5e. The cable shall be without splicing or joints for any single run. The contractor shall obtain instructions from the manufacturer about alternate architecture when length of a single run of CAT 5e cable exceeds 320 feet.

3.1.2 RJ-45. The RJ-45 plug connectors shall be used at the UPS, signal cabinet, and fiber optic splice cabinet. The supplier of the UPS shall approve the Category 5e cable, RJ-45 connector and crimping tool, and the manufacturer's instructions must be followed to insure proper connection.

4.0 Construction Requirements. Construction requirements shall conform to Sec 902.

5.0 Method of Measurement. Method of measurement shall conform to Sec 902.

6.0 Basis of Payment. All costs incurred by the contractor for furnishing, installing, configuring, and placing the UPS into operation shall be considered as included in and completely covered by the contract unit price for item 902 99.02, Uninterruptible Power Supply, per each. Payment will be considered full compensation for all labor, equipment, materials and incidentals required to complete the described work.

~~**6.1** All costs incurred by the contractor for furnishing, installing and connecting the Ethernet cable, shall be subsidiary to this bid item.~~

~~**6.2** No direct payment will be made for programming the UPS.~~

1 REVISED RR. Traffic Signal Controller Assembly, NEMA

~~**1.0 Description.** The MoDOT Kansas City district is developing a plan to update all signal controllers in the district to utilize TransSuite.~~

~~**1.1** All traffic signal controllers purchased and installed on this project shall be selected from the list below and match the cabinet type indicated on the D-37C sheet for each intersection(s). These are the only controllers that are fully functional with the version of TransSuite that the Kansas City district is currently operating (TCS 16.2.2):~~

~~Controller/Firmware Type~~	~~Firmware Supported~~	~~Cabinet Type~~
~~Eagle SEPAC~~	~~4.57~~	~~NEMA~~
~~Econolite Cobalt~~	~~2.65.30 or newer~~	~~NEMA~~
~~Intelight X3c, X3, X3L~~	~~2.1~~	~~NEMA~~

~~**2.0 Basis of Payment.** Payment will be made, at the contract unit bid price, for each of the pay items shown in the contract pay item 9024283, per each. No direct payment will be made for any incidental items necessary to complete the work unless specifically provided as a pay item in the contract.~~

1.0 Description. The MoDOT Kansas City district has recently completed traffic signal controller upgrades at the project intersections, as a result, these controllers shall be removed and reset in new controller cainbets as part of the project.

1.1 All work shall include disconnecting, removing, and reinstalling the existing traffic signal controllers into the designated new or existing cabinets.

1.2 Ensure proper reconnection of all wiring and components to restore full functionality.

1.3 Verify compatibility with existing cabinet type and intersection layout as shown on the project plans.

1.4 Perform operational testing after reset to confirm compliance with MoDOT standards

2.0 Basis of Payment. Payment will be made, at the contract unit bid price, for each of the pay items shown in the contract pay item 902-42.83, Controller Assembly Housing, NEMA TS2 Controller, per each. No direct payment will be made for any incidental items necessary to complete the work unless specifically provided as a pay item in the contract.

SS. APS Push Button

1.0 Description. This work involves the furnishing and installation of Accessible Pedestrian Signal (APS) push button assemblies at locations shown on the plans or as directed by the engineer. Work includes push button devices, audible indicators, vibrotactile feedback, tactile arrows, visual confirmation, and all associated wiring and hardware for a complete and functional system. All materials and installation shall conform to the latest edition of the **Missouri Standard Specifications for Highway Construction**, the **MUTCD**, **PROWAG**, and this provision.

2.0 Materials. Each unit shall meet the following criteria:

Provide audible locator tone and vibrotactile walk indication.
Include a tactile arrow indicating the direction of crossing.
Incorporate visual LED confirmation light.
Be weather- and vandal-resistant.
Operate in a temperature range of –30°F to +165°F.
Be compatible with existing signal controller logic and phasing.

All wiring shall meet MoDOT Section 1061 requirements. Push button conductors shall be installed continuously from the device to the signal controller or appropriate interface device with no splices outside of junction boxes.

Provide unique tones for each crosswalk leg.
Be adjustable in volume and duration.
Synchronize with pedestrian phasing.
Be tested and accepted in the field prior to activation.

Contractor shall submit:
Product data and installation guides.
Manufacturer certification of ADA and MUTCD compliance.
Field-adjusted settings (volume, duration, messages).
Warranty documents

3.0 Basis of Payment. Payment includes furnishing and installing the APS device, mounting hardware, wiring, configuration, testing, and documentation for each location.

TT. Video Detection System

1.0 Description. This work shall consist of providing video detectors for the locations specified in the plans. Detectors shall be in accordance with the MoDOT standard specifications and installed to provide detection at locations as shown on the plans or as directed by the engineer in accordance with Section 902.

2.0 Options. The contractor can choose from the following list of detector types according to the exceptions noted below:

Video image

2.1 Exceptions. None.

2.2 Unless otherwise specified on the plans, the contractor may supply more than one type of detector and customize the installation based on field conditions.

3.0 Method of Measurement. Method of measurement will be per approach, complete in place including all necessary incidental items to complete the work. An approach is defined as all lanes of traffic moving toward an intersection or a midblock location from one direction.

4.0 Basis of Payment. Accepted Video Detection System will be paid for at the contract unit price for item 902-99.02 Video Detection System, per each.

UU. CCTV Camera Assembly

1.0 Description. This work shall consist of furnishing and installing a Closed-Circuit Television (CCTV) camera system, including the PTZ camera, mounting bracket, cabling, power connections, communication integration, and all associated materials necessary for a complete and operational installation, as shown on the plans or directed by the engineer.

2.0 Materials. The CCTV camera shall meet the following specifications:
IP-based digital video with H.264 or H.265 encoding.
Pan-Tilt-Zoom (PTZ) functionality with at least 30x optical zoom.
Minimum resolution: 1080p (1920x1080).
Environmental enclosure rated NEMA 4X or better.
Operate in extreme outdoor conditions (–30°F to +140°F).
Power over Ethernet (PoE) or compatible with 120V AC or 24V DC as shown in the plans.
Be compatible with the Genetic Software and Operation Green Light equipment
Suggested models:
Axis Q60 series, Bosch AUTODOME IP, or approved equal.

3.0 Basis of Payment. Payment includes all labor, equipment, materials, wiring, mounting, testing, and documentation necessary to deliver a complete, functional, and integrated CCTV system.

VV. Post, Type C, 70’ Arm

1.0 Description. This work shall consist of furnishing and installing a **70-foot Type C Mast Arm Pole** with base, shaft, mast arm, and all required components at locations shown on the plans or as directed by the engineer. The work includes the complete assembly, erection, and anchorage of the pole and mast arm, wiring passage provisions, and all associated labor and materials.
All work shall be performed in accordance with the latest edition of the **Missouri Standard Specifications for Highway Construction**, **MoDOT Standard Plans**, and this provision.

2.0 Materials. Shall be new, galvanized steel conforming to ASTM A595 Grade A or approved equal. The mast arm shall be 70 feet in length and designed for the appropriate loading conditions specified by MoDOT Standard Plan 902.10 and 902.20. The pole shaft shall be tapered, galvanized steel, and conform to MoDOT Type C configuration. Welds shall be in accordance with AWS D1.1 and inspected in the fabrication shop. Galvanizing shall meet ASTM A123 standards. The base shall be a transformer base or anchor base design with hand holes

as specified. Anchor bolts shall be per MoDOT Standard Plan 902.20, supplied with full-threaded length, nuts, washers, and template. Grout shall be non-shrink, high-strength structural grout. The pole shall include a base-access handhole and an access handhole at the mast arm end as required. Provide grommets or bushings to prevent wire damage. Furnish all signal head and equipment mounting hardware per MoDOT standards. Include all clamps, signal brackets, weatherproof gaskets, and grommets.

Submit the following for approval:
Shop drawings stamped by a Missouri-licensed PE showing pole dimensions, mast arm loading, and structural calculations. Galvanizing certification. Bolt and hardware specifications. Warranty documentation.

3.0 Basis of Payment. Payment includes all labor, materials, equipment, hardware, pole fabrication, foundation, anchor bolts, installation, wiring pass-through, and all work necessary to provide a complete, installed, and functional pole assembly as specified.

WW. Overhead Signing

1.0 Description. This work shall consist of furnishing and installing Type S Tubular Support Steel as shown on the plans. All materials and construction procedures shall meet MoDOT specifications and specifically the applicable requirements listed in Section 903.

2.0 Basis of Payment. All costs associated with furnishing and installing the Type S Tubular Support Steel, including any additional materials, equipment, and labor, shall be considered completely covered by the contract unit price for the following items:

Item Number	Type / Description	Unit
903-99.01	SIGN, TYPE S TUBULAR TWO TUBE, 75 FT. - 0 IN.	LUMP SUM

XX. Relocating and Mounting Existing Signs to New Posts

1.0 Description. This item provides for relocating and mounting existing signs of various sizes to new posts at locations shown on the signing sheets.

2.0 Construction Requirements. The contractor shall install new posts at the locations shown and then mount existing signs to the appropriate post type as summarized on sheet D-29 and D-30 of the signing sheets. All work shall be in accordance with the construction requirements of Section 903.

3.0 Method of Measurement. Measurement for any concrete footings, structural steel posts, pipe posts, perforated square steel tubes and anchor sleeves, and breakaway assemblies will be made in accordance with Section 903.

4.0 Basis of Payment. All cost incurred for removal, storage of equipment, and reinstallation of existing signs to new posts at the locations shown, complete in place, will be considered subsidiary to other pay items. Payment for all other labor, equipment, material, and incidental items will be made in accordance with Section 903 and paid for at the contract unit price for each of the pay items included in the contract.

YY. Signs on Sign Truss Poles, Signal Poles, and Mast Arms

1.0 Description. This item provides for the furnishing and installing of new signs on the sign truss poles, signal poles and mast arms.

2.0 Construction Requirements. Contractor shall furnish and install the appropriate signs on the sign truss poles, signal poles and mast arms as summarized on sheet D-30 and D-37A.

3.0 Method of Measurement. Measurement will be made in accordance with Section 903. Any revision or correction from plan quantities will be computed and added or deducted from the contract quantities.

4.0 Basis of Payment. All costs for complying with this special provision shall be considered completely covered by the contract unit price for Pay Items 902-08.33 , SH-Flat Sheet - Signal Sign, Sq. Ft. and 903-50.04, SH-Flat Sheet, 1.0 Sq. Ft.

ZZ. Access to Commercial and Private Properties

1.0 Description. This improvement is located within a commercial and residential area. While working on entrances or adjacent properties, the contractor shall make every reasonable effort to minimize any interference to the properties 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 as approved by the property owner and the engineer.

1.1 The contractor shall notify the engineer 14 calendar days prior to any area of sidewalk or entrance construction. After notification from the contractor, the engineer will contact each property owner at least one week prior to any sidewalk or entrance construction within their property limits to advise them of the work that will take place and the timeframe of the work.

2.0 Construction Requirements. The contractor shall keep one-half of the entrance open at all times unless there is not sufficient width for vehicle ingress and egress. If there exists more than one entrance to the property, the contractor shall keep a minimum of one entrance to that property completely open at all times unless approved in advance by the property owner and the engineer. The minimum compressive strength of the concrete shall be 3000 psi prior to allowing any traffic on the concrete.

3.0 Liquidated Damages Specified. If the entire entrance is not complete and open to traffic prior to within 5 calendar days, 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 $500.00 per day for each full day that an entrance is not complete and open to traffic in excess of the limitation as specified elsewhere in this special provision.

4.0 Basis of Payment. No direct payment will be made to the contractor to recover the cost of equipment, labor, materials or time required to fulfil the above provisions, unless specified elsewhere in the contract document.

AAA. Delayed Right of Way Possession

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

1 REVISED Parcel 1 – HyVee Inc
~~Parcel 15 – AJ Partnership LLC~~
~~Parcel 16 – 104 SW State Route 7 LLC~~
~~Parcel 17 – RHC Associates~~
Parcel 25 – SDI JLI LTD PTP
Parcel 27 – BFS Retail & Commercial Operation LLC
~~Parcel 31 – Blue Spring First LLC~~
~~Parcel 33 – Rottinghaus Real Estate LLC~~
~~Parcel 35 – Lenhart Fauenberg LLP~~
~~Parcel 36 – Highway 7 Retail LLC~~
~~Parcel 38 – PRB Holdings LLC~~
~~Parcel 50 – Swope Clay M & Donna J - Trustees~~ 1 REVISED

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

1.2 The contractor shall schedule its work utilizing the available right of way until these parcels are cleared for construction, which is estimated to be April 30th, 2026. However, this date expressly is not a warranty by or contractually binding on the Commission as the date the three Parcels will be clear for construction. No encroachment, storage of equipment and materials or construction on these parcels shall be permitted until the contractor is notified by the engineer that these parcels have been acquired.

1.3 The contractor shall have no claim for damage for delay, disruption, interference or otherwise as a result of the unavailability of Parcel 1, 15, 16, 17, 25, 27, 31, 33, 35, 36, 38, and 50. The contractor may be given an extension of time upon proof of actual delay caused by the unavailability of these parcels as approved by the engineer.

BBB. OGL Signal Coordination

Description.
The work under this Contract consists of required removal, testing, installation, and/or reinstallation of all Intelligent Transportation System (ITS) equipment and materials necessary for the Mid-America Regional Council (MARC) Operation Green Light (OGL) system to maintain operation as long as possible during the proposed construction period and reestablish communications as quickly as possible after the proposed construction period. This work includes, but is not limited to, the removal, testing, installation, and/or reinstallation of wireless signal communication equipment, incident management cameras, and fiber communication equipment, where applicable.

Coordination of the inspection and testing throughout the construction period is to be completed by calling the Mid-America Region Council at (816) 701-8300 and requesting the Operation Green Light staff.

1.1 Standard Details.
The Contractor shall follow OGL standard details (available on their website) and the owning agency standard details and for equipment installation as applicable. Contact MARC OGL Staff and/or local municipality to obtain applicable standard details.

1.2 Scheduling of Work.
The Contractor shall submit a schedule to MARC OGL staff for approval at least thirty (30) days before commencing work on OGL equipment or any work which would impact communications to the signal network. Once removal and/or installation of this equipment commences, the Contractor shall complete this work following the approved schedule.

1.3 Pre-Qualifications.
The Contractor shall have experience with applicable wireless equipment, radio networks, and/or applicable fiber optic cable and networking equipment. All work to be performed on new and existing OGL equipment shall be completed by an OGL approved Contractor or submit paperwork to be reviewed and approved by MARC staff. A contractor shall be certified to work on Radwin or Ceragon or similar wireless radios are required when working with the associated wireless radios in the field. The Contractor must submit vendor certifications, an experience summary from similar projects completed, and all applicable references and trainings to MARC OGL Staff within 7 days from the notice to proceed. Additionally, the Contractor must provide a manufacturer certification for each manufacturer of wireless equipment included with this project. These submittals must be approved by MARC OGL staff prior to any work being performed.

2.0 Construction.
To assure full and complete utilization and compliance of all equipment, the Contractor shall provide support services and materials at various points in the construction, including:

- Testing as specified in **Section 3** of this Technical Special Provision.

Final acceptance of the Project will be made after satisfactory completion of the testing of applicable installed and/or reinstalled communications system equipment, camera system software and equipment, signal vehicle and pedestrian detection, and on the basis of a comprehensive final field inspection. The Contractor shall be fully responsible for safe return of all equipment removed to OGL Staff until the equipment is ready for reinstallation (if applicable). The Contractor shall coordinate with OGL Staff on proper location for storage of equipment removed.

The equipment and materials for installation shall conform to the Plans and this Technical Special Provision; relevant local agency specifications, latest edition; and the National Electric Code, latest edition. In case of a conflict the documents shall govern in the order established.

The Contractor shall be responsible for contacting MARC OGL staff and obtaining asset tags which are to be applied to each equipment item if necessary. The Contractor is responsible for contacting MARC OGL staff to obtain IP addresses and security key info for equipment if necessary.

The intent of this Job Special Provision is that the work to be completed under this Contract shall be neat, finished, full, and complete in every detail and ready for use and operation for the purpose for which it is intended. The Contractor shall furnish all labor, tools, materials, machinery, test equipment, and equipment necessary to complete the removal, testing, installation and/or reinstallation of the system. The cost of all incidentals, minor and miscellaneous items, work, and materials for which no payment is specifically provided, and any items, work, and materials not specified or shown which are necessary to complete and maintain the work shall be included in the price bid for other items in the Contract, and no other compensation will be allowed. The Contractor shall pay all shipping costs for the equipment furnished and installed under this Contract.

2.1 Removal (and Reinstallation) of Existing Equipment.
If wireless equipment is proposed to be removed with this project it shall be returned to MARC OGL staff unless it is to be reinstalled on the project. The Contractor shall remove the specified equipment at designated locations. Equipment removal shall be conducted in a manner in which to preserve the existing condition of the equipment. The Contractor shall plug any holes in mast arms or poles when wireless equipment is removed. When equipment has a corresponding cable the Contractor shall remove the cabling from the existing conduit and pull box system and disconnect any existing terminations in the cabinet for that device. Cable associated with existing wireless communications equipment should be completely removed from the signal system (conduit, pull boxes, and pole), coiled, and disposed of in an acceptable manner. All equipment, with the exception of cabling, is to be returned to MARC OGL staff.

The Contractor shall perform all cable and cable hardware removal in a manner that ensures that no damage is caused to any conduit, pole, or other facility. In case of damage to cables, equipment or property, the Contractor shall immediately notify the Engineer. The Contractor shall repair all damage caused by performing the required tasks at the Contractors sole expense and to the satisfaction of the Engineer.

If removed equipment is to be reinstalled at any point in the project, the Contractor shall schedule work with OGL Staff per **Section 1.2** and adhere to a strict schedule to minimize downtime of equipment. Upon removal of existing equipment, the Contractor shall complete all work necessary to reinstalled removed equipment, or install new equipment, per plans to keep downtime to a maximum continuous 48-hour time window. Contractor shall install temporary communications or confirm project schedule if downtime is anticipated to be greater than a continuous 48-hours.

New cable shall be supplied and installed by the Contractor for reconnection to reinstalled equipment upon completion of construction. New cable to devices shall meet manufacturer specifications for said device and approved by OGL Staff during the equipment submittal process. All new equipment shall conform to OGL standards and specifications in addition or as a supplement to local or state jurisdictional requirements.

3.0 Acceptance and Testing Procedures.
The Contractor shall notify OGL Staff in advance of the times and places which the tests will take place to enable the Engineer and/or OGL Staff to witness them. The Contractor shall perform the tests and document the test results. The testing of equipment's functionality shall involve evaluating its capability to transmit and receive information reliably and efficiently. This encompasses assessing wireless performance, including transmit power and receive sensitivity, as well as verifying compliance with relevant communication protocols. Functional testing must encompass all intended features and functions. When the tests are completed, whether

successful or not, electronic copies of the test results shall be furnished to OGL Staff for evaluation. The documented test results shall be self-explanatory, clearly stating how the results were obtained along with an explanation where the test results deviated from the expected results. OGL Staff will notify the Contractor whether the test was successfully completed.

3.1 Inspection.

All equipment and material furnished, and all work performed in connection with the project shall be subject to inspection by OGL Staff. OGL Staff, or their authorized representative, shall have free access during normal working hours to any local facility or area in which work associated with the project is occurring. The Contractor shall ensure that full and sufficient information concerning the character of materials and workmanship is made available to OGL Staff or the Engineer.

Inspection by OGL Staff or the Engineer shall not relieve the Contractor of his obligation to comply with the requirements of the Plans and this Technical Special Provision. Any equipment or labor, which is found by OGL Staff to be defective or unsuitable prior to Final Acceptance, shall be replaced or corrected at the Contractor's expense.

4.0 Basis of Payment.

The removal and resetting/reinstallation of existing OGL equipment will be paid for under the lump sum bid item for "OGL Signal Coordination" for all devices installed or relocated on the project. No direct payment will be made for any incidental items necessary to complete the work unless specifically provided as a pay item in the contract. The Lump Sum bid item shall include all necessary equipment described in the plans and all incidental components, including mounting brackets, antennas, surge suppression and cabling.

Item No.	**Type**	**Item Description**
902-99.01	LS	OGL Signal Coordination