Job No.: JSL0112
Route: I-64 NOR
County: St. Charles

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

Job No.: JSL0112
Route: I-64 NOR
County: St. Charles

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 W. CAPITOL AVE.
JEFFERSON CITY, MO 65102
Phone 1-888-275-6636

CDG Engineers
One Campbell Plaza
St. Louis, Missouri 63139
Certificate of Authority: #1271
Consultant Phone: 314-781-7770

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

JOB NUMBER: JSL0112
ST. CHARLES COUNTY, MO
DATE PREPARED: 04-18-2025

ADDENDUM DATE:

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

Job No.: JSL0112
Route: I-64 NOR
County: St. Charles

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 on all projects shall be completed on or before the date specified below. Completion by this date shall be in accordance with the requirements of Sec 108.7.1.

Notice to Proceed: July 7, 2025
Contract Completion Date: August 25, 2026

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

Project	Calendar Days	Daily Road User Cost
JSL0112 & TAP-5407(619)	414	$2,300

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the contract completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **$1,500** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the specified contract completion date or calendar days.

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

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

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

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

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

2.0 Traffic Management Schedule.

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

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

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

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

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

2.5 Traffic Congestion. The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of 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 Transportation Management Plan. The contractor Work Zone Specialist (WZS) shall review the Transportation Management Plan (TMP), found as an electronic deliverable on MoDOT's Online Plans Room and discuss the TMP with the engineer during the preconstruction conference. Throughout the construction project, the WZS is responsible for updating any changes or modifications to the TMP and getting those changes approved by the engineer a minimum of two weeks in advance of implementation. The WZS shall participate in the post construction conference and provide recommendations on how future TMPs can be improved.

4.0 Detours and Lane Closures.

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

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

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

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

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

Missouri Highway Patrol 636-300-2800
City of O'Fallon Fire: 636-272-3493
City of O'Fallon Police: 636-240-2000
St. Charles County Sheriff: 636-949-3010

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

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

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

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

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

Michael Blattner, PE
Transportation Project Manager
Missouri Department of Transportation
St. Louis District
1590 Woodlake Drive
Chesterfield, MO 63017
Office Number: (314) 453-1751
Cell Number: (636) 893-3882
Email: Michael.Blattner@modot.mo.gov

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

F. Supplemental Revisions JSP-18-01FF

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

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

- Stormwater Compliance Requirements

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

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

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

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

2.1 Duties of the WPCM:

(a)Be familiar with the stormwater requirements including the current MoDOT State Operating Permit for construction stormwater discharges/land disturbance activities; MoDOT's statewide Stormwater Pollution Prevention Plan (SWPPP); the Corps of Engineers Section 404 Permit, when applicable; the project specific SWPPP, the Project's Erosion & Sediment Control Plan; all applicable special provisions, specifications, and standard drawings; and this provision;

(b)Successfully complete the MoDOT Stormwater Training Course within the last 4 years. The MoDOT Stormwater Training is a free online course available at MoDOT.org;

(c)Attend the Pre-Activity Meeting for Grading and Land Disturbance and all subsequent Weekly Meetings in which grading activities are discussed;

(d)Oversee and ensure all work is performed in accordance with the Project-specific SWPPP and all updates thereto, or as designated by the engineer;

(e)Review the project site for compliance with the Project SWPPP, as needed, from the start of any grading operations until final stabilization is achieved, and take necessary actions to correct any known deficiencies to prevent pollution of the waters of the state or adjacent property owners prior to the engineer's weekly inspections;

(f) Review and acknowledge receipt of each MoDOT Inspection Report (Land Disturbance Inspection Record) for the Project within forty eight (48) hours of receiving the report and ensure that all Stormwater Deficiencies noted on the report are corrected as soon as possible, but no later than stated in Section 5.0.

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

with the Stormwater requirements that could arise in the course of construction activity at the project.

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

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

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

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

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

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

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

106.9.1 Buy America Requirements for Iron and Steel.
On all federal-aid projects, the contractor's attention is directed to Title 23 CFR 635.410 *Buy America Requirements*. Where steel or iron products are to be permanently incorporated into the contract work, steel and iron material shall be manufactured, from the initial melting stage through the application of coatings, in the USA except for "minimal use" as described herein. Furthermore, any coating process of the steel or iron shall be performed in the USA. Under a general waiver from FHWA the use of pig iron and processed, pelletized, and reduced iron ore manufactured

outside of the USA will be permitted in the domestic manufacturing process for steel or iron material.

106.9.1.1 Buy America Requirements for Iron and Steel for Manufactured items.
A manufactured item will be considered iron and steel if it is "predominantly" iron or steel. Predominantly iron or steel means that the cost of iron or steel content of a product is more than 50 percent of the total cost of all its components.

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

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

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

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

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

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

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

106.9.6 Buy America Requirements for Construction Materials other than iron and steel materials. Construction materials means articles, materials, or supplies that consist of only one of the items listed. Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material. Upon request by the engineer, the contractor shall submit a domestic certification for all construction materials listed that are incorporated into the project.

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

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

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

(a) Articles, materials, or supplies that have been:
    (i) Processed into a specific form and shape; or
    (ii) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.
(b) If an item is classified as an iron or steel product, a construction material, or a section 70917(c) material under § 184.4(e) and the definitions set forth in this section, then it is not a manufactured product. However, an article, material, or supply classified as a

manufactured product under § 184.4(e) and paragraph (1) of this definition may include components that are construction materials, iron or steel products, or section 70917(c) materials.

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

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

- Pavement Marking Paint Requirements for Standard Waterborne and Temporary

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

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

- Third-Party Test Waiver for Concrete Aggregate

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

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

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

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

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

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

3.1 The testing facility shall be AASHTO accredited.

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

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

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

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

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

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

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

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

- ***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, suppliers, manufacturers, and truckers 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. 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.

H. Clean Water Act Section 404 Permit Requirements NJSP 21-02

1.0 Description. The Contractor shall be aware that any work within streams, wetlands, or special aquatic sites requires a Clean Water Act Section 404 permit from the United States Army Corps of Engineers (USACE).

2.0 This project meets the conditions of the following listed permits with no pre-construction notification (No PCN) to the USACE:

Section 404 Nationwide Permit (NWP 14)

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

3.1 If the Contractor makes any changes to the scope or limits of the project, the Contractor shall notify the Engineer who shall then notify the MoDOT Environmental Section to verify the project still meets permit conditions.

3.2 No additional time will be added to this contract for the Contractor to obtain any permits unless the need for additional permits is beyond the control of the Contractor.

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

I. Contractor Quality Control NJSP-15-42

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

2.0 Quality Control Plan.

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

(b) A list of the QC technicians who will perform testing on the project, including the fields in which they are certified to perform testing.

(c) A proposed independent third party testing firm for dispute resolution, including all contact information.

(d) A list of Hold Points, when specified by the engineer.

(e) The MoDOT Standard Inspection and Testing Plan (ITP). This shall be the version that is posted at the time of bid on the MoDOT website (www.modot.org/quality).

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

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

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

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

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

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

4.0 Work Planning and Scheduling.

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

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

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

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

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

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

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

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

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

J. DBE Prompt Payment Reporting JSP-24-05B

1.0 Description.

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

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

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

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

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

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

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

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

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

2.2 The payer must report the following information within Signet:

(a) The name of the payee.

(b) The dollar amount of the payment to the payee.

(c) The date the payment was made.
(d) Any retainage or other amount withheld (if any) and the reason for the withholding (if other than retainage).

(e) The DBE function performed for this payment (e.g., contracting, trucking, or supplying as a manufacturer, dealer, or broker).

(f) Other information required by Signet.

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

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

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

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

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

K. Additional Mobilization for Seeding NJSP-16-03

1.0 Description. This provision provides compensation for additional mobilization for seeding, as specified herein.

2.0 Additional Mobilization for Seeding. Additional mobilization to perform temporary or permanent seeding, beyond the initial occurrence, may be necessary as specified in Sec 806.50.2 and as required per terms of the SWPPP. Mobilization of all equipment, workers and materials necessary to perform seeding and mulching shall be considered included in this work.

2.1 Measurement of the number of occurrences authorized by the engineer to mobilize equipment onto the project to perform temporary or permanent seeding will be made per each occurrence, except for the initial occurrence and as specified herein. No measurement will be made for mobilization necessary to perform repair work to previously seeded areas or for mobilization necessary due to removal of equipment prior to completion of seeding all areas available for seeding, as determined by the engineer.

3.0 Basis of Payment. The accepted occurrences of Additional Mobilization for Seeding will be paid for under 618-99.02, ADDITIONAL MOBILIZATION FOR SEEDING, at a fixed unit price of $600 per each occurrence. Payment for the initial occurrence to mobilize for seeding, and any additional mobilization costs in excess of the fixed price, shall be considered completely covered under other items.

L. Site Restoration

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

2.0 If the contractor elects and receives approval from the engineer for alternate trench and/or pull box locations, any areas of concrete slope protection, sidewalk, pavement, shoulders, islands

and medians – as well as any similar improvements consisting of asphaltic concrete materials – removed in conjunction with their construction shall be replaced with improvements of similar composition and thickness. Removals shall be achieved by means of full depth saw cuts; the resulting subgrade compacted to minimum density requirements and topped with 4 inches of compacted aggregate base course prior to replacement of surface materials. Concrete materials, used in replacement, shall be approved by the engineer. A commercial asphalt mix may be used for replacement of asphaltic surfacing upon approval of the engineer.

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

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

2.2.1 Seed and mulch will not be an acceptable means to reestablish grass in disturbed areas adjacent to ADA facilities constructed with this project. Any grassy areas around these facilities that have been disturbed by the contractor in order to construct ADA compliant facilities shall be replaced with sod. For locations where an existing ADA facility is removed and replaced on a new, accessible alignment, the old alignment shall have the subgrade appropriately prepared and sod shall be installed at the surface.

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

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

M. NTCIP Compliant Changeable Message Sign (Contractor Furnished And Retained)

1.0 Description. All solar powered changeable message signs, hereinafter referred to as a CMS, shall be in accordance with these specifications.

2.0 Material. Each CMS shall consist of an all LED (light emitting diode) matrix message board, solar/battery power supply and a user-operated interface, as specified, all mounted on a heavy duty, towable trailer.

2.1 Each CMS shall be either Full Matrix or Character Matrix, and have the following minimum characteristics:

(a) Full Matrix - Each CMS shall be the Full Matrix type with the capability of providing one, two, and three lines of individual changeable characters with minimum heights of 52 (1300),

28 (700), and 18 (450) inches (mm), respectively. Full Matrix signs shall be capable of both static and dynamic graphics, and full display sized messages.

(b) Character Matrix (Three Line) – Each CMS shall consist of a minimum of three lines containing eight individual changeable characters per line. Each character shall be a minimum of 12 inches wide and 18 inches (450 mm) high.

(c) Sign firmware shall comply with the current FHWA and DOT (Department of Transportation) NTCIP standards and support all NTCIP mandatory objects.

(d) The sign controller shall be remotely accessible by the MoDOT St Louis District Transportation Management Center (TMC) through the Commission's ATMS (Advanced Traffic Management System) software, currently TransSuite provided by TransCore. The contractor will be responsible for ensuring the CMS is added to the ATMS software.

(e) The CMS shall have a cellular data modem compatible with the district's current cellular IP (packet data) service provider and be capable of allowing the MoDOT St Louis District TMC ATMS software to have full control of the NTCIP compliant CMS controller remotely. Modem shall be capable of being programmed with a static IP.

(f) The sign shall have a GPS unit that can assist in locating the sign's position when polled by the TMC. The GPS unit must be remotely accessible by the TMC and be part of or work with the provided communication modem.

(g) Physical access to the onboard computer shall be protected by a padlock or other locking handle mechanism. Electronic access to the onboard computer shall be protected by a username and password.

2.2 Full matrix CMS and character matrix CMS shall meet the following:

(a) The overall sign dimensions shall not be less than 72 inches (1800 mm) high x 126 inches (3150 mm) wide.

(b) The CMS shall be legible up to a distance of 650 feet (200 m) for both day and night operations and shall be visible for ½-mile (800 m) with 18 inch (450 mm) characters.

(c) When fully raised in the display position, the bottom of the CMS board shall be at least a height of 7 feet (2100 mm) from the ground and shall be able to rotate a complete 360 degrees atop the lift mechanism. A sight tube, used to aim the CMS board to oncoming traffic, shall be installed on the CMS board or mast. The CMS shall have an electrical-hydraulic lifting mechanism that includes a manual lifting and lowering relief mechanism as a backup. It also must be able to be locked into various viewing angles as determined best for the motorists by the CMS operator.

(d) All LED displays and control circuitry shall be operational from -20 F (-29 C) to 120 F (50 C). The LED's shall have a rated life of 100,000 hours. The LED's shall be ITE amber in color on a flat black background.

(e) The CMS face shall be constructed that if an individual panel or pixel fails the rest of the face shall continue to display the message.

(f) All costs and coordination needed for testing to verify modem communication, sign NTCIP compliance, remote GPS status polling, ability to control the sign via the St Louis District's ATMS software provided by TransCore shall be the sole responsibility of the Contractor. Full integration into TransCore's ATMS shall be completed at least 5 business days prior to use of the CMS in the project. TransCore contact information will be provided to the contractor by contacting MoDOT's Gateway Guide staff at 314-275-1526 or via email at ggtech@modot.mo.gov with details of the request. No other support shall be provided by MoDOT other than TransCore contact information. Information provided shall include, at a minimum, CMS make and model, IP address, and proposed locations and messages.

(g) The Contractor shall be responsible for all monthly cellular service fees for the duration of the project.

(h) The unit shall be able to withstand a 65-mph (105-kmph) maximum road wind speed. The trailer shall be able to support the fully extended CMS board in an 80-mph (130-kmph) wind load.

(i) Solar charging system shall allow for total autonomy of 24/7/365 continuous operation.

(j) All exterior surfaces except the sign face shall be cleaned, primed, and finished with two coats of Highway Safety Orange and the sign interior itself shall be cleaned and finished with one coat of corrosion inhibiting primer and two coats of flat black. The sign face shall be covered with a rigid translucent material to prevent damage to the sign face caused by the environment.

3.0 Construction Requirements. Prior to placing a CMS on a project, the engineer shall verify proposed CMS location is void of conflict with another DMS or CMS locations presently established. If a conflict is present, the engineer shall contact the Traffic Management Center (TMC) at 314-275-1526 to mitigate. If no conflict is present, engineer shall provide Traffic Management Center (TMC) with the Job Number, Route, County, specific CMS location, and a CMS identification number that is permanently affixed to the CMS. The engineer and contractor shall verify the message displayed on board is compliant with CMS messaging policies. The contractor shall place the CMS 6 feet [2 meters] off of the right edge of shoulder at the location shown on the plans or as directed by the engineer. The CMS shall be placed so that the right side of the unit is advanced approximately 3 degrees ahead with the direction of traffic. CMS shall not be located in medians. CMS shall be delineated with a minimum of five non-metallic channelizing devices. Installation, including location and placement, shall be approved by the engineer. If needed, the contractor shall relocate the CMS as directed by the engineer.

3.1 When not in use, the CMS shall be stored no closer than 30 feet [10 meters] to the edge of pavement carrying traffic, unless it is in a properly protected area or an off-site storage area or as otherwise directed by the engineer.

4.0 Basis of Payment. All expenses incurred by the contractor in integrating, maintaining, relocating, operating and protecting the changeable message signs as outlined above shall be paid for at the contract unit price for Item 616-10.99 Changeable Message Sign with Communication Interface, Contractor Furnished, Contractor Retained, per Each.

4.1 Cost for channelizers shall be included in the contract unit price for CMS.

4.2 Cost for cellular phone hookup and monthly usage fee for the duration of the project shall be included in the contract unit price for CMS.

Item No.	Type	Description
616-10.99	Each	Changeable Message Sign with Communication Interface, Contractor Furnished, Contractor Retained

N. High-Tension Guard Cable Barrier JSP 24-03

1.0 Description. This work shall consist of all labor, equipment, and materials to remove, install, repair, and replace a guard cable barrier system including all hardware and appurtenances as shown on the plans or as directed by the engineer. The cable barrier system shall function in accordance with the requirements of MASH 2016 or NCHRP 350, Test Level 3, and be approved by the Federal Highway Administration. Test Level 3 acceptable products, for use as a cable barrier system, are included in the list of pre-qualified products displayed on MoDOT's website. Acceptable products shall include galvanized high-tension wire ropes and anchorages.

2.0 Construction Requirements. Line posts shall be provided and installed in accordance with the manufacturer's shop drawings and shall be placed plumb. All posts in final position shall be free from any distortion, burring, or other damage. Spacing of the posts shall not exceed 20 feet.

2.1 Anchor Assemblies. An anchor assembly, as specified in the manufacturer's shop drawings, shall be constructed at each end of a cable barrier run. The anchor assembly shall function in accordance with the requirements of MASH 2016 or NCHRP 350, Test Level 3, and be approved by the Federal Highway Administration. Anchors shall be constructed on firm, stable, undisturbed soil to the minimum dimension shown on the shop drawings. Anchor bolts and anchor post slip bases shall be firmly held in position at the top by templates during concrete replacement. Backfill shall be thoroughly compacted with mechanical tampers with care taken to prevent damage to the finished concrete. Backfill shall be brought up level with the finished grade line.

2.2 Cable. The galvanized wire rope shall be ¾" pre-stretched 3 x 7 construction as approved by the Federal Highway Administration during the system's acceptance testing. Threaded terminals (wedge or swaged type) shall be furnished. Swaged terminals may be shop- or field-swaged. Threaded terminals shall be right hand (RH) or left hand (LH) threaded M 24 x 3 pitch to ANSI B 1.13 M. The body of the threaded terminal shall provide a minimum of 5.9" of wire rope penetration depth. Threaded terminals shall be galvanized after threading to ASTM A 151. Turnbuckle or rigging screws shall be of the size and shape shown in the manufacturer's shop drawings. Rigging screws shall be of a solid or closed body type with two inspection holes to determine threaded rope terminal penetration. Rigging screws shall be galvanized to ASTM A 153 after threading.

2.3 Cable Tensioning. The cable height above ground shall be in accordance with the manufacturer's shop drawings. The cable shall be tensioned immediately after initial installation. Tension shall be rechecked and adjusted, if necessary, three to five days after initial tensioning on cable system sections with lengths greater than 2500 feet. A tension log form shall be completed showing: the time, date, location, ambient temperature and final tension reading, signed by the person performing the tensioning, and furnished to the engineer upon completion of the work. This form shall also include the system manufacturer's recommended tension chart.

2.4 Delineators. Delineator spacing and reflector colors shall be in accordance with Sec 606.50.2.

3.0 Method of Measurement. Measurement of the cable barrier will be made from center of line posts, totaled to the nearest linear foot.

3.1 Anchor Assemblies. Measurement of anchor assemblies will be made per each.

4.0 Basis of Payment. The accepted quantities of cable barrier, anchor assemblies, cable barrier to guardrail interfaces will be paid for at the contract unit price with Item No. 606-99.03 High Tension Guard Cable (per linear foot) and Item No. 606-99.02 HTGC Anchor Assembly (per each). Any anchor assembly required for cable to guardrail transition shall be considered included in the contract unit price for cable to guardrail transition. No direct payment will be made for delineators or setting post in rock.

O. Liquidated Damages Specified JSP-93-28A

1.0 Description. If Technology Drive (I-64 NOR) Bridge and Roadway Construction is not complete and open to traffic on or before August 25, 2026, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of $1,500 per day for each *day*, or partial *day* thereof, that Technology Drive (I-64 NOR) Bridge and Roadway Construction is not complete and open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

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

P. Lump Sum Temporary Traffic Control JSP-22-01A

1.0 Delete Sec 616.11 and insert the following:

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

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

stage, or phase. No measurement will be made for any additional signs or devices needed except for changes in the traffic control plan directed by the engineer.

2.0 Delete Sec 616.12 and insert the following:

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

(a) Incidental items necessary to complete the work, unless specifically provided as a pay item in the contract.

(b) Installing, operating, maintaining, cleaning, repairing, removing, or replacing traffic control devices.

(c) Covering and uncovering existing signs and other traffic control devices.

(d) Relocating temporary traffic control devices, including permanent traffic control devices temporarily relocated, unless specifically included as a pay item in the contract.

(e) Worker apparel.

(f) Flaggers, AFADs, PFDs, pilot vehicles, and appurtenances at flagging stations.

(g) Furnishing, installing, operating, maintaining, and removing construction-related vehicle and equipment lighting.

(h) Construction and removal of temporary equipment crossovers, including restoring pre-existing crossovers.

(i) Provide and maintaining work zone lighting and work area lighting.

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

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

(a) The first payment will be made when five percent of the original contract amount is earned. The payment will be 50 percent of the price for LSTTC, or five percent of the original contract amount, whichever is less.

(b) The second payment will be made when 50 percent of the original contract amount is earned. The payment will be 25 percent of the price for LSTTC, or 2.5 percent of the original contract amount, whichever is less.

(c) The third payment will be made when 75 percent of the original contract amount is earned. The payment will be 20 percent of the price for LSTTC, or two percent of the original contract amount, whichever is less.

(d) Payment for the remaining balance due for LSTTC will be made when the contract has been accepted for maintenance or earlier as approved by the engineer.

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

Item No.	Unit	Description
616-99.01	Lump Sum	Miscellaneous Temporary Traffic Control

Q. Optional Pavements JSP 06-06H

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 401-99.05, Optional Pavement, per square yard.

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.

R. Quality Management NJSP-15-22

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

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

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

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

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

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

2.1 The QMP shall address all QC inspection and testing requirements of the work as described herein. A draft QMP shall be submitted to the Resident Engineer for review at least two weeks prior to the pre-construction conference. An approved QMP is required at least two weeks prior

to the start of work, unless otherwise allowed by the engineer. Physical work on the project shall not begin prior to approval of the QMP by the engineer.

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

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

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

(b) Name, qualifications and job duties of the Quality Manager.
(c) A list of all certified QC testers who will perform QC duties on the project, including sub-contract work, and the tests in which they are certified.

(d) A list of all QC inspectors who will perform QC inspection duties on the project, including sub-contract work, and the areas of inspection that they will be assigned.

(e) A procedure for verifying documentation is accurate and complete as outlined in Section 3.

(f) A procedure describing QC Inspections as outlined in Section 4.

(g) A procedure describing QC Testing, as outlined in Section 5, including a job specific Inspection and Test Plan (ITP).

(h) A procedure describing Material Receiving as outlined in Section 6.

(i) A list of Hold Points that are not included in the checklist forms, as outlined in Section 8.

(j) A procedure for documenting and resolving Non-Conforming work as outlined in Section 9.

(k) A procedure for tracking and documenting revisions to the QMP.

(l) A list of any approved changes to the Standard Specifications or ITP, including a reference to the corresponding change order.

(m) Format for the Weekly Schedule and Work Plans as outlined in Section 10, including a list of activities that will require pre-activity meetings.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

8.0 Hold Points. Hold Points are events that require approval by the engineer prior to continuation of work. Hold Points occur at definable stages of work when the succeeding work depends on a QA review of the preceding work before work can continue.

8.1 A list of minimum Hold Points will be provided by the engineer and shall be included in the QMP. The engineer may make changes to the Hold Point list at any time.
8.2 Prior to all Hold Point inspections, QC shall provide the engineer with the Daily Inspection Reports, Inspection Checklists, Test Reports, and Material Receiving Reports for the work performed leading up to the Hold Point. If the engineer identifies any corrective actions needed during a Hold Point inspection, the corrections shall be completed prior to continuing work. The engineer may require a new Hold Point to be scheduled if the corrections require a follow-up inspection.

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

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

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

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

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

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

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

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

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

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

S. 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.

T. 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**
Ameren Missouri Greg Nissing 1901 Choteau St. Louis, MO 63103 Phone: (866) 992-6619 Email: Gnissing@ameren.com	None	Power

Utility Name	Known Required Adjustment	Type
AT&T Distribution Ms. Heidi Vespa 12930 Olive Blvd Creve Coeur, MO 63141 Phone: (636) 328-6952 Email: ha7247@att.com	Yes Section 2.0	Fiber Optic, Telephones
Spectrum / Charter Mr. Chris Thompson 101 Northwest Plaza Drive St. Ann, MO 63704 Phone: (636) 299-2512 Email: chris.thompson@charter.com	None	Fiber Optic, Television
Cuivre River Electric Cooperative Mr. Stan Winkle, PE 8757 Highway N Lake Saint Louis, MO 63367 Phone: (800) 392-3709 Email: stanw@cuivre.com	None	Electric
Duckett Creek Sewer District Mr. Mony Rawlings 3550 Highway K O'Fallon, MO 63368 Phone: (636) 441-1244 Email: rawlings@duckettcreek.com	None	Sanitary
Everstream Mr. John Klebe 1228 Euclid Ave #250 Cleveland, OH 44115 Phone: (844) 733-4700 Email: utilityreview@everstream.net	None	Fiber Optic
Lumen / CenturyLink Mr. Rich Obremski 1 Solutions Parkway Town & Country, MO 63016 Phone: (800) 603-8043 Email: richard.obremski@lumen.com	None	Fiber Optic, Traffic Signal

Utility Name	Known Required Adjustment	Type
MoDOT St. Louis District Mr. Jeff Chambers 1590 Woodlake Dr. Chesterfield, MO 63017 Phone: (314) 453-5036 Email: jeffrey.chambers@modot.mo.gov	None	Electric, Fiber Optic, Street Lighting, Traffic Signal
Public Water & Sewer District #2 Brian Ingalls 100 Water Dr. O'Fallon, MO 63368 Phone: Email: bingalls@waterdistrict2.com	None	Sanitary, Water
Spire Missouri (East) Mr. Alan Meyer 4118 Shrewsbury Avenue Shrewsbury, Missouri 63119 Phone: (800) 887-4173 Email: Alan.Meyer@spireenergy.com	None	Natural Gas
City of O'Fallon Mr. Randy Clark 100 North Main Street O'Fallon, MO 63366 Phone: (636) 379-7632 Email: stormwater2@ofallon.mo.us	None	Storm Sewers
City of O'Fallon Mr. Anthony Friedman 100 North Main Street O'Fallon, MO 63366 Phone: (636) 379-5492 Email: tfriedman@ofallon.mo.us	None	Traffic

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 Provisions.

2.1 AT&T Distribution has facilities within the project area. No conflicts to the existing facilities are anticipated except for one handhole (near Trail 1, Sta. 41+57.79) that will need to be adjusted to grade during construction. This work will be performed by AT&T with their own forces. The contractor will need to coordinate with AT&T for this work. The City of O'Fallon is not obligated for any of the adjustment costs.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

V. Ledgerock Wall

1.0 Description. The Contractor will supply and install a Limestone Ledgerock freestanding seat wall approximately 9.5' long, 18" tall, and buried approximately 4" - 6" below grade.

2.0 Materials.

(a) Product: Limestone Ledgerock
(b) Supplier: Earthworks (or approved equal) (573-547-9097)
(c) Color: Adobe Buff

(d) Block Size: 24" -30" Deep, 12" -14" Tall, 3' to 5' Long

3.0 Execution. The Contractor shall prepare a 6" thick compacted MoDOT Type 5 Aggregate base for the wall to sit on. The base course of blocks should be buried 4" -6" below grade. The top of the wall should be 18" above the finished pavement grade at the front of the wall.

4.0 Method of Measurement. No measurement will be made. The quantity shown in the plans may require adjustment to provide a satisfactory installation. Adjustments in actual quantity shall not be cause for an adjustment in the cost of this item.

5.0 Basis of Payment. Payment for the above described work, including all material, equipment, labor and any other incidental work necessary to complete this item as described above and shown in the plans will be considered completely covered by the contract unit price for Ledgerock Wall per square foot for the quantity shown in the plans, no adjustment.

W. Site Furnishings

1.0 Description. This section includes a general description of the installation of benches, trash containers, bicycle racks, and other site amenities. The Contractor shall be responsible for site installation of these items and for furnishing and installing anchors, fasteners, touch-ups, repair, and other accessories as required.

2.0 Materials.

2.1 Site Furnishings.

The site furnishings required for the Project, as shown on the drawings, are described below:

2.2 Benches.

(a) Product: 493 Series (6' Bench)
(b) Provider: DUMOR or Approved Equal
(c) Website: https://dumor.com/
(d) Color: Black
(e) Quantity: 2

2.3 Trash Receptacles

(a) Product: 157-32SH W/ CVB-30-FTO (32 Gallon Litter Receptacle)
(b) Provider: DUMOR or Approved Equal
(c) Website: https://dumor.com/
(d) Color: Black
(e) Quantity: 1

2.4 Picnic Tables.

(a) Product: 77-A (aluminum picnic table)
(b) Provider: DUMOR or Approved Equal
(c) Website: https://dumor.com/
(d) Color: Metal Frame: Powder Coated Black

(e) Quantity: 1

2.5 Bike Rack.

(a) Product: 292-00/S-2 (Powder Coated Bike Rack Surface Mount)
(b) Provider: DUMOR or Approved Equalh
(c) Website: https://dumor.com/
(d) Color: Metal: Black
(e) Quantity: 2

2.6 Bicycle Repair Station.

(a) Product: Fixit Plus, 1 bike capacity with attached Air Kit Prime
(b) Provider: DERO (A Playcore company) or Approved Equal
(c) Website: https://www.dero.com/
(d) Color: Powder Coat - Orange
(e) Quantity: 1

2.7 Substitutions.

2.7.1 Other manufacturers will be considered if the substitute products meet the minimum material qualities of the proposed site furnishings and meet both function and aesthetic requirements. The Contractor will provide catalogs and specifications of the proposed substitutions to determine "or equals."

3.0 Execution.

3.1 Inspection. The Contractor shall examine the substrates and conditions under which all equipment is to be installed and notify the Owner's Representative in writing of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected. Assume all footings for post bases are to be placed on compacted subgrade.

3.2 Installation.

3.2.1 Assemble all furnishings that require assembly before installation.

3.2.2 Install equipment at the locations shown on the drawings. Install furnishings level, plumb, secure, and follow the manufacturer's recommendations and detail drawings. Cooperate with other trades and sections of the specifications.
Repair and replace damaged units as directed by the Owner's Representative.

3.3.3 Protect installed equipment from damage, blemishes, or indication of use until completion and acceptance of the Project.

4.0 Method of Measurement. “SITE FURNISHINGS” shall be measured item installed on the Project.

5.0 Basis of Payment. Payment for each item described above, including all material, equipment, labor and any other incidental work necessary to provide a complete installation for each item will be considered completely covered by the contract unit price for each item as identified above and shown in the plans.

X. Shade Structure

1.0 Description. This section includes a general description of installing the 12' x 12' shade structure. The General Contractor shall be responsible for purchasing the structure and installing it on-site.

2.0 Materials.

2.1 Shade Structures. The shade structure required for the Project, as shown on the drawings, is described below:

2.1.1 12' x 12' Shade Structure.

(a) Product: SSG 12x12, Multi-Rib Gable Roof
(b) Provider: POLYGON or Approved Equal
(c) Distributor Contact: Brad Hutchinson, Hutchinson Recreation & Design, (800) 848-5616
(d) Color: Color Selected by Owner's Representative
(e) Quantity: 1

3.0 Execution.

3.1 Installation.

3.1.1 Install the shade structure and footings following the manufacturer's installation instructions.

3.1.2 Install at the locations shown on the drawings. Install the structure level, plumb, secure, and follow the manufacturer's recommendations and detail drawings. Cooperate with other trades and sections of the specifications.

3.1.3 Repair and replace damaged parts as directed by the Owner's Representative.

3.1.4 Protect installed structure from damage, blemishes, or indication of use until completion and acceptance of the Project.

4.0 Method of Measurement. No measurement will be made.

5.0 Basis of Payment. Payment for this item including all material, equipment, labor and any other incidental work necessary to provide a complete installation as described above and shown in the plans will be considered completely covered by the contract unit price for 12 x 12 Shelter, per each.

Y. Bridge Support Beam Painting (Bridge A6752, A6753, A9387)

1.0 Scope.

1.1 This work shall consist of surface preparation, furnishing and installation of all materials required for the application of an exterior paint system and an anti-graffiti coating on existing or

new concrete or masonry vertical surfaces as shown on the plans. All Painted Concrete and Masonry shall be in accordance with these specifications.

1.2 The contractor will use vector artwork files provided by the sign consultant/owner's rep and resize artwork as needed for painting around the entire column. The contractor is to provide all needed templates and painting materials. Reusable Sintra (PVC) sheet templates are preferred but not required.

1.3 All existing surfaces to receive painting and anti-graffiti coating shall be cleaned prior to application. Joints in existing masonry receiving paint shall be prepared according to these specifications.

1.4 The contractor shall prepare and paint three (3) bridge support beams (approx. 1,874 sf of surface area total). All four sides of each bridge support beam are to be painted.

2.0 Submittals.

2.1 MoDOT and GRG entered into a Mural Agreement to permit the work prior to the start of any painting. The contractor is to assist GRG with all materials necessary for this submittal.

2.1.1 Contractor to provide shop drawings based on the provided vector artwork design intent drawings from the Sign Consultant/Owner's Rep. Once shop drawings are approved by the Owner and Signage Consultant/Owner's Rep, the Contractor to assist with all documents/materials needed for formal submittal.

2.1.2 The contractor will also provide MoDOT with paint and template details, color samples, traffic control plan, warranty information, and proposed schedule documentation.

2.1.3 The start of work would be based on temperatures adequate for painting. The contractor will start the approval process no less than a month prior to executing the painting.

2.1.4 MoDOT has received initial drawings from GRG and has not expressed any issues after the initial informal review, but the Contractor is to wait on the necessary permit prior to beginning any fabrication.

2.1.5 Primary Contact with MoDOT: Andy Tureck, PE. Area Engineer

2.1.6 St. Charles County. Andrew.Tureck@modot.mo.gov Phone (314) 453-5046.

2.2 Product Data. For each type of product. Include preparation requirements and application instructions.

2.3 Samples. For each type of paint system and each color and gloss of topcoat.

2.4 Shop Drawings. The contractor shall submit scaled shop drawings for each surface indicated to be painted in the project plans. Shop drawings to include the following information:

2.4.1 Pantone color numbers to match.

2.4.2 All graphics will be completed on scaled drawings, including the final vector artwork files for the contractor. If used, all fonts will be outlined.

2.4.3 Other graphic elements to show the paint type and details.

2.4.4 Product Data Sheet and Materials Safety Data Sheet for the paint system, anti-graffiti system, and any solvent that will be used during the project

2.4.5 Visual Standard for Surface Preparation. Visual standard shall be maintained and shall be available for viewing by the Construction Manager, MoDOT representative, GRG, and Signage Consultant/Owner's Rep

2.4.6 Concrete Cleaning. Contractor to list SSPC standards used to clean the concrete before painting.

2.4.7 Wet film thickness per coat of paint.

2.4.8 Dry film thickness per coat of paint.

2.4.9 Submit a notarized certification by the manufacturer stating that the material supplied is suitable for outside environments where salt deicing chemicals are used.

2.4.10 Representative example of manufacturer's paint warranty.

2.4.11 PDF and AI vector files of painting face graphics for 3 locations. The minimum number of graphics to be submitted is one for each location.

I-64 East Bound Bridge Support Beam (South Side)
I-64 West Bound Bridge Support Beam (South Side)
Technology Drive Bridge Support Beam (South Side)

2.5 Painting Record Submittals. Environmental conditions during painting shall be recorded by the Contractor and submitted to the Construction Manager once per week during the painting of the project elements. The minimum elements required for recording are as follows:

(a) Temperature
(b) Relative humidity
(c) Dew point
(d) Surface temperature
(e) Wind
(f) Wet film thickness
(g) Dry film thickness

3.0 Quality Assurance.

3.1 Mockups. The contractor shall provide a painting mock-up. The mock-up shall be painted for approval at the Technology Drive location. The contractor shall complete a painted mock-up of one 3-ft by 3-ft vertical surface.

3.1.1 Mock-up to be completed after shop drawings are processed and approved by GRG and the signage consultant.

3.1.2 The location of mock-ups shall be determined by GRG and the Signage Consultant/Owner's Rep.

3.1.3 Mock-ups shall be a minimum of 3-ft. by 3-ft. vertical and shall include graphics and text as determined by the signage consultant from the shop drawing submittal.

3.1.4 Final approval of color selections will be based on mock-ups. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Signage Consultant/Owner's Rep at no additional cost to the Owner.

3.1.5 Mock-ups shall include anti-graffiti system.

3.1.6 Final painting shall not proceed until mock-ups are approved by the City of O'Fallon, the Construction Manager, MoDOT, Great Rivers Greenway District, and the Signage Consultant/Owner's Rep.

3.2 Painter Qualifications. All painters shall be certified by the appropriate paint manufacturer for proper handling, mixing, thinning (if required), and application of the paint system in accordance with the manufacturer's instructions. The painters shall also be certified by the Department of Transportation in the state where the bridge is located.

4.0 Pre-Installation Conference. A column pre-painting conference shall take place between the Contractor, Construction Manager, MoDOT representative, Signage Consultant/Owner's Rep, Great Rivers Greenway District, and the City of O'Fallon before any painting takes place. The conference shall be used to review and approve the mock-ups.

5.0 Materials.

5.1 The materials used to Paint Concrete shall consist of a minimum three-coat Painting system (Prime Coat, Intermediate Coat, and Finish Coat).

5.1.1 Sherwin Williams Protective & Marine Coatings:

(a) Macropoxy 646 Fast Cure Epoxy
(b) Hi-Solids Polyurethane
(c) 2K Waterbased Urethane Anti-Graffiti Coating

5.2 All exposed surfaces shall receive applied prime, intermediate, and finish coats. The paint system shall consist of the following:

5.2.1 Prime. High-Solids Inorganic Zinc Silicate meeting the requirements of 1045.3 of the 2011 Missouri Department of Transportation Standard Specifications for Highway Construction.

5.2.2 Intermediate. Multiple-component modified epoxy primer meeting the requirements of 1045.4 of the 2011 Missouri Department of Transportation Standard Specifications for Highway Construction.

5.2.3 Finish. Multiple-component aliphatic acrylic polyurethane meeting the requirements of 1045.5 of the 2011 Missouri Department of Transportation Standard Specifications for Highway Construction.

5.3 The anti-graffiti system shall not change the color of the painted surface and shall be approved by Great Rivers Greenway District and the signage consultant/owner's rep.

5.4 Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by the manufacturer, based on testing and field experience.

5.5 For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in the paint system and on the substrate indicated.

5.6 Colors. Match colors as shown on plans. The finish coat paint color shall be selected by the owner at the time of shop drawing submittals.

6.0 Examination

6.1 Examine substrates and conditions, with the Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting the performance of the Work.

6.2 Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

(a) Concrete: 12 percent.

6.3 Verify the suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

6.4 Proceed with coating application only after unsatisfactory conditions have been corrected.

7.0 Safety. All personnel involved in spraying or working in the immediate vicinity of spraying operations shall wear protective clothing, creams, and masks to eliminate skin exposure. The Contractor shall obtain instructions from the manufacturer as to the types of safety equipment required and safety precautions to be taken for all types of applications. A copy of these instructions is to be furnished to the Engineer. The Contractor shall supply all necessary safety equipment except clothing.

8.0 Surface Preparation.

8.1 Comply with the manufacturer's written instructions and recommendations in the "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

8.2 Remove hardware, covers, plates, signs, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before surface preparation and painting.

8.3 The surface of the concrete receiving paint shall be thoroughly cleaned by the use of jets, sandblasting, mechanical sweeper, hand brooms, or other approved methods, or as directed by the Construction Manager, until they are free of all sand, clay, dust, salt deposits, oil or grease deposits, paint, and all loose or foreign matter. All dust and dirt shall be blown off with air jets immediately preceding paint application. Any gas or oil spills shall be thoroughly cleaned, solvent-wiped, and allowed to dry before and during application.

9.0 Material Preparation and Application.

9.1 Material preparation and application shall be in strict accordance with these specifications and according to the manufacturer's written instructions and recommendations. The Contractor shall acquaint himself with the materials specified and their handling characteristics.

9.2 Components of paint shall be prepackaged in exact quantities and shall be thoroughly mixed just before application in strict accordance with the manufacturer's written instructions.

9.3 The paint shall be applied only during weather conditions acceptable to the manufacturer's recommendations.

9.4 Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

9.5 To provide adequate clearance for initial painting and future recoating, a minimum of 1-1/2-inch gap shall be provided between any two opposing painted surfaces. If this gap cannot be maintained, the Contractor shall obtain pre-authorization from the Construction Manager prior to applying paint.

9.6 The prime, intermediate, and finish coat shall be applied in accordance with and to the minimum dry film thickness listed in the paint manufacturer's recommendations.

9.7 The paint may be applied to the deck by airless spray, trowel, or squeegee as long as acceptable by the manufacturer.

9.8 The painted surface shall be inspected, and uncoated areas shall be repaired with another application of the paint as per the direction of the Construction Manager.

9.9 Touch-up Paint. A nominal quantity of touch-up paint will be provided to repair marred surfaces. Touch-up painting includes any and all painting required as per the direction of the Construction Manager.

9.10 Install the anti-graffiti system in accordance with the manufacturer's recommendations.

10.0 Cleaning and Protection.

10.1 Traffic shall be kept off the painted concrete at all times, and particular care shall be taken to protect the paint from damage while curing.

10.2 Any damage to the painted surfaces which may occur during the project shall be repaired.

10.3 The Contractor is responsible for protecting the adjacent buildings, pavement, etc. against over spray by the paint.

11.0 Method of Measurement.

11.1 No measurement will be made for final/approved painted surfaces.

11.2 The mock-up painted surfaces shall not be measured. This mock-up work shall be incidental to this item (No Direct Pay). If the mock-up is not accepted, the Contractor shall remove the unapproved mock-ups and re-paint at No Direct Pay.

12.0 Basis of Payment. Payment for this item including all material, equipment, labor and any other incidental work necessary to provide a complete installation as described above and at the three locations as shown in the plans will be considered completely covered by the contract lump sum price for Bridge Support Beam Painting (Bridge A6752, A6753, A9387).

Z. Exterior Signage

1.0 General.

1.1 Summary.

1.1.1 This section covers all custom sign work per Great Rivers Greenway (GRG) Exterior Sign design standards and as shown in the plans .

1.1.2 The General Contractor (Contractor) is responsible for the installation and condition of the signs, including but not limited to: construction of the below-grade components such as foundations (footings), connection bolts (if applicable), as well as connecting the signs to the foundations. The Fabricator, as referenced within this section, is GRG's preselected sign supplier, and is responsible for the fabrication of all above-grade sign components, including foundation connection plates, if applicable, and shipping. GRG will provide the design of all sign construction and content unless otherwise shown in the plans .

1.1.3 Fabricator's Responsibilities.

1.1.3.1 Receive, verify, confirm GRG approval, and process the sign order from the Contractor after contract award.

1.1.3.2 Fabricate all signage and graphics per the final design documents after contract award.

1.1.3.3 Be knowledgeable of relevant federal, state and local code requirements, and be responsible for ensuring that all signs meet current local, state and federal codes, especially, but not limited to, ADA and Fire/Life Safety codes.

1.1.3.4 Fabricate all above-grade components, including connection plates, of the signs according to the GRG Sign Standards and the Construction Documents.

1.1.3.5 Ship completed signs and appurtenances to the Contractor's designated location.

1.1.3.6 Develop graphic proofs of all sign faces using messaging from GRG's Construction Documents and obtain GRG's approval of such proofs.

1.1.3.7 Notify GRG's Representative immediately if any discrepancies exist within the Construction Documents or field conditions .

1.1.4 Contractor's Responsibilities.

1.1.4.1 Secure any and all necessary permits for signage installation.

1.1.4.2 Order signs from GRG's pre-selected sign supplier according to GRG's contractually secured unit prices (if applicable).

1.1.4.3 Work with GRG's Representative to coordinate with other trades performing work on site.

1.1.4.4 Construct sign foundations and connection bolts per the Construction Documents and the GRG Sign Standards.

1.1.4.5 Be knowledgeable of relevant federal, state and local code requirements, and be responsible for ensuring that all signs meet current local, state and federal codes, especially, but not limited to, ADA and Fire/Life Safety codes.

1.1.4.6 Notify GRG's Representative for any serious variations of local site soil conditions for below-grade components of the signs, such as foundation and connection bolts, and incorporate all the safety features necessary to adequately support the sign for its intended use and purpose, as required by approvals and permits, and to protect GRG.

1.1.4.7 Visit the site to observe existing site and soil conditions, verify mounting conditions and space availability, take field measurements and verify all signage locations with GRG's Representative prior to directing the Fabricator to start fabrication. If access to the site is unfeasible, the Contractor shall obtain GRG's Representative's approval of such situation prior to directing the Fabricator to start.

1.1.4.8 Work with GRG's Representative to secure any necessary variances.

1.1.4.9 Notify GRGs Representative immediately if any discrepancies exist within the Construction Documents or field conditions.

1.1.4.10 Provide all submittals outlined in the specifications in a timely fashion and according to the agreed upon contract schedule.

1.2 Warranty.

1.2.1 Extend in writing all manufacturers' warranties.

1.2.2 Assure materials, and processing or application of materials, comply with the manufacturers' warranties.

1.2.3 Obtain a minimum five (5) year extended warranty and assign to GRG on all paint and powder coat applications.

1.2.4 Obtain a minimum eight (8) year manufacturer's extended warranty and assign to GRG on the sign face .

1.2.5 Seller warrants that the items or services to be furnished hereunder are:

(a) new and free from defects in design, materials, or workmanship;

(b) in full conformity with Buyer's specifications, drawings, technical and other data, Seller's samples or other description; and

(c) merchantable and fit for the use intended by Buyer. This warranty shall extend for a period of 24 months from installation (the "Warranty"). Seller further warrants that it has good title to the items to be provided hereunder, has the right to convey good title to such items, and such items are free and clear of the claims of third parties. The warranties provided herein shall be in addition to any warranties of additional scope given to Buyer by Seller whether express, implied or by operation of law, including without limitation warranties implied pursuant to the applicable Uniform Commercial Code. All Warranties shall be automatically assigned to Buyer without notice to Seller. All warranties shall survive acceptance or payment by Buyer. If any items or services are found to be defective within the Warranty period, then Buyer shall notify Seller of such defect and Seller shall repair or replace the defective items or services, at Seller's cost, as soon as reasonably possible. Neither acceptance nor payment for all or any items or service shall be deemed to be a waiver of Buyer's rights under this Order or applicable law. In addition to the foregoing rights and remedies, Buyer shall be entitled to recover any damages allowed by law, including special or consequential damages together with reasonable attorney's fees and other expenses.

1.2.6 Repair or replace, including installation, any defective signs or hardware, which develop during the warranty period and repair any damage to other work due to such imperfections at no charge to GRG and to GRG's satisfaction.

1.3 Submittals.

1.3.1 Pre-Fabrication Submittals. .Submit the following to GRG's Representatives for review and approval prior to directing the Fabricator to start of each respective sign fabrication.

1.3.1.1 Contractor's Final Sign Plan and Order. Detailed schedule of each sign type, numbers of signs, exact messaging, and placement plan. Contractor shall also provide documentation from the Fabricator confirming the Fabricator has received the order and received the GRG's final sign content and artwork design documents.

1.3.1.2 Fabricator's Proofs Approval Confirmation. Documentation confirming Fabricator's receipt and approval of sign proofs by GRG.

1.3.2 Fabrication Submittals. Submit the following to GRG's Representatives for review and approval during and after signage fabrication as described

1.3.2.1 Schedule. Include detailed fabrication and installation plans/tasks within the Construction Schedule updates.

(a) Include all pertinent dates and milestones such as submittal dates, required approval dates, fabrication dates, delivery dates, and installation dates.

(b) Include all lead times for materials and third-party supplied items.

(c) Allow a minimum of 15 business days for any GRG and/or GRG Representative's review with one round of revisions built in unless otherwise noted within the bid schedule.

1.3.2.2 Fabricator's Pre-Shipping Photos. Secure and provide copies of photos of all signage prior to packing and shipping to GRG's Representative.

1.3.2.3 Post-Fabrication Submittals. Upon completion of the initial installation, the following are to be submitted – one hard copy and one electronic (pdf) copy:

(a) Maintenance instructions and manuals for all sign components (lighting, paint, etc.), along with any amended drawings, as-installed sign location plans and approved keystroke documents.

(b) Instructions for maintenance and waxing of painted, powder coated and fiberglass elements.

(c) Templates for all insertion-based signs, utilizing standard software for GRG's use in printing replacement inserts.

(d) One (1) pint of each finish paint color for touch-up purposes.

(e) Warranty documentation, as outlined above.

1.4 Quality Assurance.

1.4.1 The materials, products, equipment and performance specifications described within, establish a high-quality standard of required function, dimension, appearance, performance and quality to be met by the Contractor.

1.4.2 Materials used for this project shall be new materials, not reconditioned.

1.4.3 Contractor shall only use workforce skilled and experienced with the products, methods, and installation requirements outlined for this project.

1.4.4 Installation is to withstand severe abuse and souvenir theft vandalism, but not less than the equivalent of resisting simple hand implements and tools (screwdrivers, knives, coins, keys, and

similar items), and adult physical force. It is the Contractor's responsibility to suggest alternate installation methods, should they be deemed necessary to hinder theft or vandalism.

1.4.5 Regulatory Requirements. Signage shall meet or exceed requirements of all current applicable local, state and federal codes, including, but not limited to:

1.4.5.1 MUTCD standards manual, 2009 edition with the 2012 revisions.

1.4.5.2 2010 Americans with Disabilities Act Standards for Accessible Design, including local modifications and amendments; and Local and State Building and Fire Codes.

1.5 Deliveries, Storage and Material Handling.

1.5.1 Receive and inspect all shipped items for accuracy, defects, and damage immediately upon receipt. Any damage not reported to the GRG's Representative and Fabricator within 24 hours of delivery shall be the responsibility of the Contractor.

1.5.2 Fabricator shall pack, wrap, crate, bundle, box, bag, or otherwise package, handle, transport, all fabricated work as necessary to provide protection from damage.

1.5.3 Provide clear and legible identifying information on all product packaging to ensure proper on-site identification and installation.

1.5.4 It is recommended to cover all sign faces with a low-tack protective vinyl cover, to be removed after installation. This is to help minimize minor scratches and nicks that happen during unpacking and installation.

1.5.5 Contractor shall coordinate the delivery and secure storage of signs with the GRG's Representative to meet deadlines.

2.0 Products.

2.1 Manufacturers.

2.1.1 Substitutions.

2.1.1.1 No substitution will be considered unless GRG' s Representative has received written request for approval.

2.1.1.2 Equal or better equipment or method may be recommended, but fabricator will be required to provide full documentation, upon request, establishing such a substitution's equality or superiority as measured in: compliance with the visual design intent, cost, ease of maintenance, and performance.

2.1.1.3 The Owner's Representative decision of approval or disapproval of a proposed substitution shall be final.

2.1.2 Approved manufacturers include.

(a) Acrylic Polyurethane Paint: Matthews Paint Company or Akzo Nobel

(b) Powder Coating: PPG Duranar or Akzo Nobel Interpon

(c) Exterior Vinyl: 3M or Oracal

(d) 3M custom traffic retroreflective sign face (CTSF program). Full face, digitally printed (using 3M UV-cured inks) onto 3M diamond grade reflective sheeting with 3M acrylic overlay film.

(e) Acrylic Sheets: Rohm and Hass Co, Acrylite or equal.

(f) Panaflex: 3M or equivalent

(g) Exterior Extrusions: SignComp, Charleston Industries or equivalent

(h) Exterior Tactile signs: Gravoply or equivalent

(i) Stainless Steel Strapping System: Band-It or equivalent

(j) Banner Hanging System: Banner Saver

(k) Fiberglass Imbedded Panel: Pannier Graphics

(l) Electronic Message Centers: Daktronics, Firewatch, Vantage LED

(m) Adhesive Silicone: Dow Corning or equivalent

(n) Adhesive Tape: Polyfoam or “Isotac” by 3M or equivalent

2.2 Materials.

2.2.1 Aluminum. Suitable for ornamental work. Finish to be smooth and free of imperfections. Alloy based upon structural requirements of the signage design.

2.2.2 Material thickness are provided in GRG’s Sign Standards.

2.2.3 Structural Steel. Galvanized rolled steel or equal as required to meet structural requirements.

2.2.4 Adhesive Vinyl. Opaque color, reflective color, translucent color and transparent color.

2.2.5 Exterior Grade Paint. Acrylic polyurethane paint in solid and metallic colors with primer and Super Satin Clearcoat finish.

2.2.6 Miscellaneous mounting hardware: including but not limited to, screws, bolts, stainless steel cable, hinges, and adhesives.

2.2.7 Labels. Only labels required by law are permitted on the exterior of the sign face.

2.2.7.1 Labels shall not be on the primary messaging faces of the sign, unless dictated so by the local ordinance.

2.2.7.2 Labels shall be located in a position as discreet as possible.

2.2.7.3 No other labels are permitted on the signs.

2.2.7.4 Fabricator contact information may be placed inside the sign on the access panel.

2.2.8 All printed graphics shall be printed at a minimum of 300 DPI using exterior grade UV inks.

2.2.9 Sign Substrates.

2.2.9.1 Aluminum Sheet. 0.375" minimum thickness for side-mounted signs and 0.125" minimum thickness for all other signs unless otherwise specified.

2.2.9.2 All sign substrates shall comply with sign sheeting warranties.

2.2.10 Retroreflective Sheeting.

2.2.10.1 Retroreflective sheeting shall be in accordance with latest versions or ASTM D 4956 and AASHTO M 268, except as noted herein.

2.2.10.2 Color and luminance values for all types of reflective sheeting shall be in accordance with ASTM D 4956.

2.2.10.3 Retroreflective sheeting shall have sufficient adhesion, strength and flexibility such that the sheeting can be handled, processed and applied according to the manufacturer's recommendations without appreciable stretching, tearing, cracking or other damage.

2.2.10.4 Adhesive performance for retroreflective sheeting shall be in accordance with ASTM D 4956.

2.2.10.5 The sheeting surface shall be in condition to be readily screen processed and compatible with transparent overlay films and recommended transparent and opaque screen process colors.

2.2.10.6 The retroreflective-sheeting manufacturer shall furnish information as to the type of solvent or solvents that may be used to clean the surface of the sheeting without detrimental loss of performance and durability.

2.2.10.7 Retroreflective sheeting having a datum mark on the surface shall be oriented vertically. ASTM D 4956 Type XI retroreflective sheeting applied as legend and border for specific signing applications, without a datum mark on the surface of the sheeting, shall be evaluated for rotational sensitivity per AASHTO M 268, Section 3.3.

2.2.10.8 Retroreflective sheeting products that do not meet the rotational sensitivity requirements of Section 3.3 shall follow guidelines detailed in AASHTO M 268 Section 3.3.1 and fabricated per AASHTO M 268 Section 3.3.2.

2.2.11 Background Sheeting. Background sheeting applied to flat sheet and extruded panel signs shall be in accordance with ASTM D 4956 Type XI, unless otherwise specified on the drawings.

2.3 Fabrication.

2.3.1 Details on design drawings indicate a design approach for sign structure but do not necessarily include all fabrication details required for the complete structural integrity of the signs, including consideration for static, dynamic and erection loads during handling, erecting, and service at the installed locations.

2.3.2 Site-verify all locations to determine special installation requirements, uneven footing needs based on sloped grades. Field verify measurements for wall mounted and glass-mounted signage, etc. prior to fabrication.

2.3.3 A sign shall consist of acceptable substrate flat sheets or extruded panels retroreflectorized on the face side with all letters, numerals, symbols, borders, corners and route shields mounted on the face, and shall include all necessary mounting devices shown on the plans. Signs equal to or greater in width than six feet are considered structural (ST) and shall be fabricated on extruded panels. Signs less than six feet in width will be considered sheet (SH) signs and shall be fabricated with flat sheet. Any exceptions to these fabrication standards will be indicated on the plans.

2.3.4 Fabricate signage such that major components of the sign can be removed and replaced with similar components. Incorporate this changeability such that it does not promote vandalism but can be done by a qualified maintenance crew.

2.3.5 Within fabrication tolerances, allow for expansion and contraction of materials due to temperature changes as appropriate to the project location.

2.3.6 Construction Methodology.

2.3.6.1 The drawings call for a variety of fabrication techniques.

2.3.6.2 Sign faces are to be fabricated using aluminum sheets of varying thicknesses, as specified on design drawings, with a minimum thickness as specified under Sign Substrates.

2.3.6.3 All aluminum substrate shall be given a chromate conversion coating in accordance with ASTM B 449, Class 2, and shall be prepared by one of the Treatment Sequence Options described in:

> ASTM B 449, Appendix X2 as well as 3M's Sign Base Surface Preparation Information Folder 1.7, August 2013 (or the most recent date).

2.3.6.4 All plastic substrate shall be prepared according to 3M's Sign Base Surface Preparation Information Folder 1.7, August 2013 (or the most recent date). The chemicals and solvents shall be applied in strict accordance with the manufacturer's recommendations. Sufficient laboratory facilities to test and control the concentration of the solutions used shall be maintained at the treating plant. A log of the concentration of treating solutions shall be maintained. Treated panels shall be handled in such a manner as to prevent contamination. Panels shall be stored in a dry, clean area free from dust, acid fumes or vapors. When aluminum is shipped to a secondary location for retroreflectorizing, adequate precautions shall be taken to ensure that the material arrives at the destination uncontaminated.

2.3.6.5 Conceal all fasteners except for access panels or where approved otherwise by Owner's Representative and Designer. Access panel fasteners are to be stainless steel, tamper resistant, counter-sunk flush screws, painted to match adjacent finish.

2.3.6.6 All hardware and fasteners within reach shall be vandal resistant.

2.3.6.7 All panel adapters shall match the corresponding sign substrate thickness.

2.3.6.8 Any sign faces smaller than 8’ by 20’ are to be fabricated from 1 piece of seamless material.

2.3.6.9 To prevent electrolysis, separate all ferrous and non-ferrous materials with a non-conductive gasket or barrier and utilize stainless steel fasteners as required.

2.3.6.10 Welded Joints.

(a) Exposed welded joints must be filled and ground smooth so that there is no seam visible when painted.

(b) Dimensional and structural welding defects will not be accepted, including but not limited to: poor weld contours, including excessive bead convexity and reinforcement, and considerable concavity or undersized welds; cracks; undercutting; porosity; incomplete fusion; inadequate penetration; spatter; and non-metallic inclusions.

(c) Welding is to be performed by AWS (or similar) certified personnel, following AWS Standard Welding Procedure Specifications (SWPSs) for steel, aluminum, and stainless steel as appropriate.

2.3.6.11 Non-welded joints between various portions of signs must have a tight, hairline-type appearance, without gaps. Provide sufficient fastenings to preclude looseness, racking, or similar movement.

2.3.6.12 Exposed edges are to be finished such that no saw marks are visible.

2.3.6.13 Drain Holes.

(a) Provide drain holes as needed to prevent accumulation of water within signs.

(b) Holes must be inconspicuous and located such that drainage does not occur onto signs, or other surfaces subject to staining.

(c) Provide internal system of baffles to prevent “light leaks” through drain holes of illuminated signs.

(d) Use color-coordinated stainless steel bug mesh screen over drain holes or vents.

2.3.6.14 Visible metal joints must adhere to a fit tolerance of 0.01”.

2.3.6.15 Sign panels shall be appropriately pre-drilled/pre-cut before priming and painting or coating.

2.3.6.16 All signs shall be of the highest quality with consistent daytime and nighttime color and retroreflectivity throughout the sign and produced as follows.

2.4 Painting.

2.4.1 The surfaces of metal posts and supports are to be painted per the most recent Matthews Paint or Akzo Nobel product bulletins.

2.4.2 All backs and edges of signs shall be painted to match.

2.4.3 Paint preparation of surfaces to include removal of all scratches and imperfections, sanding and chemical etching.

2.4.4 Substrate cleaning, preparation, paint application and paint thickness to be in strict compliance with Matthews Paint or Akzo Nobel published recommendations.

2.4.5 Surfaces to be properly covered with a primer per manufacturer's recommendations.

2.4.6 Acceleration of the drying process is not allowed.

2.4.7 All paint and powder coat finishes to be a satin finish unless otherwise noted in the design drawings.
2.4.8 All painted surfaces to have a clearcoat finish to add UV protection and protection from the elements.

2.5 Direct Embed Coating Systems (DECS) permanent imaging thermally-embedded in flat surfaces and dimensional objects shall be used for the informational signage identified in the drawings.

2.5.1 Process. The process embeds a high-resolution image deep into and throughout a super durable powder coated layer. The image is embedded inside the powder and flows seamlessly over edges and corners. It is not a film or a laminate. There are no visible corners and no delamination. The process shall be capable of coating and decorating both flat surfaces and dimensional objects.

2.5.1.1 Product substrates selected shall be able to withstand the 350 degree F (177 degree C) temperature of the powder coating oven. This includes and is not limited to aluminum, steel, glass, MDF, ceramic and high temperature plastics.

2.5.2 Characteristics. Coating shall be super durable polyurethane powder coated finish that is resistant to abrasion, humidity and corrosion. It shall be anti-graffiti, scratch resistant and noncombustible. The coating process shall be applicable for both interior and exterior applications. Coating shall withstand high traffic and extreme weather.

2.5.2.1 Available characteristics include anti-skid, antimicrobial, post-formable and super texture.

2.5.3 Capability. Embed process capability shall allow parts from the size of a button to 24 feet (7315 mm) in length. Includes dimensional objects, flat and embossed sheets, extruded profiles, and folded panels.

2.5.4 Submittals. Submit under provisions of this section:

2.5.4.1 Product Data. Manufacturer's data sheets on each product to be used.

2.5.4.2 Shop Drawings. For all fabrications, including details of construction and attachment to adjacent surfaces.

2.5.4.3 Verification Samples. For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns.

2.5.4.4 Certificates for percentage of recyclable base materials, recyclable transfer film and organic water-based inks.

2.5.4.5 Coating Process documentation of polyurethane powders emitting zero or near zero volatile organic compounds (no VOC's).

2.5.5 Manufacturer. Manufacturer must have minimum 3 years experience manufacturing similar products. Manufacturer shall have capability to provide a "delegated design" responsibility including prototypes, value engineering and budget analysis.

2.5.6 Quality Assurance Process. The following services shall be provided by the manufacturer to deliver the specified product for installation.

2.5.6.1 Project Management. Management of the design facilitation, review, prototype and implementation process.

2.5.6.2 Value Engineering. Reviewing possible cost saving approaches for single or multiple production pieces.

2.5.6.3 Prototype Development. Creating a full design element or portion of the element that reflects the final production piece.

2.5.6.4 Production/Fabrication. Creation of the final production piece.

2.5.6.5 Coating and Embedding. The powder coating and embedded decoration of the final production piece.

2.5.6.6 Installation and Service. Installation of the final production piece as well the maintenance of the final piece after installation.

2.5.7 Conditions. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

2.5.8 Sequencing. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

2.5.9 Warranty. Provide manufacturer's standard warranty for up to 10 years depending on location, substrate, environment and amount of direct sunlight.

2.5.10 Acceptable Manufacturer. Direct Embed Coating Systems; 6 Morris St., Paterson, NJ 07501. ASD. Tel: (954) 825-0410. Email: info@directembedcoating.com. Web: http://www.directembedcoating.com.

2.5.11 Substitutions. Not permitted.

2.5.12 Powder Coating with Embedded Image using DECS Equipment. As manufactured by Direct Embed Coating Systems. Coating shall be resistant to abrasion, humidity and corrosion; antigraffiti, scratch resistant, non-combustible, super-durable (UV resistant), and TGIC free (nontoxic). Suitable for both interior and exterior applications. Coating shall withstand high traffic and extreme weather.

(a) Substrate Material: As indicated on the Drawings.
(b) Image Source: As indicated on the Drawings.
(c) Color: As indicated on the Drawings.
(d) Finish: As indicated on the Drawings.

2.5.13 Examination. Do not begin installation until substrates have been properly prepared. If substrate preparation is the responsibility of another installer, notify GRG's Representative of unsatisfactory preparation before proceeding.

2.5.14 Preparation. Clean surfaces thoroughly prior to installation. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

2.5.15 Installation. Install in accordance with manufacturer's instructions and in proper relationship to adjacent surfaces.

2.5.16 Protection. Protect installed products until completion of project. Touch-up, repair or replace damaged products before Substantial Completion.

2.6 Fonts/Typefaces.

2.6.1 Fonts used within the Designer's programs were purchased by and are licensed to the Designer. It is the responsibility of the fabricator to purchase the specified licensed fonts for use within this program. See the design intent typography page for the specific fonts. Fonts are Clarendon and Gotham and specific type is included in the INDD files.

2.6.2 The designer is responsible for spacing the letters (Kerning) to meet ADA code requirements.

2.6.3 Letter height/cap height is based upon the height of the capital letter "E" or any capital character that has a flattop and base.

2.6.4 Under no circumstances are typefaces to be electronically distorted ("squeezed" or "extended") for purposes of fitting to the specified sign or general alteration of the sign face composition unless noted in the drawings. This includes (but is not limited to) stretching, squeezing, tilting, outlining or shadowing.

2.6.5 Apostrophes and quotation marks are to be used, not footmarks and inches. Note that there is a difference in most fonts.

2.6.6 Fabricator to reference spacing within the Design files. Layout of copy is critical for the proper function of the wayfinding signage. Any typesetting concerns or issues are to be brought to the Designer for resolution recommendations.

2.6.7 Fabricator is responsible for correcting any typesetting errors that may be necessary.

2.8 Silk-Screen, Digital Printing and Vinyl Copy.

2.8.1 All letterforms, symbols or graphics shall be reproduced either by photographic or computer generated means.

2.8.2 Cutting shall be done such that edges and corners of finished letterforms will be straight, sharp and true.

2.8.3 Letterforms with nicked, cut, ragged, rounded corners, and similar disfigurements will not be acceptable.

2.8.4 Copy is to match the sheen of the copy panel background (satin).

2.8.5 Surface of letters shall be uniform in color finish, and free from pinholes and other imperfections.

2.8.6 Silk-screened images shall be executed with photo-processed screens prepared from original electronic art.

2.8.7 Use only weather- resistant coating materials that are compatible with substrates.

2.8.8 Silk-screening shall be highest quality, with sharp lines and no sawtooth or uneven ink coverage.

2.8.9 Images shall be uniform in color and ink thickness.

2.8.10 Images shall be free from squeegee marks and lines resulting from improper print stroke or screen off contact height.

3.0 Execution.

3.1 Demolition.

3.1.1 It is required that the contractor remove all existing signs as noted on the demolition plan.

3.1.2 Contractor is to remove all below grade footings and foundations completely to a minimum depth of 8” below grade and fill with compacted soil.

3.1.3 If there are electrical connections, contractor must properly terminate them.

3.1.4 Contractor is responsible for disposal of existing signage. Recycling is encouraged. Open dumping is prohibited. Coordinate with GRG’s Representative.

3.1.5 Contractor is to repair and bring to consistent look with surrounding area (includes hardscaped or landscaped areas) any areas damaged or left exposed in an unfinished condition due to the removal of a sign.

3.2 Installation.

3.2.1 Permits and Variances.

3.2.1.1 Research relevant local code requirements and honor the same in fabrication and installation.

3.2.1.2 Secure all necessary permits for signage installation. Coordinate with the GRG's Representative to secure variances, should any be required.

3.2.1.3 Have all underground utilities properly located and marked. Any damage to below-grade utilities or structures are the responsibility of the Contractor.

3.2.2 Site Visit.

3.2.2.1 Ensure that every building-mounted sign location has the necessary blocking for safe and secure mounting. Where additional blocking is needed, recommend changes and receive approval from GRG's Representative prior to beginning installation.

3.2.2.2 The final Sign Placement Plan, adapted from the Construction Documents, shall be consulted together and shall be approved by GRG and GRG's Representative to determine the precise location for each sign. Any necessary adjustments will be made with the approval of GRG.

3.2.3 Contractor to maintain current signage and directional information during installation in order to continue to provide proper wayfinding. This can be done through the use of temporary signs, or vinyl over existing sign faces as directed by GRG's Representative.

3.2.4 Contractor to coordinate delivery and temporary storage of signage with GRG's Representative.

3.2.5 Contractor to provide a site logistics plan indicating the work areas, proposed equipment and power sources, extent and duration of street closures, and schedule time/dates of the respective sign installations. This schedule is to be updated on a weekly basis if changes occur.

3.2.6 Masonry/Foundations.

3.2.6.1 All concrete bases for signage are to be poured in place from thoroughly mixed and agitated concrete.

3.2.6.2 Concrete used for foundations shall meet the requirements for concrete materials in accordance with the concrete specifications and the specified testing.

3.2.6.3 Foundations are to extend beneath the frost line, or deeper to meet local code.

3.2.6.4 All foundations or bases should be poured within a form and level with grade unless otherwise specified in the design drawings or as specified by state or local code.

3.2.6.5 Foundations should not extend above grade more than 1.5" and exposed edges should be finished with a bevel to prevent chipping or hazards, unless otherwise indicated in the Construction Documents.

3.2.6.6 It's recommended that the concrete be floated by machine or hand before finishing in order to embed larger aggregates especially when part of the foundation or base extends above ground.

3.2.6.7 Concrete surface should have a smooth or brushed finish grade appearance. Match the finish appearance of connecting concrete surfaces when applicable.

3.2.6.8 All concrete bases and foundations should be edged to break any bond with the form and create a neat appearance. All forms should be removed once the concrete has properly cured.

3.2.6.9 Provide the necessary templates, mounting plates and hardware for concrete and masonry bases.

3.2.6.10 All masonry (concrete block, poured concrete, brick, slab, veneer, mortar, etc.) is to be properly treated and protected to maintain the structural integrity of the masonry work with exposure to all environmental conditions found at the site. For exposed or visible masonry, this shall include the application of protective sealers or similar finishes to diminish the effects of close proximity sprinkling or irrigation systems.

3.2.6.11 Wet concrete with foundations and posts must fully cure in place before signage is installed on the foundations or mounted to the posts.

3.2.7 Mounting.

3.2.7.1 Signs are to be mounted to the foundations or breakaway bases as indicated in the Construction Documents, centered on the concrete base or foundation, and engineered per code, unless otherwise specified in the Construction Documents or required by code.

3.2.7.2 For all bolts, nuts, washers and other fasteners, use stainless steel 300 series. However galvanized steel is acceptable, so long as all exposed surfaces are sealed.

3.2.7.3 Fabricator to specify mounting hardware and anchoring per the design of the signage. The visual appearance of the sign is not to be compromised from that shown in the design drawings.

3.2.7.4 Install all signage products such that there are no misalignments between visible components. Sign elements intended to be removable or changeable after installation must function as intended without binding, sticking or blocking.

3.2.7.5 All signs to be mounted level and true, and within the guidelines of applicable local, state and federal codes including, but not limited to, the 2010 Standards for Accessible Design (ADA) and fire/life safety codes, where applicable.

3.2.8 Locating Signs.

3.2.8.1 Contractor must have applicable understanding of the 2010 Standards for Accessible Design (ADA) mounting guidelines, city zoning and other applicable federal, state and local codes, general sign locating practices, and any particular unique installations.

3.2.8.2 Contractor to follow the regulations, noted guidelines, and architectural details around an installation location for the best visual placement.

3.2.8.3 Keep a reasonable distance from protruding objects.

3.2.8.4 Any signage that is improperly located is to be moved to the proper location, and all repairs to wall surfaces and signage are to be handled by the Contractor.

3.2.8.5 All sign locations must be staked by the contractor for approval by the GRG's Representative prior to installation.

3.2.9 Upon completion of installation, Contractor is to remove any protective covering, tape, or installation hardware. Contractor is then to clean the sign per the manufacturer recommendations, ensuring that sign is clean from dirt, stains, fingerprints, tape residue, etc.

3.2.10 All exposed hardware is to be touch-up painted on site as required immediately following installation prior to punch list.

3.2.11 All minor blemishes or marring are to be repaired such that the repairs are imperceptible. Components having permanent, non-removable scratches or defects are to be replaced completely.

3.2.12 Site Safety and Restoration.

3.2.12.1 Contractor is responsible for their own safety during the installation period.

3.2.12.2 Maintain a safe environment for pedestrians and vehicular traffic during the installation period, following OSHA safety standards as necessary.

3.2.13.3 Keep GRG's and Owner's premises and the adjoining premises, driveways and streets clean and clear.

3.2.13.4 Job site shall be left safe, neat and clean at the completion of each day's operation.

3.2.13.5 In addition to maintaining old or temporary signs for their directional or informational purposes, Contractor is to maintain signage that meets or exceeds MUTCD and local standards during the installation period.

3.2.13.6 At the completion of work, remove all rubbish, tools, equipment, and surplus materials, from and about the premises, and leave the site as originally found.

3.2.13.7 Repair or correct damage to other contractors' work resulting from signage installation work.

3.3 Punchlist.

3.3.1 The Contractor is to complete a walk through with GRG's Representative immediately following installation to identify any errors, such as construction or installation issues. Such errors are to be corrected in a timely manner, and to the satisfaction of GRG's Representative.

3.3.2 Fully replace all signs that are in error relative to the working documents (final sign message schedule, design drawings, and Construction Documents).

3.3.3 Correct any installation misalignments at no charge.

4.0 Payment.

4.1 Quantity.

4.1.1 The following table is provided for Contractor's information. The sign types are as indicated.

LOCATION NUMBER	TYPE	MESSAGE	COMMENTS
1	GRG Ix-2	DARDENNE GREENWAY	MESSAGE ON SOUTH FACE OF SIGN
		DARDENNE GREENWAY	MESSAGE ON NORTH FACE OF SIGN
2	GRG IN-1	INTERPRETIVE - DARDENNE CREEK AND DARDENE CREEK WATERSHED)	GRAPHICS TO BE PROVIDED BY GREAT RIVERS GREENWAY PRIOR TO SHOP DRAWING SUBMITTAL
3	GRG Kx-1	(MAP ON ONE SIDE AND GENERAL GREENWAY INFO ON THE OTHER SIDE)	GRAPHICS TO BE PROVIDED BY GREAT RIVERS GREENWAY PRIOR TO SHOP DRAWING SUBMITTAL
4	GRG GX-6	◄TRAILHEAD ◄DARDENNE CREEK CROSSING	MESSAGE ON NORTH FACE OF SIGN
		▲BLUEBIRD MEADOW PARK ►TRAILHEAD	MESSAGE ON SOUTH FACE OF SIGN
5	GRG GX-6	▲DARDENNE CREEK CROSSING	MESSAGE ON NORTH SIDE OF SIGN
		▲ BLUEBIRD MEADOW PARK ►TRAILHEAD	MESSAGE ON SOUTH FACE OF SIGN
6	GRG GX-99	◄BLUEBIRD MEADOW PARK ◄TRAILHEAD	MESSAGE ON WEST SIDE OF SIGN
		▲WINGHAVEN POINT DRIVE ►BLUEBIRD MEADOW PARK	MESSAGE ON EAST SIDE OF SIGN
7	GRG Gx-2	DARDENNE GREENWAY	MESSAGE ON EAST FACE OF SIGN
8	GRG GX-99	▲BLUEBIRD MEADOW PARK ◄WINGHAVEN POINT DRIVE	MESSAGE ON WEST SIDES OF SIGN
		►WINGHAVEN POINT DRIVE	MESSAGE ON EAST SIDES OF SIGN
9	GRG Gx-2	DARDENNE GREENWAY	MESSAGE ON WEST FACE OF SIGN
10	FREE STANDING SIGN*	GREAT RIVERS GREENWAY - DARDENNE GREENWAY	SEE SIGNAGE DETAIL 3, SHEET 38 FOR DETAIL (PANELS ON BOTH SIDES OF SIGN)
11	ADA PARKING SIGN	VAN ACCESSIBLE ADA PARKING SIGN	LOCATE SIGN POST CENTER OF STALL 6 INCHES OFFSET FROM TRAIL PAVEMENT

*Note: "Free Standing Sign" is located adjacent to the bridge and is a custom sign type as detailed on Detail 3, Sheet 38.

4.2 Method of Measurement.

4.2.1 Each location of WAYFINDING SIGNAGE shall be measured per each and include all labor, shipping, delivery, materials, footings, posts, etc. necessary to provide GRG with a finished and installed WAYFINDING SIGNAGE.

4.2.2 The measurement of items in this section shall be made per sign (each). The contract unit price shall be considered as full compensation for all labor, equipment, materials, posts, footing, and other construction involved to fabricate the sign and complete the work of installing the signs, including Contractor footings and furnishing and installing anchors.

4.3 Basis of Payment.

4.3.1 . Payment for WAYFINDING SIGNAGE will be made at the contract unit bid price each for each type specified.

Note: Contractor to determine the final installed costs for each sign using Great Rivers Greenway pre-selected sign supplier for wayfinding signage. The designated manufacturer is as follows:

ENGRAPHIX ARCHITECTURAL SIGNAGE, INC.
132 Hanley Industrial Court St. Louis, MO 63144
Ed Brimer, 314-740-5052, ed@engraphix.net

4.3.2 GRG has obtained the following prices from their pre-selected sign supplier (Engraphix). The costs shown below are the material cost for the sign fabrication and shipping, post, hardware, cap. Cost does not include tax, footing design, footing materials, and footing construction. Note: GRG is exempt from sales tax and a tax waiver can be provided to Contractor. For any signs not shown in this list, the Contractor shall be responsible for obtaining all pricing information and finding a supplier (e.g. MUTCD, other signs specified, etc.). The Free Standing Sign is a custom sign supplied by Engraphix Architectural Signage and is not included in the list below.

Sign Type	Description	Fab. Unit Cost+ Shipping
lx-1	Vehicular Main Identification - Freestanding	$3,425.00
lx-1w	Vehicular Main Identification - Wall Mount	$2,265.00
lx-1f	Vehicular Main Identification - Fence Mount	$2,265.00
lx-2	Vehicular Secondary Identification - Freestanding	$2,547.00
lx-2w	Vehicular Secondary Identification - Wall Mount	$2,352.00
lx-2f	Vehicular Secondary Identification - Fence Mount	$2,352.00
lx-3	Vehicular Greenway Identification - New Pole	$725.00
lx-3w	Vehicular Greenway Identification - Wall Mount	$525.00
lx-3f	Vehicular Greenway Identification - Fence Mount	$525.00
lx-3e	Vehicular Greenway Identification - Existing Pole	$525.00
Gx-1	Vehicular Trailblazer 6" - Two new poles	$6,600.00
Gx-1w	Vehicular Trailblazer 6" - Wall Mount	$4,400.00
Gx-1f	Vehicular Trailblazer 6" - Fence Mount	$4,400.00
Gx-2	Vehicular Trailblazer 4" - New Pole	$1,235.00
Gx-2w	Vehicular Trailblazer 4" - Wall Mount	$775.00
Gx-2f	Vehicular Trailblazer 4" - Fence Mount	$775.00
Gx-2e	Vehicular Trailblazer 4" - Existing Pole	$775.00
Gx-3	Vehicular Guide - Freestanding	$1,218.00

Sign Type	Description	Fab. Unit Cost+ Shipping
Gx-4	Pedestrian Trailblazer - New Pole	$625.00
Gx-4w	Pedestrian Trailblazer - Wall Mount	$425.00
Gx-4f	Pedestrian Trailblazer - Fence Mount	$425.00
Gx-4e	Pedestrian Trailblazer - Existing Pole	$425.00
Gx-5	Pedestrian Large Multi-Direction Guide - New Pole	$1,188.00
Gx-5w	Pedestrian Large Multi-Direction Guide - Wall Mount	$620.00
Gx-5f	Pedestrian Large Multi-Direction Guide - Fence Mount	$650.00
Gx-5e	Pedestrian Large Multi-Direction Guide - Existing Pole	$708.00
Gx-6	Pedestrian Medium Multi-Direction Guide - New Pole	$1,138.00
Gx-6w	Pedestrian Medium Multi-Direction Guide - Wall Mount	$570.00
Gx-6f	Pedestrian Medium Multi-Direction Guide - Fence Mount	$570.00
Gx-7	Pedestrian Medium Single-Direction Guide - New Pole	$1,138.00
Gx-7w	Pedestrian Medium Single-Direction Guide - Wall Mount	$570.00
Gx-7f	Pedestrian Medium Single-Direction Guide - Fence Mount	$570.00
Gx-8	Amenity Guide - New Pole	$1,098.00
Gx-8w	Amenity Guide - Wall Mount	$530.00
Gx-8f	Amenity Guide - Fence Mount	$530.00
Gx-9	Trailblazer Guide - Single Flag - New Pole	$1,255.00
Gx-9	Trailblazer Guide - Single Flag - Existing Pole	$680.00
Gx-99	Trailblazer Guide - Double Flag - New Pole	$1,735.00
Gx-99	Trailblazer Guide - Double Flag - Existing Pole	$1,360.00
Kx-1	Secondary Trailhead Kiosk - w/ alternate backs	$2,290.00
Kx-2	Secondary Trailhead Kiosk - New Pole	$1,188.00
Kx-2w	Secondary Trailhead Kiosk - Wall Mount	$620.00
Kx-2f	Secondary Trailhead Kiosk - Fence Mount	$620.00
Kx-2e	Secondary Trailhead Kiosk - Existing Pole	$708.00
Kx-3	Trail Information - New Pole	$1,098.00
Kx-3w	Trail Information - Wall Mount	$530.00
Kx-3f	Trail Information - Fence Mount	$530.00
Kx-3e	Trail Information - Existing Pole	$590.00
Rx-1	Regulatory/Safety - New Pole	$385.00
Rx-1w	Regulatory/Safety - Wall Mount	$140.00
Rx-1f	Regulatory/Safety - Fence Mount	$140.00
Rx-1e	Regulatory/Safety - Existing Pole	$140.00
Rx-2	Mile Marker - New Pole	$175.00
Rx-3	Mile Marker w/Trail Info & Rescue Locator - New Pole	$385.00
TC-1	Trail Counter - Custom - Sign only	$180.00
IN-1	Interpretive (***Non-reflectivesign panel***)	$3,675.00

AA. Soil Preparation

1.0 Summary Description. Soil preparation as described below will be completed in all areas where Sod and Native Grasses will be established as shown on the drawings.

2.0 Soil Preparation Work. Soil preparation work includes:

2.1 Verify prepared soil base is ready to receive the Work of this section.

2.2 Prepare sub-soil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas.

2.3 Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated sub-soil.

2.4 In Sod areas, scarify soil to depth of 3 inches. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted sub-soil. Sod bed shall be in a firm, but uncompacted condition with a firm texture prior to laying of sod.

2.5 Native Grass Establishment areas shall be tilled to a minimum depth of 6 inches. After tilling, the area shall be regarded to a smooth and even grade. The top 4 inches of soil shall be free of trash, rocks larger than one inch in diameter, concentrations of crushed rock, scraps of waste concrete and asphalt, and other deleterious materials prior to planting of Native Grass plugs.

2.6 Prior to Sod installation and Native Grass planting, fertilize areas with a slow-release 24-24-4 fertilizer, specially formulated as a starter fertilizer for grasses. Apply uniformly at the rate of 3 pounds per 1000 square feet (or as recommended by manufacture with approval of owners representative). The fertilizer shall be thoroughly incorporated into the top 2" inches of soil by raking or approved mechanical tiller method. Apply fertilizer within 48 hours before laying sod.

2.7 At the time of Final Inspection and Acceptance, apply 12 pounds of 12N-12P-12K slow-release fertilizer per 1,000 square feet to Sod and Native Grass areas.

3.0 Method of Measurement. No measurement will be made.

4.0 Basis of Payment. No direct payment will be made for this work. Cost incidental to other items of work.

BB. Turf Seed Grass

1.0 Description.

1.1 Turf Grass Seeding includes any required herbicide treatment, seedbed preparation seeding and turf establishment period maintenance in areas as shown on the drawings.

1.2 Contractor Qualifications. Contractor must have a minimum 3 years of successful turf grass seeding experience.

1.3 Herbicide Treatment. If area to be seeded has active growing weeds, the Contractor to apply herbicide treatment consisting of a 2% solution of glyphosate to the area to be seeded in accordance with manufacturer's recommendations and in accordance with applicable regulations. Wait 7 to 10 days before proceeding.

1.4 Prepare seed bed by scarifying and finish grading operations.

1.5 Fertilizer Application. After dragging and before seeding, Contractor to fertilizer with a commercial product recommended for grass seeding with fifty percent of the elements derived

from organic sources; which when applied will supply the quantity of actual Nitrogen (N), available phosphoric acid (P2O5), soluble potash (K2O). At least 35% of the total Nitrogen shall be water-insoluble Nitrogen. Materials may be accepted on the basis of bag label analysis, supplier certification, or laboratory sample test. Application rates for initial seeding fertilizer application shall be:

(a) 1.5 pound of actual Nitrogen (N) per 1000 square feet
(b) 1.5 pound of actual available phosphoric acid (P2O5) per 1000 square feet
(c) pound of actual soluble potash (K2O) per 1000 square feet

1.6 Seeding. Seed grass seed mix with a turf-type disk seeder that cuts the seed directly into the soil to ensure firm contact between the seed and soil. Seeding shall be done in two directions with half the seeding rate installed in each direction. Seed Mixes are shown on the drawings. Seed varieties and tag shall be approved by Owner's Representative prior to installation. The seed blend of Turf Type Tall Fescue and Bluegrass shall have at least three improved varieties of Fescue and one variety of improved Bluegrass. Seed Certification

(a) Pure Seed: Greater than 98%
(b) Other Crop: Less than 0.5%
(c) Inert Matter: Less than 2%
(d) Weed Seed: Less than 0.3%
(e) Germination Rate: Greater than 85%

1.7 Dragging. Following the seeding, drag the area to further work the seed into the seedbed and to cover the seed with a light layer of soil. Lighting roll the area as needed.

1.8 Mulching. A cover mulch consisting of wood/cellulose fiber with a tacking agent shall be applied by hydro-mulching. The Cover Mulch shall be Terra Mulch Jet Spray with FiberMax with Tacking Agent 3 or a functional equivalent.

2.9 Watering. The seeded area should be watered lightly daily to keep the soil moist until the seed has germinated and the seedling plants have emerged. As seedlings become more established, decrease the frequency of watering and lengthen the time period of watering to provide deeper penetration of the water into the soil and develop the root system.

2.10 Turf Establishment Maintenance. Contractor is responsible for maintenance during a turf establishment period lasting until grass is well establish and exhibits a vigorous growing condition and at least through three (3) maintenance mowings. Contractor to immediately reseed any bare spot areas. Mow grass at a 3" height and do not cut more than 1/3 of the grass blade at any mowing. Do not mow when grass is wet. If mowing causes clogging or any matting of grass, rake the lawn of clippings to remove.

2.11 Maintenance Fertilizer Application. Contractor to apply a second maintenance fertilizer application after third mowing. Contractor is responsible not to burn or damage the lawn grasses or other plantings. Application rates for initial seeding fertilizer application shall be:

(a) pound of actual Nitrogen (N) per 1000 square feet
(b) pound of actual available phosphoric acid (P_2O_5) per 1000 square feet
(c) pound of actual soluble potash (K_2O) per 1000 square feet

3.0 Method of Measurement. The quantities of seeding will be measured to the nearest square yard for areas as shown in the plans and as directed by the Engineer.

4.0 Basis of Payment. The accepted quantity of seeding including all labor, materials, equipment, and any other incidental items necessary to complete this item will be considered completely covered by the contract unit price for Seeding per square yard.

CC. Native Seed Mix Planting and Maintenance

1.0 General.

1.1.1 This JSP covers the site preparation (including elimination of noxious weeds), preparatory mowing, seeding, establishment, and maintenance of the Native Seed Mix "**LOW PROFILE WILDFLOWERS SEED MIX**" in areas as shown on the drawings.

1.1.2 Contractors must subcontract the Native Seed Mix Planting and Maintenance to one of the following GRG pre-qualified native planting and maintenance contractors for the installation and maintenance of the Native Seed Mix. The pre-qualified native planting and maintenance contractors are (in alphabetical order): Barker Horticultural Services, LLC; DJM Ecological Services; Landesign, LLC; and Two Alpha Contracting. Bidders must indicate below which planting contractor has been included in your bid.

2.0 Materials.

2.1.1 Seed. The seed mix shall be of the species and rates specified on the drawings. The seed mix shall be clean, free of weed seeds and of a PLS (pure live seed) rating specified in the Planting Plans on the Project Construction Plans. Legumes shall be pre-treated with Rhizobium inoculum.

2.1.2 Herbicide. Herbicide shall consist of a low volume basal spray such as Pathfinder II or Garlon produced by Dow Agrosciences or equal, at a 15% concentration or higher for stump treatments. Alternatively, the herbicide may consist of a glyphosate solution. The glyphosate shall consist of a solution at a concentration of 16% such as Roundup Ultra produced by Monsanto Corporation diluted 2:1 with water or equivalent as approved by the Owner's Representative.

2.1.3 Straw. Straw for mulching shall be native grass hay or cereal grain straw. At least 50% of the mulch shall be at least 10 inches in length. The mulch shall be certified weed-free.

3.0 Execution.

3.1 Removal of Invasive Plants. Invasive plants, including poison ivy, sumac and Canada thistle, shall be destroyed. If a low volume basal spray is used, it shall be applied to the lower stem only. There shall be no run-off from the stem onto the ground or surrounding vegetation.

3.2 If a glyphosate solution is used, the target vegetation shall be cleanly cut near ground level. Immediately after cutting (within 2 minutes) the stubs or woody stumps shall be treated with a 16% solution of glyphosate such as Roundup Ultra. The glyphosate may be applied by spray, paint or sponge applicator but application shall take place in such a manner as to prevent exposure of native woody vegetation to the glyphosate. Treatment method and equipment should limit the possibility of accidental spillage of the herbicide and any spilled material and resulting contaminated soil shall be immediately removed from the site.

3.2.1 Herbicide shall be clearly labeled and securely stored. Herbicide may not be stored in the plant storage areas. The portions of vines that can be removed from woody vegetation without damage to woody stems or limbs shall be cut and removed from the site. Felled brush other than that designated in the project plans as "use as habitat" shall be removed from the site.

3.3 Seeding shall be completed using a native seed drill type equipment, mounted no-till interseeder, such as that made by the Truax Company in Minneapolis, Minnesota (763) 537-6639 or equal, shall be used for interseeding. The drill shall be a double disc drill wherein the seeds drop BETWEEN the discs, not behind. There shall be depth control bands that allow seed placement of ¼ to ½ inch on all double discs. The drill shall have independently mounted press wheels that firm the seed bed around the seed without affecting the double discs.

3.4 Drill Seeding. Seed shall be applied at a rate and with the species specified in the Planting Plans on the Project Construction Plans. During seeding, the seedbox must remain no less than one-quarter full at all times. Planting shall occur on contour with slight overlap around corners to avoid gaps when turning. The seed depth shall be ¼ to ½ inch. The drilling speed shall not exceed 3-5mph in rocky areas

3.5 Seed Application on Disturbed Ground. Prior to seeding the area, uneven areas and low spots shall be eliminated. Debris, roots, branches, stones, in excess of 1 inch in size shall be removed. Surface shall be scarified to a depth of 3 inches. The seeded area will be rolled to achieve intimate contact between soil and seed. Equipment shall not be operated on the area after the seed and crimped straw have been installed.

3.5.1 The prepared soil shall have a resistance of less than 200 pounds per square inch and greater than 100 pounds per square inch as measured with an agricultural penetrometer such as that manufactured by DICKEY-john Corp or equivalent as approved by the Owner's Representative.

4.0 Post Construction Maintenance.

4.1 A. The site shall be mowed monthly to a height of 1 foot during the first growing season. The Owner's Representative may require more frequent mowing if weedy competition is severe. The site shall be mowed to a height 2 to 3 inches in March of the second growing season and mowed to a height of 1 foot in June of the second growing season. During mowing operations, the trees shall not receive damage to limbs, trunk, or root. Damaged trees shall be replaced. If a drought occurs during the first growing season, the prairie areas shall be watered 2 to 3 inches weekly throughout the first growing season. The contractor shall reduce watering slightly if standing water begins to form puddles on the surface or the soil starts to erode. During the first two growing seasons, the Owner's Representative may require spot treatment of persistent weeds such as thistle, dock and Queen Anne's lace. The spot treatments shall be carried out according to Removal of Invasive Plants.

5.0 Basis of Payment. The accepted quantity of seeding including all labor, materials, equipment, and any other incidental items necessary to complete this item will be considered completely covered by the contract unit price for Wildflower Seeding per square yard.

DD. Turf Grass Sodding

1.0 Summary. Section includes:

(a) Fertilizing
(b) Sod installation
(c) Maintenance

2.0 Quality Assurance.

2.1 Sod. Root development capable of supporting its own weight without tearing, when suspended vertically by holding upper two corners

3.0 Qualifications.

3.1 Sod Producer. Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

3.2 Installer. Company specializing in performing work of this section with minimum three years documented experience, approved by sod producer.

4.0 Delivery, Storage, and Handling.

4.1 Deliver sod on pallets. Protect exposed roots from dehydration. Place sod in shaded areas, where feasible.

4.2 Do not deliver more sod than can be laid within 24 hours.

5.0 Maintenance Service. The maintenance of sodded turf area shall be the Contractor's responsibility until final acceptance by the Owner. The first mowing will not be attempted until the sod is securely in place, uniform in appearance, and the turf blades have reached a height of 4 inches.

6.0 Warranty.

6.1 Contractor shall warrant that all sodded lawns and reconditioned lawns planted under this Contract will be healthy and in a condition of greater than 80 percent active growth one (1) year from date of Substantial Completion.

6.2 Any delay in completion of sodding operations which extends the planting into more than one planting season shall extend the Warranty Period correspondingly.

7.0 Materials.

7.1 Sod.

7.1 Sod shall be an improved variety of turf type fescue. Submit seed mix for approval.

7.2 Sod shall be nursery grown, of high quality, and free of disease nematodes, and soil-borne insects. Sod shall be free of noxious weeds, including but not limited to Common Bermuda Grass, Quack Grass, Johnson Grass, Poison Ivy, Yellow Nutsedge, Nibblewill, Canadian or Russian Thistle, Bindweed, Bentgrass, Wild Garlic, Ground Ivy, Perennial Sorel, Wild Violet, and Bromegrass. Sod shall be considered free of other weed types if less than 5 weed plants are found per 100 square feet of area.

7.3 All sod should have two full seasons' growth before harvesting. Sod with less than two seasons' growth is subject to rejection.

7.4 All sod shall be stripped at a uniform solid thickness of approximately one-inch, plus or minus ¼". Measurement for thickness shall exclude top growth and thatch, and shall be determined at the time of field cutting. Sod thatch, uncompressed, shall not exceed ½".

7.5 Root development shall be such that standard size pieces will support their own weight and retain their shape, when suspended vertically from a firm grasp on the uppermost 10% of area, or when rolled and unrolled three times.

7.6 Before stripping, the sod shall be mowed uniformly at a height of 2 to 2-1/2 inches.

7.7 Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect survival of the sod.

7.6 Sod shall be harvested, delivered and installed within a period of 24 hours. Sod not transplanted within this period shall be inspected and subject to rejection.

7.8 Sod shall be a 90% : 10%, turf-type Fescue/Kentucky Bluegrass blend, containing a mixture of equal parts by weight of three improved varieties of the turf-type Fescue.

8.0 Accessories.

8.1 Fertilizer. Commercial grade; recommended for grass, with fifty percent of elements derived from organic sources; of proportion necessary to eliminate deficiencies of topsoil to the following proportions: nitrogen 20 percent, phosphoric acid 20 percent, soluble potash 20 percent.

8.2 Water. Clean, fresh and free of substances or matter capable of inhibiting vigorous growth of grass.

8.3 Wood Pegs. Softwood, sufficient size and length to anchor sod on slope.

8.4 Herbicide. As recommended by sod installer and approved by Owner's Representative.

9.0 Harvesting Sod.

9.1 Machine cut sod and load on pallets in accordance with TPI standards.

9.2 Cut sod in area not exceeding one sq. yd., with minimum ½ inch and maximum 1-inch topsoil base.

10.0 Source Quality Control.

10.1 Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.

10.2 Provide recommendation for fertilizer and lime application rates for specified sod grass species.

11.0 Preparation of Subsoil. Turf areas shall be tilled to a minimum depth of 6 inches. After tilling, the area shall be regraded to a smooth and even grade. The top 4 inches of soil shall be free of existing turf, weeds, trash, rocks larger than one inch diameter, concentrations of crushed rock, scraps of waste concrete and asphalt, and other deleterious materials prior to sod placement. In areas where tree roots exist, care should be used during tilling operations to minimize disturbance of roots.

12.0 Fertilizing.

12.1 Prepare the sod bed by uniformly applying 12 pounds of 12N-12P-12K slow release fertilizer per 1,000 square feet of turf grass area to be planted. The fertilizer shall be thoroughly incorporated into the top six inches of soil with a mechanical tiller, or other approved method. Sod bed shall be in a firm, but uncompacted condition with a firm texture prior to laying of sod.

12.2 Apply fertilizer after smooth raking of topsoil and prior to installation of sod.

12.3 Apply fertilizer no more than 48 hours before laying sod.

12.4 Lightly water soil to aid dissipation of fertilizer.

13.0 Laying Sod.

13.1 Sod areas indicated on drawings, or as defined in related specifications sections.

13.2 The sodding operation shall not commence until site conditions are satisfactory. Sodding shall not be done when the ground is excessively wet, frozen, or untillable.

13.3 All areas to be sodded shall be fine-graded before sodding and be free of deleterious materials, including weeds, existing grasses, tree branches, stones greater than one-inch diameter, concentrations of crushed rock, mortar and other debris. Grades for the flow lines of swales and ditches, shall be carefully established. Sod shall be placed so that it is level and even with the thatch surface of the sod.

13.4 Sod shall be installed in tightly abutted parallel rows with the lateral joints staggered at a minimum distance equal to the width of the sod slab. Voids between sod strips will not be accepted. Any netting used to hold the sod in place during transportation shall be removed before laid.

13.5 For sloping surfaces, sod shall be laid beginning at the base of the slope, with staggered joints and at right angles to the flow of water. Sod placed on 3:1 slopes or steeper, and in ditch flow lines, shall be staked with 6 stakes per square yard or roll of sod. Stakes shall be wood, ½" by 1" by 12" and shall be driven into the ground, leaving approximately ½" of the top above the sod line. Stakes should be set sufficiently in the ground to permit mowing.

13.6 The sod shall be watered immediately after installation. Prevent sod from drying during progress of work. After sodding is completed in any one section, the entire area shall be thoroughly irrigated to at least one-inch depth below the new sod pad. Subsequent watering should maintain moisture to a depth of at least 4 inches.

13.7 All sodded areas should be staked.

14.0 Maintenance.

14.1 Maintenance shall begin immediately after planting. The sod shall be protected and maintained by watering, mowing, fertilizing and replanting for as long as it is necessary to establish a uniform stand of grass. Any sod not surviving prior to its first mowing shall be replaced with new sod from the same source. Mowing of the sod will be the responsibility of the Contractor until final acceptance by the Owner.

14.2 Mow grass at regular intervals to maintain at maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at each mowing.

14.3 The maintenance of the sodded turf area shall be the Contractor's responsibility until final acceptance by the Owner.

14.4 Immediately replace sod on areas showing deterioration or bare spots.

14.5 Protect sodded areas with warning signs during maintenance period.

15.0 Inspections. The Contractor shall notify the Owner's Representative for final inspection. The request shall be in written form and received at least ten (10) calendar days before the anticipated date of inspection.

16.0 Based on the sole judgment of the owner's representative, they shall certify in writing as to the satisfaction and substantial completion of the project.

17.0 Method of Measurement. The quantities of sod will be measured to the nearest square yard for areas as shown in the plans and as directed by the Engineer.

18.0 Basis of Payment. The accepted quantity of sod including all labor, materials, equipment, and any other incidental items necessary to complete this item will be considered completely covered by the contract unit price for Sod per square yard.

EE. Landscape Plantings

1.0 Description. Landscape plantings will be installed in areas as shown on the drawings in compliance with the St. Charles County current edition of Standard Specifications for Arterial Highway Construction, Section 808 Planting Trees, Shrubs, and other Plants. This section describes further requirements associated with landscape development, including trees, shrubs, grass plants, and hardwood mulch.

2.0 Materials.

2.1 Trees, Plants, and Groundcover.

2.1.1 Planting Stock.

2.1.1.1 Species. Following Standardized Plant Names, the official code of the American Joint Committee on Horticulture Nomenclature.

2.1.1.2 Plants. No. 1 Grade conforming to "American Standard for Nursery Stock" of the American Association of Nurserymen (AAN). All plants should be well-branched, vigorous, balanced root and top growth, free from disease, injurious insects, mechanical wounds, broken branches, decay, and other defects.

2.1.1.3 Trees. Furnish with reasonably straight trunks, free of disease and pest damage, with well-balanced tops and a single leader. No trees with co-dominant leaders will be accepted.

2.1.2 Trees, Plants, and Groundcover.

2.1.2.1 Species and size are identifiable in the plant schedule and grown in climatic conditions similar to those in the locality of the Work.

2.1.2.2 Species with a "Y" shaped trunk or no main leader may be rejected if this is not true for the species.

2.1.3 Mulch Materials.

2.1.3.1 Hardwood Bark Mulch Material. Composted, shredded hardwood bark, dark brown in color, free of weeds and other organic matter and matter detrimental to plant life.

2.1.4 Tree Water Bag.

2.1.4.1 20-Gallon Slow Release Tree Water Bag. Submit manufacturer's information for approval.

2.1.5 Plant Soil Mix. Plant soil mix shall be "Topsoil Plus" or approved equal available from St. Louis Composting. https://www.stlcompost.com/soil

2.1.6 Fertilizers. Fertilizer for Tree and Shrub plantings shall be a slow-release fertilizer spike (in the range of 15-10-9) specially formulated for use on newly planted trees and shrubs. Spikes shall be used per the manufacturer's recommendations and set just beyond the circumference of the root ball but never closer than 24" to the trunk.

3.0 Execution.

3.1 Schedule.

3.1.1 Tree, Shrub, and Ground Cover Plantings shall only be planted during the planting season listed below. The Contractor should schedule other Work to meet these time frames.

Spring: March 1 until April 30
Fall: September 15 until November 30

3.1.2 The planting season for Native Grass Plugs and Perennial/Native Grass Quart Containers is from March 1 to March 31.

3.1.3 Notify the City's Representative at least 48 hours before the installation phases of the Work for in-field plant placement verification. Plan for no more than two such meetings. Some minor location adjustments may occur.

3.2 Delivery, Storage, and Handling.

3.2.1 Handle plants from the bottom of the ball. Protect plant roots and tops from sun or drying winds until final planting. Plants with cracked, broken, or loosely wrapped balls will be rejected.

3.2.2 Deliver fertilizer in waterproof bags showing weight, chemical analysis, and manufacturer name.

3.2.3 Deliver and install plant life materials within 72 hours. Keep plant containers and root balls moist throughout the planting process. Proof of moisture must be found within the top two inches of soil.

3.2.4 Plant material damaged due to delivery, storage, or handling will be rejected and replaced at no cost to the City.

3.2.5 Spray deciduous plants in foliage with an anti-desiccant immediately after digging to prevent dehydration. Dig, pack, transport, and handle plants carefully to ensure protection against injury. Protect all plants from drying out. If plants cannot be planted immediately upon delivery, adequately protect them with soil, wet peat moss, or a manner acceptable to the Owner's Representative. Water heeled-in plantings daily. Only use anti-desiccant if temperatures are over 80 degrees Fahrenheit during planting or forecast to reach that temperature two (2) weeks afterward.

3.2.6 Cover plants transported on open vehicles with a protective covering to prevent wind burn.

3.3 Environmental Requirements. Do not install plant life when ambient temperatures may drop below 35 degrees F or rise above 90 degrees F for greater than 24 hours. Do not install plant life when wind velocity exceeds 30 mph.

3.4 Examination. Verify the location of all utilities before beginning Work to avoid conflicts during digging. Verify that a water source is available, in a proper location, and ready for use. Verify the location of all utilities to avoid conflict during digging.

3.5 Planting. Excavate the planting pit as shown on the drawings. Set plants plumb. Remove non-biodegradable root containers. Set plants in pits or beds, partly filled with prepared plant mix, at minimum depth as indicated on Drawings under each plant. Backfill and compact soil in shallow lifts. Saturate soil with water when the pit or bed is half full of soil and again when full. Soil should be brought to grades as shown on the drawings. Install Fertilizer spikes around planting.

3.6 Installation of Accessories.

3.6.1 Wrap deciduous shade and flowering tree trunks and place a guying system. Maintain guys throughout the planting process.

3.6.2 Install one 20-gallon Slow Release Tree Water Bag per tree planting.

3.7 Field Quality Control. Plants will be rejected if the ball of earth surrounding roots has been disturbed or damaged before or during planting.

3.8 Contractor Care of Plants.

3.8.1 The Contractor is responsible for properly caring for all plants until Final Inspection and Acceptance.

3.8.2 This JSP defines the Contractors responsibilities in the "proper care" of all plants (from the date of planting until the following August 31st date) as being:

(a) Straighten trees to plumb and re-guy as required.

(b) Water Trees by filling the Tree Water Bags at least:

- Once a week during May and September.
- Twice a week during June, July, and August.

(c) Water Seed and Sod Areas at least:

- 1 time a week, providing a min. ½" water per watering during **May** and **September**
- 2 times a week, providing a min. ½" water per watering during **June**, **July** & **August**.

3.8.3 The Contractor will coordinate their responsible care of plants with the project owner's maintenance.

3.9 Plant Material Warranty. The Contractor will furnish a 12-month warranty after Final Inspection and Acceptance for all landscape plantings, including trees, shrubs, and grass plugs. If dormancy of plants requires verification of viability during the next growing season, the Warranty Period for those plants will commence following such verification. For any delay in the completion of planting operations that extends the planting into more than one planting season, the Warranty Period shall begin whenever Substantial Completion Acceptance is granted. Any plants that are **25%** or more dead shall be considered dead and shall be replaced at no charge. A tree shall be considered dead when the central leader has died back, or **25%** or more of the crown is dead. The Contractor shall not be held responsible for failures due to neglect by the Owner, vandalism, or other actions beyond the Contractor's control during the Warranty Period. Report such occurrences to the Owner in writing within (**10**) calendar days of observation.

3.0 Method of Measurement. LANDSCAPE PLANTINGS, including “Trees,” “Shrubs,” “Grasses (Quart),” and “Grasses (Plug),” shall be measured by each installed on the Project and shall include all labor, equipment, incidentals, material, etc. necessary to installing the plantings. No measurements will be made for “PLANTING BED PREPARATION, AMENDMENTS, & MULCHING.” The quantity shown in the plans may require adjustment to provide a satisfactory installation. Adjustments in actual quantity shall not be cause for an adjustment in the cost of this item.

4.0 Basis of Payment. Payment for LANDSCAPE PLANTINGS will be made at the contract unit bid price each for each type specified. The accepted quantity of PLANTING BED PREPARATION, AMENDMENTS, & MULCHING, including all labor, materials, equipment, and any other incidental items necessary to complete this item, will be considered completely covered by the contract unit price per square yard.

FF. Decorative Pedestrian Fence (Safety Railing)

1.0 Description. This work shall consist of fabricating and installing a steel decorative pedestrian fence to provide a complete and properly functioning fence system as indicated on the plans and in this specification.

2.0 Performance Requirements.

2.1 The fence design shall allow for thermal movement of 1/4 inch per 30 feet of fence, minimum. The fence design shall account for the differential thermal expansion characteristics of the fence and concrete to which it is mounted in.

2.2 Fence posts shall be cast into concrete footings.

3.0 Materials. Decorative fence system products shall meet or exceed the following requirements.

3.1 Acceptable Manufacturer Systems. The chosen decorative fence system shall be the same as on the bridge in this project. Decorative fence system shall meet the performance requirements as stated in this special provision and shall consist of the same approved decorative fence systems listed in Bridge Job Special Provision B.

3.1.2 Visual Condition. Metal free from surface blemishes shall be provided where exposed to view in the finished unit. Exposed-to-view surfaces exhibiting pitting, seam marks, roller marks, stains, discolorations, or other imperfections on finished units are not acceptable.

3.1.3 Surface Coatings. The steel shall be hot-dip galvanized to meet the requirements of ASTM A 653 with a minimum zinc coating weight of 0.90 oz/sf, coating designation G-90. Surface preparation of galvanized surface for the aliphatic polyurethane finish coat shall be in accordance with the product specifications for the finish coat. The exterior of all fence components shall be coated with an aliphatic polyurethane finish coat to provide a total dry film thickness of 4 mils minimum and 6 mils maximum. The color of the finish coat shall be black (Federal Standard #17038).

4.0 Method of Measurement. Measurement shall be made horizontally and to nearest linear foot of fence installed.

5.0 Basis of Payment. Payment for the work described above and on the contract plans, including all material, labor, and any other incidental work necessary for a complete installation, will be considered completely covered by the contract unit price for Item 607-99.03, Decorative Pedestrian Fencing, per linear foot.

GG. Special Requirements During Construction

1.0 Description. Contractor shall maintain access for the Billboard company and their employees and designees to the existing Billboard sign for the duration of the project.

2.0 Basis of Payment. No direct payment will be made for this item. Cost shall be incidental to other items.

HH. Delayed Access to Parcel Pending Acquisition

1.0 Description. Acquisition is pending for the parcel listed below on the project. The contractor shall not be permitted to begin work within any designated Permanent Easement or Temporary Easement on any of these parcels until the Right of Way acquisition has been completed. An anticipated date of possession has been provided for each parcel to assist with scheduling purposes.

2.0 Construction Requirements. The contractor shall verify with the engineer prior to beginning work on the parcel listed in this provision. The contractor will not be permitted access to work on this parcel until notification has been given by the engineer that the parcel has been cleared from this list.

3.0 Parcel. The following is the list of the parcels where acquisition is pending:

(a) Parcel 1, anticipated possession by June 30, 2025

II. MoDOT's Construction Workforce Program NJSP-15-17B

1.0 Description.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3.0 Methods for Securing Workforce Participation and Good Faith Efforts.

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

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

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

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

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

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

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

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

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

8.0 Independent Third-Party Compliance Monitor (Monitor). MoDOT may utilize a monitor that will be responsible for tracking the project's workforce utilization for the information the

contractor submits. The contractor and its subcontractors shall allow the monitor access to their reports, be available to answer the monitor's questions and allow the monitor to access to the site and to contractor and subcontractor employees. The monitor shall abide by the contractor's project site protocols.

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

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

10.0 Federal Workforce Goals.

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

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

TABLE 1:

County	Goal (Percent)	County	Goal (Percent)
Adair	4	Linn	4
Andrew	3.2	Livingston	10
Atchison	10	McDonald	2.3
Audrain	4	Macon	4
Barry	2.3	Madison	11.4
Barton	2.3	Maries	11.4
Bates	10	Marion	3.1
Benton	10	Mercer	10
Bollinger	11.4	Miller	4
Boone	6.3	Mississippi	11.4
Buchanan	3.2	Moniteau	4
Butler	11.4	Monroe	4
Caldwell	10	Montgomery	11.4
Callaway	4	Morgan	4
Camden	4	New Madrid	26.5
Cape Girardeau	11.4	Newton	2.3
Carroll	10	Nodaway	10
Carter	11.4	Oregon	2.3
Cass	12.7	Osage	4
Cedar	2.3	Ozark	2.3
Chariton	4	Pemiscot	26.5
Christian	2	Perry	11.4
Clark	3.4	Pettis	10
Clay	12.7	Phelps	11.4
Clinton	10	Pike	3.1

Cole	4	Platte	12.7
Cooper	4	Polk	2.3
Crawford	11.4	Pulaski	2.3
Dade	2.3	Putnam	4
Dallas	2.3	Ralls	3.1
Daviess	10	Randolph	4
DeKalb	10	Ray	12.7
Dent	11.4	Reynolds	11.4
Douglas	2.3	Ripley	11.4
Dunklin	26.5	St. Charles	14.7
Franklin	14.7	St. Clair	2.3
Gasconade	11.4	St. Francois	11.4
Gentry	10	Ste. Genevieve	11.4
Greene	2	St. Louis City	14.7
Grundy	10	St. Louis County	14.7
Harrison	10	Saline	10
Henry	10	Schuyler	4
Hickory	2.3	Scotland	4
Holt	10	Scott	11.4
Howard	4	Shannon	2.3
Howell	2.3	Shelby	4
Iron	11.4	Stoddard	11.4
Jackson	12.7	Stone	2.3
Jasper	2.3	Sullivan	4
Jefferson	14.7	Taney	2.3
Johnson	10	Texas	2.3
Knox	4	Vernon	2.3
Laclede	2.3	Warren	11.4
Lafayette	10	Washington	11.4
Lawrence	2.3	Wayne	11.4
Lewis	3.1	Webster	2.3
Lincoln	11.4	Worth	10
		Wright	2.3

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

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

As used in these specifications:

"Minority" includes;
(a) Black (all person having origins in any of the Black African racial groups not of Hispanic origin);

(b) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

(c) Asian and pacific islander (all persons having origins in any of the original peoples of the Far East, southeast Asia, the Indian Subcontinent, or the Pacific Islands; and

(d) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North American and maintaining identifiable tribal affiliations through membership and participation or community identification).

JJ. Miscellaneous Concrete Pavement (4 inch Non-Reinforced)

1.0 Description. This work shall consist of furnishing all labor, equipment, and material necessary for the construction of non-reinforced Portland cement concrete pavement of the thickness indicated on a prepared subgrade. This work shall be performed in accordance with the standard specifications for pavements of greater thickness at locations 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 The contractor shall verify field elevations and slopes to ensure that ADA standards are met.

2.2 The contractor shall comply with Sections 501 and 502.

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

4.0 Basis of Payment. The accepted quantity of concrete pavement will be paid for at the contract unit bid price for Item 502-99.02, Miscellaneous Concrete Pavement (4 Inch Non-Reinforced), per square yard.

KK. St. Louis Metropolitan Sewer District Area Inlet

1.0 Description. This work shall consist of furnishing and installing concrete area inlet structure(s) to the lines, grades and locations as shown on the plans, and as directed by the engineer. All work shall conform to the Metropolitan St. Louis Sewer District, Standard Construction Specifications for Sewers and Drainage Facilities, 2023 version.

2.0 Method of Measurement. This work shall be measured per Each installed area inlet, complete.

3.0 Basis of Payment. The accepted quantity of area inlets will be paid for at the contract unit bid price for Item 614-99.02, Miscellaneous St. Louis Metropolitan Sewer District – Area Inlet, per each.

LL. St. Louis Metropolitan Sewer District Precast Concrete Manhole

1.0 Description. This work shall consist of furnishing and installing precast concrete manhole structure(s) to the size, grades and locations as shown on the plans, and as directed by the engineer. All work shall conform to the Metropolitan St. Louis Sewer District, Standard Construction Specifications for Sewers and Drainage Facilities, 2023 version.

2.0 Method of Measurement. This work shall be measured per Each installed manhole for each size indicated, complete.

3.0 Basis of Payment. The accepted quantity of manholes will be paid for at the contract unit bid price for Item 731-99.13, Miscellaneous Precast Concrete Manhole – 42 Inch, per each.

MM. Precast Concrete Wheel Block

1.0 Description. This work shall consist of furnishing all labor, equipment, and material necessary for the installation of precast concrete parking block wheel stops in designated parking areas at locations shown on the plans, as specified herein, and as directed by the engineer

2.0 The parking blocks shall be a minimum of 6 feet long, 5 inches tall and 6 inches deep. All top edges shall have a minimum of 1 inch and 1/2 inch chamfer edging. The bottom of the wheel stop shall have two drainage openings, a minimum of 12 inches long, each. Two 3/4 inch diameter holes shall be cast through the wheel stop to allow placement of reinforcing bar to anchor the wheel stop to the pavement.

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

2.2 The parking blocks shall be installed at the locations shown on the plans and as directed by the Engineer. The installation shall include drilling a 3/4-inch diameter hole through the pavement structure and installing a minimum 2 foot long piece of reinforcing bar to secure the parking block from movement.

3.0 Method of Measurement. This work shall be measured per Each parking block installed, complete.

4.0 Basis of Payment. The accepted quantity of parking blocks will be paid for at the contract unit bid price for Item 617-99.02, Miscellaneous Precast Concrete Wheel Block, per each.