Job No.: J6S3279
Route: 367
County: St. Louis City

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

Job No.: J6S3279
Route: 367
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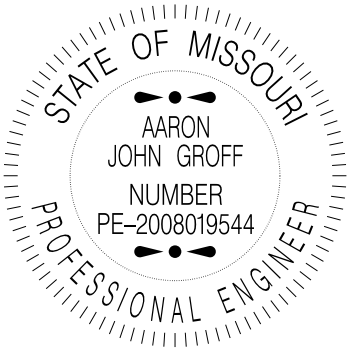

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.
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<td>
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 W. CAPITOL AVE.
JEFFERSON CITY, MO 65102
Phone 1-888-275-6636

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

JOB NUMBER: J6S3279
ST. LOUIS CITY, MO
DATE PREPARED: February 16, 2024

ADDENDUM DATE:
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<td colspan="2">Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All</td>
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Job No.: J6S3279
Route: 367
County: St. Louis City

JOB
SPECIAL PROVISION

A. General - Federal JSP-09-02J

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 "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 2023 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-13-01C

1.0 Description. Liquidated Damages for failure or delay in completing the work on time for this contract shall be in accordance with Sec 108.8. The liquidated damages include separate amounts for road user costs and contract administrative costs incurred by the Commission.

2.0 Period of Performance. Prosecution of work is expected to begin on the date specified below in accordance with Sec 108.2. Regardless of when the work is begun on this contract, all work shall be completed on or before the date specified below. Completion by this date shall be in accordance with the requirements of Sec 108.7.1.

Notice to Proceed: July 8, 2024
Completion Date: September 1, 2026

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

Job Number	Calendar Days	Daily Road User Cost
J6S3279	NA	$2,300

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **$750** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified completion date or calendar days.

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

C. Liquidated Damages Specified JSP-93-28

1.0 Description. If Project J6S3279 is not complete and open to traffic prior to June 1, 2025, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of $2,300 per day for each full day that Project J6S3279 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.

D. 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.

3.0 Work Hour Restrictions.

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

Memorial Day
Labor Day
Thanksgiving
Christmas
New Year's Day

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

12:00 noon July 3, 2024 – 6:00 a.m. July 8, 2024
12:00 noon July 3, 2025 – 6:00 a.m. July 7, 2025

3.1.2 Special Events.

There may be events of regional significance during the duration of this project, such as specific sporting events (St. Louis Cardinals and St Louis Blues home games), events at Forest park, Tower Grove Park, or Grand Center, parades, marathons, concerts and other major St. Louis events such as the Susan G. Komen Race for the Cure, Forest Park Balloon Glow, Moonlight Ramble, and Fair St. Louis. The Engineer will advise the contractor of any such events and how they are to be handled. All lanes shall be scheduled to be open to traffic 3 hours before the event until 2 hours following the end of the event, or at the direction of the Engineer.

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

3.3 Any work requiring a reduction in the number of through lanes of traffic shall be completed during the following hours.

Lane Closures:

Daytime Hours:	8:00 am – 8:00 pm Monday through Friday
Nighttime Hours:	None, work will not be allowed
Weekend Hours:	8:00 am – 8:00 pm

3.5 The contractor shall not alter the start time, ending time, or a reduction in the number of through lanes of traffic **on Route 367** without advance notification and approval by the engineer. The only work zone operation approved to begin 30 minutes prior to a reduction in through traffic lanes or ramp closures is the installation of traffic control signs. Should lane closures be placed or remain in place **on Route 367** prior to the approved starting time or after the approved ending time, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delays, with a resulting cost to the traveling public. These damages are not easily computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of **$1000 per 15 minute increment** for each 15 minutes that the temporary lane closures are in place and not open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of unapproved closure time.

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

4.0 Detours and Lane Closures.

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

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

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

elsewhere in the contract document. All authorized changes in the traffic control plan shall be provided for as specified in Sec 616.

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

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

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

Missouri State Highway Patrol
Troop C Headquarters
891 Technology Dr.
Weldon Spring, MO 63304
(636) 300-2800

St. Louis Metropolitan Police Department
South Patrol Division
3157 Sublette Ave.
St. Louis, MO 63139
(314) 444-0100

Saint Louis University Hospital
3635 Vista Ave.
St. Louis, MO 63110
(314) 577-8000

Barnes-Jewish Hospital
1 Barnes-Jewish Hospital Plaza
St. Louis, MO 63110
(314) 747-3000

St. Louis City Fire Department Headquarters
1421 N. Jefferson Ave.
St. Louis, MO 63106
(314) 533-3406

St. Louis City Tow Lot/Towing Services
7410 Hall St.
St. Louis, MO 63147
(314) 383-7546

MoDOT Transportation Management Center (TMC)
14301 South Outer 40 Rd.
Chesterfield, MO 63017
(314) 275-1500

St. Louis County Police, Fire and EMS	
St. Louis County Police	314-889-2341
City of Berkeley	314-524-3311
City of Cool Valley	314-889-2341
City of Normandy	314-385-3300
City of Berkeley Fire Department	314-524-3566

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

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

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

F. 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.

Aaron Groff, Project Manager
MoDOT, St. Louis District
1590 Woodlake Drive
Chesterfield, MO 63017

Telephone Number: 314-453-1876
Email: Aaron.Groff@modot.mo.gov

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

G. Utilities JSP-93-26F

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

Utility Name	Known Required Adjustment	Type
Ameren Missouri Russ Robertson Telephone: 314.992.9804 Email: rrobertson2@ameren.com	See 3.0	Electric
AT&T Distribution Tonya Wells Telephone: 636.448.9607 Email: Tw2745@att.com	None	Communications
Charter Communications George Bugg Telephone: 314.780.2921 Email: george.bugg@charter.com	None	Communications
City of St. Louis Water Michael Kelly Telephone: 314.633.9034 Email: mdkelly@stlwater.com	None	Water
City of St. Louis Traffic Len Efthim (Lighting) Telephone: 314.647.3111 Email: efthiml@stlouiscity.com	None	Lighting
Metropolitan Sewer District Elbert Jaquess Jr. Telephone: 314.768.6315 Email: ejaquess@stlmsd.com	None	Sewer
Spire Energy Richard Frock Telephone: 816.472.3489 Email: richard.frock@spireenergy.com	None	Gas
Verizion/ADB Jeremy Phillips Telephone: 636.399.1023 Email: jeremy.phillips@verizion.com	None	Communications

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

2.0 Project Specific Provisions: The Contractor shall be aware there are numerous utilities present along the routes in this contract. The locations listed below are not to be considered all inclusive.

3.0 Ameren Overhead Power lines The contractor shall discuss the planned work as it relates to any energized power lines with Ameren Missouri and coordinate with Ameren Missouri for the installation of any insulation covers over the lines and/or any other designated requirements. Please note Ameren Missouri has revised the policy regarding the charges for placement, length of use and relocation of covers. The contractor is advised to contact Ameren Missouri regarding the current policy and so the anticipated cost to the contractor can be estimated and when payment is required. The Contractor shall contact Ameren Missouri at least two weeks in advance of when construction work is scheduled to begin to request covers to be placed at a given location.

Contractor shall directly contact Ameren Missouri to verify location of facilities. The contractor shall coordinate construction activities with Ameren Missouri and take measures to ensure the integrity of the existing facilities are not disturbed. The contractor shall protect the integrity of any existing facility in close proximity to contract work while performing construction activities.

There will be no direct pay for compliance to any of the above provisions. Payment will be made directly to Ameren for the above requirements.

The Commission cannot warrant the information above which was provided by Ameren Missouri.

3.1 Ameren does not have any known conflicts within the project limits. Field adjustments of project improvements may be necessary at the discretion of the engineer. The contractor shall call for locates before performing any work within proximity of all Ameren facilities.

4.0 AT&T Distribution AT&T does not have any known conflicts within the project limits. Manhole adjustments may be necessary at the discretion of the engineer. The contractor shall call for locates before performing any work within proximity of all AT&T facilities.

Contractor shall directly contact AT&T to verify location of facilities. The contractor shall coordinate construction activities with AT&T and take measures to ensure the integrity of the existing facilities are not disturbed. The contractor shall protect the integrity of any existing facility in close proximity to contract work while performing construction activities.

There will be no direct pay for compliance to any of the above provisions.

The Commission cannot warrant the information above which was provided by AT&T.

5.0 CenturyLink CenturyLink does not have any known conflicts within the project limits.

Contractor shall directly contact CenturyLink to verify location of facilities. The contractor shall coordinate construction activities with CenturyLink and take measures to ensure the integrity of the existing facilities are not disturbed. The contractor shall protect the integrity of any existing facility in close proximity to contract work while performing construction activities.

There will be no direct pay for compliance to any of the above provisions.

The Commission cannot warrant the information above which was provided by CenturyLink.

6.0 Charter Communications Charter does not have any known conflicts within the project limits.

Contractor shall directly contact Charter to verify location of facilities. The contractor shall coordinate construction activities with Charter and take measures to ensure the integrity of the existing facilities are not disturbed. The contractor shall protect the integrity of any existing facility in close proximity to contract work while performing construction activities.

There will be no direct pay for compliance to any of the above provisions.

The Commission cannot warrant the information above which was provided by Charter.

7.0 City of St. Louis Water St. Louis City Water does not have any known conflicts within the project limits. Manhole adjustments may be necessary at the discretion of the engineer. The contractor shall call for locates before performing any work within proximity of all City Water facilities.

Contractor shall directly contact City Water to verify location of facilities. The contractor shall coordinate construction activities with City Water and take measures to ensure the integrity of the existing facilities are not disturbed. The contractor shall protect the integrity of any existing facility in close proximity to contract work while performing construction activities.

There will be no direct pay for compliance to any of the above provisions.

The Commission cannot warrant the information above which was provided by City Water.

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8.0 City of St. Louis Traffic St. Louis City Traffic does not have any known conflicts within the project limits.

Contractor shall directly contact City Traffic to verify location of facilities. The contractor shall coordinate construction activities with City Traffic and take measures to ensure the integrity of the existing facilities are not disturbed. The contractor shall protect the

integrity of any existing facility in close proximity to contract work while performing construction activities.

There will be no direct pay for compliance to any of the above provisions.

The Commission cannot warrant the information above which was provided by City Traffic.

9.0 Metropolitan Sewer District While no relocations are planned, care should be used when working with and in the proximity of MSD facilities. Field adjustments of project improvements may be necessary at the discretion of the engineer. Any adjustments or variations from the proposed work shall be documented so as to be properly recorded in facility maps maintained by MSD.

Contractor shall directly contact MSD to verify location of facilities. The contractor shall coordinate construction activities with MSD and take measures to ensure the integrity of the existing facilities are not disturbed. The contractor shall protect the integrity of any existing facility in close proximity to contract work while performing construction activities.

There will be no direct pay for compliance to any of the above provisions.

The Commission cannot warrant the information above which was provided by MSD.

10.0 Spire Energy Spire does not have any known conflicts within the project limits. Valve adjustments may be necessary at the discretion of the engineer. The contractor shall call for locates before performing any work within proximity of all Spire facilities.

Contractor shall directly contact Spire to verify location of facilities. The contractor shall coordinate construction activities with Spire and take measures to ensure the integrity of the existing facilities are not disturbed. The contractor shall protect the integrity of any existing facility in close proximity to contract work while performing construction activities.

There will be no direct pay for compliance to any of the above provisions.

The Commission cannot warrant the information above which was provided by Spire.

11.0 Verizon Verizon does not have any known conflicts within the project limits. The contractor shall call for locates before performing any work within proximity of all Verizon facilities.

Contractor shall directly contact Verizon to verify location of facilities. The contractor shall coordinate construction activities with Verizon and take measures to ensure the integrity of the existing facilities are not disturbed. The contractor shall protect the integrity of any existing facility in close proximity to contract work while performing construction activities.

There will be no direct pay for compliance to any of the above provisions.

The Commission cannot warrant the information above which was provided by Verizon.

H. Winter Months Requirement JSP-15-07A

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

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

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

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

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

I. Metro Bus Service

1.0 Description. The contractor shall be aware that several bus stops located within the project limits are part of the Metro Bus service network. It shall be the contractor's responsibility to determine whether any existing bus stop locations will be impacted due to the lane closures or other traffic control necessary for the staging of the proposed work. Metro shall be contacted 4 weeks prior to any traffic control being installed that may affect bus service. At least one pedestrian access point to each bus stop must be available at all times, unless approved by Metro.

1.1 All active bus stop signs shall remain visible at all times during construction. Should any of the existing bus stop signs or posts be damaged by the contractor's negligence, they shall be replaced at the contractor's expense.

1.2 The contractor shall contact Metro regarding the requirements of this section. Below is the contact information.

Natalie Siebert
Senior Planner | Transit Operations | Planning & System Development Division
BI-STATE DEVELOPMENT | METRO Transit
211 North Broadway Suite 700, Saint Louis, MO 63102-2759
T 314.982.1400 (1816) | M 314.497.4916 | F 314.923.3034
nmsiebert@metrostlouis.org
www.metrostlouis.org – WEB | www.nextstop.org – BLOG

J. Innovative Traffic Control Considerations

1.0 Description. Allows contractor flexibility to make alterations to the current traffic control plan, with the approval of the engineer. Contractor may submit innovative proposals on how to maintain the traffic through the workzone that will allow for improved production, while still maintaining safety for the traveling public, residents & workers.

2.0 Work requirements. Work shall have minimal impacts to the Residents and Metro bus services along the route between Theckla Ave. and Halls Ferry Circle. Work hours will not be allowed to be adjusted. Traffic control alterations may be presented as a VE and all VE's will be evaluated, no matter the cost due to considerations for safety impacts, production & cost savings.

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

K. 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	Misc. Lump Sum Temporary Traffic Control

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

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

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

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

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

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

3.0 Coordination of Construction.

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

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

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

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

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

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

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

M. ADA Curb Ramps

1.0 Description. This work shall consist of constructing new concrete curb ramps and island cut-throughs that are compliant with current Americans with Disabilities Act (ADA) and MoDOT guidelines at locations shown on the plans and as directed by the engineer. Providing work zone protections for pedestrians will be a primary component of this project. Specifically, this work shall consist of providing pedestrian detours, including all necessary designing of specific detour routes, placing of signing, barricades, and channelizing. Nothing in this provision shall be construed to limit contractor innovation in mitigating pedestrian traffic impacts. All revisions shall be submitted to the engineer in writing 3 days prior to approval

1.1 The contractor shall assure that the persons establishing the grades of the ADA facilities have a copy of ADA related provisions at hand for reference including the construction ADA checklist, ADA related JSPs, plans, and standard plans. If it is found that written provisions for ADA facilities are not at hand, the engineer may cause ADA work to be ceased until a copy arrives.

2.0 Construction Requirements. Except as noted herein, all applicable provisions in Sec 608 for construction of curb ramps shall apply. Items and materials used for pedestrian traffic control shall be in accordance with Section 616 of the Missouri Standard Specifications for Highway Construction of the version current at the time of the bid opening, as applicable.

2.1 The area to be removed and/or constructed under this provision includes the entire curb ramp, flares, landing pads, truncated domes, sidewalk, and any curbs, including variable height curbs.

2.1.1 Asphalt Mill and fill may be necessary at the face of the ADA ramp to provide a smooth transition from the roadway to the ramp or to drain storm water away from the ADA ramp. The contractor shall establish the grade of the flow line of the gutter before establishing the grades of ADA facilities. Running or standing storm water shall not be pushed out into the roadway by the asphalt where it may be splashed on pedestrians by passing vehicles or cause a hydroplaning hazard. The asphalt mill and fill shall be a minimum of 1.75 inches thick and the edges shall be at a smooth milled butt joint. The contractor shall use an approved BP-1 mix for all corner asphalt mill and fill work unless otherwise specified elsewhere in the contract. Asphalt mill and fill is included in the work of ADA Curb Ramps. If asphalt mill and fill is needed at a corner without any other ADA work, it will be found as a separate line item in this contract.

2.2 Recommendations for the design type of each curb ramp to be built on this project are shown on the plans. These curb ramps may vary from the original design in size, shape, and location as necessary to comply with ADA laws. It is the contractor's responsibility to inspect locations in the field before bidding to verify quantities needed to satisfy this provision.

2.2.1 ADA provides some exceptions to ramp slope where space limitations exist. The apparent construction limits shown on the plans are not considered a space limitation. The use of these exceptions will not be considered by the engineer unless the length needed for compliance goes beyond 10 additional feet as shown as the plans are interpreted by the engineer. The contractor shall not place any ADA exceptions without consulting the engineer on a case by case basis.

2.3 Work Area Safety. The contractor shall maintain a work area that is safe for pedestrians. The areas adjacent to the contractor's physical work site shall also be maintained as needed to provide access to adjoining properties, regardless of whether a detour route is in place. All holes shall be covered with secured plywood or steel plates, and the work area walkways shall be free of trip hazards, loose debris, vehicles, materials, and equipment when the contractor is not in the work area. A 3 foot minimum path shall be maintained on any used-in-place walkway needed for access. The contractor shall not be permitted to park on any walkway solely to avoid the need for a lane closure. Items for lane closures are provided in the plans and quantities. The contractor shall fence in his work area to provide no access to the general public during the construction of the project.

2.4 Prosecution of Work. The contractor shall have all necessary personnel, equipment, and materials at hand for all work at each location before the work begins so that work may proceed without delay. Curb ramp work on each street corner shall be completed 84 hours after work begins on that corner, including adjusting pull boxes, placing sod, placing curb, or any other incidental work. The contractor shall be allowed to work at no more than two corners of an intersection at any time, regardless of the amount of work at each intersection.

2.4.1 Pedestrian Detours. The contractor may exempt themselves from the above 84 hour provision by providing and maintaining a signed pedestrian detour at their own cost on a route with equal or better ADA accessibility than the closed pathway if such routes exist. Pedestrian detours shall be approved by the engineer. Since MoDOT may not own the right-of-way of the detour path, the contractor shall ascertain that the detour route will remain open during its

planned use as a detour. The contractor shall inform the engineer of their plans to use a detour not less than three weeks before it is set up.

2.4.2 Detour Locations. Pedestrian detours are to cross the street or go around the block where facilities exist. It may be possible to provide one detour for more than one corner/work location; the quantity for pedestrian detours will be based on the number of work locations needing detours and not on the number of detours actually used. The detour routes shall have equal or better accessibility than existing in the construction location and shall be approved by the engineer. Detours may also use roadway shoulders with sufficient width to provide for pedestrians, and the traffic control to protect them, and where parking is not allowed, provided drainage structures are not a hazard.

At locations where a pedestrian detour is not feasible, the contractor has the option of staging work to maintain a 3' minimum pathway, providing a temporary pathway (3' minimum width) that does not reduce the number of through lanes of the roadway, or providing a full closure with signs for a maximum of 84 hours to reopen the walkway to pedestrian traffic in its final configuration. Locations for full closure shall be submitted to the engineer in writing 2 weeks prior to beginning work, and signs shall be placed announcing the closure 1 week before work begins.

2.5 Liquidated Damages. If work associated with curb ramp modification begins, but is not complete and open to pedestrian traffic within **84 hours** of commencement, 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, and pedestrian 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 **$250.00 per hour** of delay that closes a walkway in excess of 84 hours. The contractor's superintendent and the engineer shall be on site at the time of any closures and shall both record an agreed time when the walkway was closed. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

2.5.1 The said liquidated damages specified will be assessed regardless if whether it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction. There shall be no permitted excuse for delay of the work, including weather.

2.6 The curb ramps to be modified per this provision vary in size. It is the contractor's responsibility to verify actual quantities needed to satisfy this provision.

2.7 The truncated domes shall come from Pre-Qualified List FS-1067 Table 1.

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

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

Item No.	Type	Description
608-99.02	Each	ADA Curb Ramp

No direct payment will be made for any excavating or preparing of the subgrade, furnishing or installing reinforcement, adding 4" Type 5 aggregate base under the ramp, any incidental work required for furnishing and installing tie bars, tinting of concrete surface as required in the plans, truncated domes, sod or seeding, or asphalt mill and fill required to transition the new ramp to existing pavement or to drain the sidewalk, warping sidewalk to meet existing sidewalk sections, relocating or resetting granite curb, relocating existing pedestrian push buttons on signal poles, the removal and replacement of existing curb/curb and gutter, the removal of existing concrete slabs, saw cuts, or other work necessary in the satisfactory completion of this provision.

N. Push Button Extension

1.0 Description. This work shall consist of furnishing, installing, and placing an extension for the Accessible Pedestrian Signal (APS) push button detector. The extension should be installed according to all applicable portions of Sec. 902 and compatible with the APS assembly.

8.0 Payment. Payment for the push button extension will be for the following pay item:

Item Number	Item Name	Units
902-99.02	Misc. Push Button Extension	Each

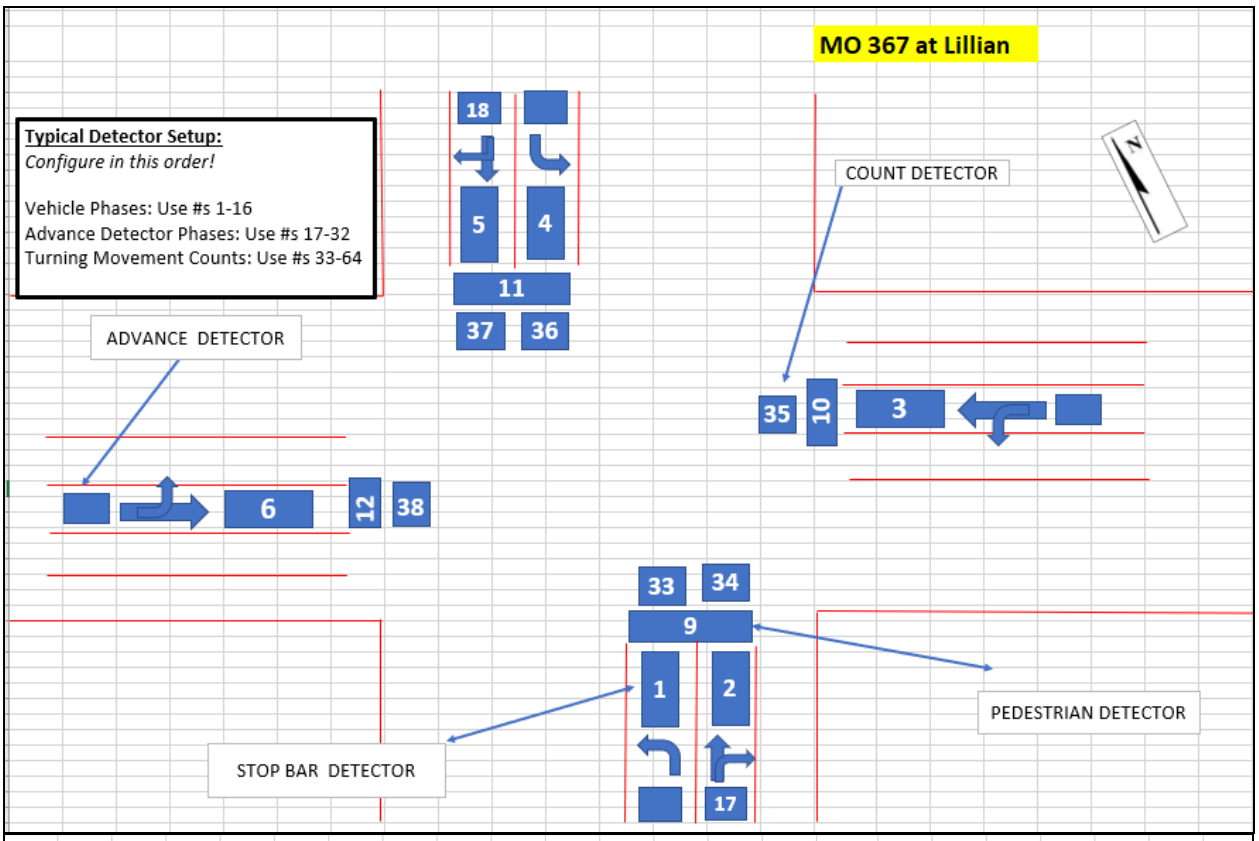
O. SL District Traffic Signal Detection System

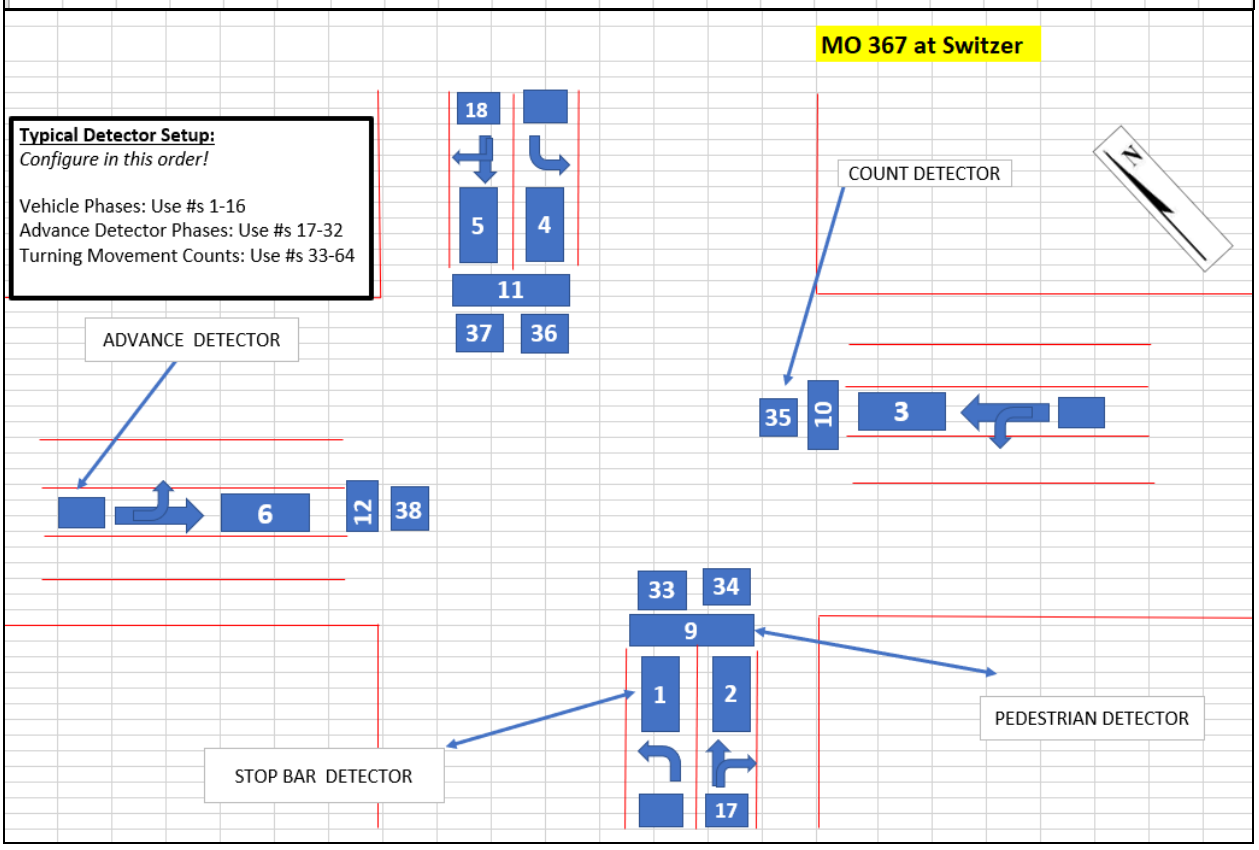
1.0 Description. This work shall consist of providing detectors for signalized installations that will support advance traffic signal performance measures (ATSPM) on the Commission's St. Louis District roadways. Detectors shall be in accordance with the Missouri Standard Specifications for Highway Construction (latest version) and installed to provide detection at locations as shown on the plans or as directed by the Engineer in accordance with Section 902. If any information conflicts between Section 902 and this JSP, the JSP shall supersede.

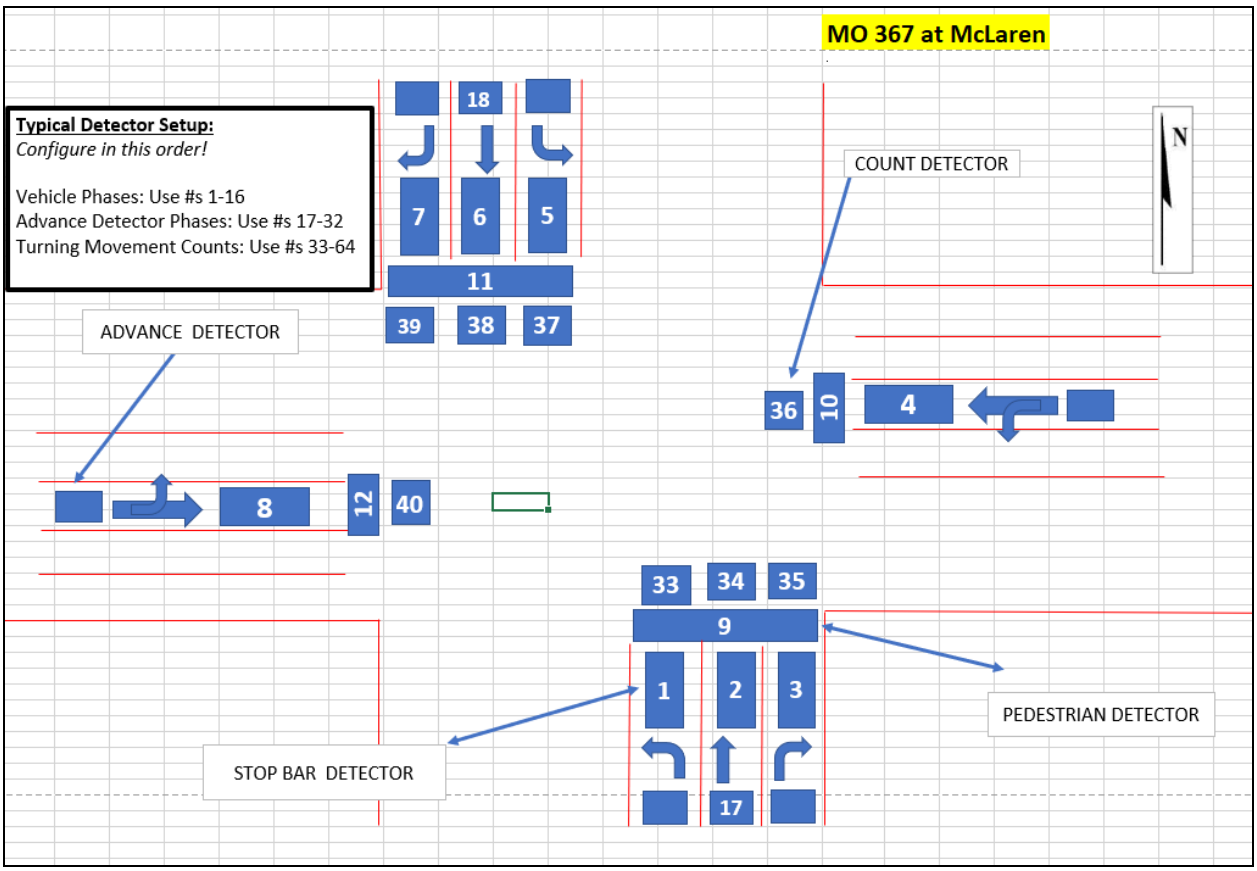
2.0 Detector Zones. The following detector zones shall be placed as shown in the plans:

- Stop Bar Detection
- Advance Upstream (Performance Measures)
- Dilemma Zone
- Turn Counts
- Advance Video Zones (if applicable)
- Radar Zones (if applicable)
- Advance Data Collector (if applicable)
- Bicycle/Pedestrian (see Section 2.2)

Job No.: J6S3279
Route: 367
County: St. Louis City







[INSTRUCTIONS: Configure detector setup per project and/or intersection. Double click to edit Excel file base.]

2.1 Dilemma Zones. Dilemma zone detection shall be required for the following approaches for high speed dilemma zone detection:

[INSTRUCTIONS: Insert any approaches 45 MPH + or where engineering judgment dictates the need for dilemma zone detection.]

Dilemma zone detectors shall be placed at 5 secs and 8 seconds travel time before stop bar per below Table unless directed otherwise in the plans or by the Engineer.

Approach Speed (MPH)	Advance Detector Placement 5 secs Travel time	Advance Detector Placement 8 seconds travel time
35 mph	260	415
40 mph	295	470
45 mph	330	530
50 mph	370	590
55 mph	405	645
60 mph	440	705

2.2 Bicycle/Pedestrian Zones. Bicycle and/or pedestrian zones (if applicable) shall be provided as directed by the Engineer. Specific zone placement and description as required by vendor shall be reviewed and approved by the Engineer.

3.0 Performance Measures. In addition to presence detection, the detection system shall be capable of providing data to an advanced traffic signal controller that can perform at a minimum the following calculations in real time for each detection zone without the addition of another device:

- Speed
- Volume
- Lane Occupancy
- Vehicle Classification
- Other available performance measures

For speed calculations thru movements are required for all detection installations. Turning movement measurements are required for all detection installations. For volume measurements/calculations both mainline thru and all turning movements are required. All values are to be assigned to detector channels within the controller. Other performance measures must be clearly defined. In all cases all performances measures must be ultimately available in an easily usable, exportable format. Turning movement counts shall be installed per the detector setup diagram(s) above to include all lanes. The Contractor shall provide documentation to the Engineer to confirm the volumes are configured and operational through the detection system. The Contractor shall also provide a final schedule of detector assignments in the .pdf format to the Engineer and the Commission's signal maintenance supervisor. Performance measurement data must be configured and fed into the Commission's ATSPM platform with data storage confirmed, see Section 5.0. If utilized on the project, the Contractor's Traffic Engineer shall assist in this task.

4.0 Material. The Contractor can choose from the following list of detector types according to the exceptions noted below:

- Induction Loop
- Video Image
- Radar

Reference each detection type's subsection for specific allowable models. Unless otherwise specified on the plans, the Contractor may supply more than one type of detector and customize the installation based on field conditions, as approved by the Engineer.

4.1 Induction Loops. Induction loops, if selected, shall be in accordance with the Missouri Standard Specifications for Highway Construction (latest version) and shall be installed to provide detection at locations as shown on the plans or as directed by the Engineer in accordance with Section 902. Detector channels shall be assigned as per the layout in this JSP or as directed by the Engineer.

4.2 Video Detection. If video detection is selected, the following provisions shall also apply.

4.2.1 Description. The Contractor shall furnish and install all equipment, materials, software and other miscellaneous items that are required to provide a fully functional Video Detection System for the control of vehicular and pedestrian traffic signals.

4.2.2 Material. The video detection system shall consist of power supply, hard-wired video cameras, all necessary video and power cabling with end connectors, mounting brackets, surge

protection as recommended by the manufacturer, video detection processors/extension modules capable of processing the number of camera and phase combination video sources shown on the project plans. The video detection system will be defined as the complete assembly of all required equipment and components for detection of vehicles. Each video detection system shall consist of the video camera(s), lightning arrester for video cabling, processor unit(s), control device (track ball or keypad; no mouse allowed), software and license for system control via a computer (if applicable), communication components, and a color monitor. The video detection system shall have the most current available firmware installed. All camera views shall be obtainable without requiring the disconnection and reconnection of cables within the system. The video detection systems in the list below are the only systems that are tested, fully functional, and approved for use in the St. Louis District.

- Autoscope Vision
- Iteris Vantage Next
- Aldis Gridsmart Smart mount Camera (Performance Module to be included)

4.2.3 Installation Requirements. The video detection system shall be installed per the manufacturer's recommendations. The installer shall be certified by the video detection system's manufacturer to install the system. All CAT5 cable runs (if used) shall be continuous without splice from the cabinet to the camera. If requested by the engineer, a factory certified representative from the supplier shall be available for on-site assistance for a minimum of one day during installation. The bottom of the video camera shall be mounted per the manufacturer's recommendations, unless otherwise indicated on the plans or approved by the Engineer. The video detection system shall not be installed on pedestal signal unless otherwise directed by the Engineer. The video detection system shall not be installed on a 15' luminaire arm unless otherwise directed by the Engineer.

A separate grounded 120 VAC service outlet shall be provided in the controller cabinet for supplying power to the parts of the video detection system requiring AC power. Use of the grounded service outlet located on the cabinet door will not be permitted. The video detection system must integrate/be compatible with an Advanced Transportation Signal Controller (ATC).

The Contractor shall also be advised that if the Iteris Vantage Next video detection system is selected for locations utilizing existing signal cabinets, the Contractor shall also procure an upgraded power supply for the video detection system per the Manufacturer's recommendations.

4.2.4 Detection Zones. The detection zones shall be created by drawing the detection zones on the video image. A graphical user interface shall be built into the video detection system and displayed on a video monitor or computer. It shall be possible to edit previously defined detector configurations to fine-tune detection zone placement. When a vehicle is detected by crossing a detection zone, there shall be a visual change on the video display, such as a flashing symbol or a change in color or intensity to verify proper operation of the video detection system.

4.2.5 Performance. Overall performance of the video detection system shall be comparable to inductive loops. Using camera optics and in the absence of occlusion, the video detection system shall be able to detect vehicle presence with 98% accuracy under normal day and night conditions with only slight deterioration in performance under adverse weather conditions, including fog, snow and rain. When visibility exceeds the capabilities of the camera, the video detection system shall default to placing a call on all detectors. Supportive documentation is required to meet this specification and shall be provided to the Engineer before installation.

4.2.6 Monitor. The monitor shall be an LCD active matrix with a minimum 7" diagonal screen color monitor, an NTSC-M system and BNC video in-out connections built into the housing. The unit shall be compact and lightweight, securely mounted to the cabinet shelving, have low power consumption, constructed to operate under extreme temperature conditions, and run on AC power. AC adaptor shall be included. The monitor shall be installed to automatically power on when the cabinet door is opened and automatically power off when the cabinet door is closed. A manual on/off switch shall be provided.

4.2.7 Video Camera and Housing. The camera shall produce a color video image of vehicles during daylight hours, with an optional production of black and white images during nighttime hours. The video shall produce a clear image for scenes with a luminance from a minimum range of 0.18 to 929 foot-candles (2.0 to 10,000 lux). The camera shall provide a minimum resolution of 430 lines horizontal (TVL) and 350 lines vertical under NTSC operation. The camera shall include an electronic shutter or auto iris control based on average scene luminance and shall be equipped with an auto iris lens. sun shield that prevents sunlight from directly entering the lens. The sun shield shall include a provision for water diversion to prevent water from flowing in the camera field of view and shall be able to slide forward and back.

4.2.8 Video Detection System Connections. All bus connections in the video detection system shall be corrosion resistant. Serial communications to a computer shall be through an RS-232/RS-422 serial port through a subminiature "D" connector with a computer running supplied system software. The port shall have the capability to access detection system data as well as the real-time imagery needed to show detector actuations. The processor shall have a RJ-45 plug using Ethernet 10/100 protocols. The equipment shall be provided with either a NEMA TS1 or NEMA TS2 interface as shown on the plans.

For TS2 systems, the video detection system shall be equipped with a TS2 Type 1 detector interface, where detector information is transmitted serially via an RS-485 data path. A 15-pin subminiature "D" connector, meeting the requirements of the TS2 standard, shall be used for the serial detector output. A minimum of 32 detector outputs is required, with the capability of expansion to 64 outputs if required based on the design plans.

The contractor shall be responsible for any changes or additions to either an existing or new cabinet in order to provide a properly functional video detection system and monitor display. This may include, but is not limited to, additional SDLC connectors, an MMU (malfunction management unit), shelf relocation and component reorganization. No direct pay for any changes or additions. All required connections will be considered part of the video detection system installation.

4.2.9 Documentation. The contractor shall provide one bound copy and one electronic version (.pdf format) of the user's manual.

4.3 Radar Detection. If radar detection is selected, the following provisions shall also apply.

4.3.1 Description. Provide, install and test continuous tracking advance detector (CTAD) units and cabinet interface to detect range, speed, and vehicle estimated time of arrival (ETA) to the stop bar for vehicles or clusters of vehicles moving in the user selected direction of travel. The CTAD shall also detect instantaneous roadway efficiency. This specification sets forth the provisions for a radar detection system that detects vehicles, pedestrians, bicycles, and motorcycles on roadways and provides vehicle presence and full-

motion tracking.

4.3.2 Material

4.3.2.1 Stop Bar Detector. The radar detection systems in the list below are the only systems approved for use in the St. Louis District. Installation of radar detection systems shall follow both the below specifications and the manufacturer's instructions.

- WAVETRONIX SmartSensor
    - Matrix

Provide a radar detection system with the following features.

- Shall be able to track/detect a minimum of 64 objects
- Shall be able to operate in a temperature range between -30 degrees and 165 degrees F
- The detection zones shall be configurable based off several factors' such as classification, ETA, speed, presence, and delay.
- The radar sensor shall be forward fire
- The sensor shall operate in the 25 GHz band
- The sensor shall be housed in a sealed IP-67 enclosure

4.3.2.2 Advance Detector. The radar detection systems in the list below are the only systems approved for use in the St. Louis District. Installation of radar detection systems shall follow both the below specifications and the manufacturer's instructions.

- WAVETRONIX SmartSensor
    - Advance
    - Advance Extended
- Iteris Vector

- In addition to the specifications listed in Section 4.3.2.1, the detection range shall also cover the dilemma zone distances prescribed in section 2.1.

4.3.2.3 Power and Communications.

- Power and communications cabling shall be installed per manufacturer specifications
- The radar sensor shall operate at 24 VDC
- Power consumption shall be no more than 38 watts
- If required, the advance detection System shall include all equipment to communicate wirelessly.

4.3.2.4 Contact Closure Card. Any contact closure card shall be compatible with a NEMA detector rack and shall be installed per manufacturer specifications.

4.3.2.5 Lightning Surge Protection. The CTAD shall include surge protection hardware installed per manufacturer specifications. The hardware shall be accepted by the engineer before installation in the cabinet.

4.3.3 Construction Requirements.

4.3.3.1 Mounting Location. All mounting hardware shall be installed per manufacturers specifications. The CTAD shall be mounted as follows:

- at a height that is within the manufacturer's recommended mounting heights.
- The radar shall be positioned so that all detection zones needed for an approach can be captured.
- in a forward-fire position, looking towards either approaching or departing traffic.

4.3.3.2 Induction Card Rack Interface. {Install the contact closure card in the existing induction card rack} ***or*** {Install a 4-position induction card rack with power supply} and configure based on manufacturer's instructions to provide all needed detection outputs. Any power supply cards for the induction card rack needed for proper operation of the CTAD shall be provided and installed by the contractor.

4.3.3.3 Support. A factory certified representative from the supplier shall be available for on-site assistance for a minimum of one day during installation and shall provide two (2) days of local training after the CTAD has been installed and are operational.

4.3.3.4 Acceptance Testing. The contractor shall develop a proposed test procedure for the CTAD and submit it to the Engineer for approval. It must include visual verification of vehicle detections being received. Each detector shall be tested separately. Revise the proposed test procedure until it is acceptable to the Engineer. Provide all equipment and personnel needed to safely conduct the tests. Arrange for the Engineer's representative to witness the tests. Give the Engineer a report documenting the result of the tests.

4.3.4 Documentation and Software.

4.3.4.1 Prior to purchasing the CTAD system, the contractor shall submit five copies of catalog cut sheets and the environmental testing results to the Engineer for approval.

4.3.4.2 The contractor shall provide five copies of the operation and maintenance manuals for the CTAD system.

4.3.4.3 Contractor shall provide one copy of the software and any cables needed to interface with the system.

4.3.4.4 Contractor shall provide the CTAD installation kit, if applicable, to the Commission upon completion and acceptance of the project.

5.0 Communication with Advanced Transportation Management System (ATMS). The detection systems and all performance measure data should be fed directly into the Commission's current ATSPM platform (currently through TransSuite). All data must be online and verified by contractor to be fully operational and available for data output reporting via the Commission's ATSPM platform. In addition, the data storage for long-term storage use should be configured properly on the Commission's ATSPM platform. The Contractor shall be responsible for ensuring the firmware of all detection works with the Commission's ATSPM platform. If utilized on the project, the Contractor's Traffic Engineer shall assist in this task.

6.0 Technical Support for Detection System. The detection system(s) chosen for installation shall be free of defects in material and workmanship. For five (5) years, technical support from

factory certified personnel or factory certified installers shall be available from the supplier. Ongoing software support by the supplier shall include updates for the processor unit and computer software and shall be provided at no cost during this two-year period. The update of the processor unit software to be NTCIP compliant shall be included. Detection system(s) must not be within 5 years of end of support or sale by manufacturer.

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

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

9.0 Basis of Payment. Measurement and payment for work covered by this specification shall include all equipment, materials, tools, labor, programming, testing, and documentation necessary to provide a detection system **per intersection** and shall be paid at the contract unit price as follows:

Item No.	Type	Description
902-99.02	Each	SL District Traffic Signal Detection System

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

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

2.0 Disassembly and Delivery.

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

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

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

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

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

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

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

1.0 Description.

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

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

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

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

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

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

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

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

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

1.10 Contractor's Workforce Plan. The Contractor shall submit its Workforce Plan a minimum of 1 week before construction starts. One plan shall be submitted for the project that

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

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

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

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

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

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

3.0 Methods for Securing Workforce Participation and Good Faith Efforts.

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

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

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

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

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

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

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

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

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

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

9.0 Regional Diversity Council (Council). (Applicable to the Kansas City and St. Louis District regions only) The Council shall consist of local community leaders, leadership of local construction trades, MoDOT staff, Industry representation, and a representative(s) from the

Federal Highway Administration. The Council will meet quarterly and evaluate the workforce activity per each project according to the following criteria:

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

10.0 Federal Workforce Goals.

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

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

TABLE 1:

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

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

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

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

As used in these specifications:

"Minority" includes;

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

R. 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 require a minimum 24-hour advance notification from the contractor unless otherwise allowed by the engineer.

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

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

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

S. Coordination with MoDOT Signal Shop for Cabinet Entry

1.0 **Description.** Commission-furnished color-coded pad locks have been placed on all of MoDOT's signal cabinets in addition to the key used to unlock the door handle. To gain access to the appropriate cabinets during the project all contractors shall coordinate with MoDOT's signal shop to obtain the proper keys and locks..

1.0.1 Keys & Locks. Red locks & keys are provided when a contractor has modified the signal cabinet and MoDOT staff shall not have access to the cabinet until it is accepted for maintenance. The blue keys are provided for entry into the cabinet where MoDOT's Signal Shop group deems the access to be minor in nature (entry to the cabinet to make a simple network switch connection, for example).

1.0.2 Completion of Project. At the completion of the project all keys and pad locks distributed to contractor during the project shall be returned to the Signal Shop supervisor or their representative and keys shall not be reproduced.

2.0 Contact. Initial contact must be made at least seven calendar days before work begins, preferably when the project has the notice to proceed or during the pre-construction meeting, if applicable. MoDOT's Signal Shop supervisors shall be notified prior to work beginning. Contact the signal shop via email at **sltrs@modot.mo.gov** to coordinate which padlocks are to be used.

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

T. Traffic Signal Maintenance and Programming

1.0 Description. Traffic signal maintenance and timing for this project shall be in accordance with Section 902 of the Standard Specifications, and specifically as follows.

2.0 Qualified Traffic Engineer

2.1 The contractor shall have an experienced traffic engineer with a Professional Engineer's (PE) license in Missouri as well as a Professional Traffic Operations Engineer (PTOE) certification (hereafter referred to as "contractor's traffic engineer") with the noted experience defined below. MoDOT and the City of St. Louis shall approve the traffic engineer prior to them being hired.

2.2 Experience. Any proposed contractor traffic engineer shall be able to demonstrate personal successful previous experience in the following tasks:

2.2.1 Response. The contractor's traffic engineer shall have the ability to be on site within 1 hour of being requested.

2.2.2 Corridor Management: Time/space diagram manipulation in order to successfully adjust offsets and splits for rapidly changing traffic demands.

2.2.3 Controller Programming: Ability to program by hand and by software Phase, TBC, and Coordination levels of Siemens controllers along with NTCIP-compatible controllers.

2.2.4 Intersection Programming: Implementation of adjusted and/or new timing plans as a result of changing traffic demand.

2.2.5 Signal Software: Use and understanding of both Siemens signal software and TransCore traffic control software.

2.3 The contractor shall submit the names(s) of proposed traffic engineer(s) and the name(s) all of other personnel on their proposed staff along with detailed experience in all tasks outlined in Paragraph 2.2 above. The engineer reserves the right to reject any contractor traffic engineer, before the start of work, who does not have sufficient experience or, at any point during the project, which does not satisfy the requirements set forth within this Job Special Provision. A list of potential traffic engineers shall be submitted for review to the Project Manager, the Commission's Traffic Engineers and the City of St. Louis Street Department prior to bid.

2.4 VPN Access. The Commission and the City operate the noted signals through a central signal system which is capable of remote adjustments to controller programming.

2.4.1 The approved contractor's traffic engineer and any staff assigned to manage the traffic signals during the project is encouraged to apply for VPN (Virtual Private Network) access with the engineer once the project is awarded. If approved, the engineer will assign a unique IP address to the contractor's traffic engineering staff, which will allow for remote access to the Commission's central signal control systems as appropriate and the ability to interface with the noted signals on this project.

2.4.2 The approved contractor's traffic engineer and any staff assigned to manage the traffic signals during the project is encouraged to apply for VPN (Virtual Private Network) access with the City once the project is awarded. If approved, the City will assign a unique IP address to the contractor's traffic engineering staff, which will allow for remote access to the City's central signal control system and the ability to interface with the noted signals on this project.

3.0 Existing Traffic Signals and Communication System

3.1 The contractor shall notify the engineer 3 weeks prior to the date of ramp bridge closure and detour implementation. The contractor shall meet together with the engineer's and the City's representatives to discuss their traffic mitigation plan at least 1 week before the date of the first closure and as needed between construction stages. Traffic mitigation plan should at a minimum include:

- Proposed Timing Plan changes and any models
- Anticipated locations of concern
- A map in electronic format displaying the locations and names of the signals and owning agency as detailed in Paragraphs 3.2 and 3.3 below.

- Other traffic mitigation efforts

3.2 Once a ramp closure has been implemented by the contractor, the contractor shall then be solely responsible for the following signals' controller programming until completion of all closures necessary to complete the contractor's work. Maintenance at these locations for items other than controller programming issues or incidents caused by controller programming or other construction done by the contractor shall remain with the Commission or City of St. Louis. If any part of an existing traffic signal or its controller within the limits of this project has otherwise been modified or adjusted by the contractor, or the contractor makes any roadway changes to reduce the traffic capacity through a signalized intersection within the limits of the project, or the contractor begins work at an intersection with signals already in operation, the contractor shall then be solely responsible for that signal's controller programming and all signal maintenance as specified in 902.2 and 902.3, except for power costs, until Final Acceptance of the project. Traffic signal maintenance and timing responsibilities shall be broken down in accordance with the below schedules:

Signals Affected:

- Rte. 367 @ Lillian
- Rte. 367 @ W. Florissant
- Rte. 367 @ Switzer
- Rte. 367 @ McLaran

3.3 The engineer shall provide to the contactor 2 weeks' notice an electronic report on the existing phasing and timing of each traffic signal, which may be the contractor's responsibility to program. The engineer and City's representative shall be available to the contractor before any changes are made to a signal or controller to answer any questions about the report. In lieu of the report, the contractor's traffic engineer may obtain this information from the appropriate agency's central signal control system. Once the contractor has modified a signal or controller for any reason, the contractor shall be solely responsible for the existing timing plans and all subsequent timing changes.

3.4 The contractor shall notify the engineer or representative of the changes no later than 1 working day after changes are programmed if unable to provide advance notice as specified in 902.2. In addition, the Contractor shall notify the Engineer, the Commission's Traffic Engineers and the City within one (1) hour of successful implementation of the detour plan.

3.5 The contractor shall be solely responsible for maintaining the coordination at any affected signal to the satisfaction of the engineer or representative until completion of work as set forth in section 3.2 of this provision. Maintenance of coordination may include the synchronization of the affected controller's internal time clocks to the second using an atomic clock, or other means approved by the engineer. If time clock synchronization is used, the contractor shall verify all affected controllers are synchronized at least 1 time per week with a report to the engineer or representative. This report will be in the form of a documentation record as spelled out in the Work Zone Traffic Management Plan.

4.0 Existing Traffic Signal Maintenance and Response

4.1 The contractor shall respond to any signal timing complaints or malfunction complaints for those locations detailed in Section 3.0 of this provision and as specified in Section 902.21.1. Response time shall be 1 hour for complaints received by the contractor between 6 AM and 6

PM on non-holiday weekdays, and 2 hours for all other times. For some cases (due to travel times or other extenuating circumstances) additional time may be acceptable within reason, but must be approved by the engineer. These timeframes will replace the '24 hour' response time in Section 105.14 for any signal-related incidents, where the entire cost of the work, if performed by MoDOT personnel or a third party, will be computed as described in Section 108.9 and deducted from the payments due the contractor.

4.2 The contractor must supply a contact name and phone number who will be responsible for receiving signal timing complaints for the engineer and the City. These complaints may be forwarded directly to the contractor by someone other than the engineer or City's representative, and will not relieve the contractor from properly responding based on the response times of this Provision. The contractor shall respond to the engineer and also notify the Commission's Traffic Engineers and the City's representative within 12 hours of the complaint as to the remedy. The contractor shall submit to the engineer and City's representative a weekly report of complaints received and remedies performed throughout the duration of the project.

5.0 Original Signal Controller Programming and Acceptance

5.1 The contractor will be responsible for restoring the original signal controller programming at existing intersections and coordination plans for each intersection immediately upon ramp re-opening. The engineer and the City shall preserve and house the original controller files and provide the contractor with access to those files in order to perform the restoration of the original plans. Normal plan restoration can be done by a manual command in the signal control system or a preprogrammed time-of-day command change. For any locations rendered offline at the time of re-opening, these locations shall be returned to normal operation by hand. The Contractor shall notify the Engineer, the Commission's Traffic Engineers and the City within one (1) hour of removal of the detour plans. The contractor will be relieved of signal programming maintenance at an existing restored intersection once 48 consecutive hours have passed without a programming malfunction, including restoring normal signal programming to the satisfaction of the Commission and the City. If an agency desires any changes from an original plan, the agency will assume immediate maintenance of the signal in order to implement desired changes.

6.0 Post Project Report

6.1 The contractor shall submit to the engineer a post project report, four to six weeks after the final signal adjustments have been completed. The report shall include at a minimum an observation report, summary of timing changes and locations, summary of complaints, and any other pertinent information regarding the contractor's efforts for managing these signal corridors in one electronic document.

7.0 Deliverables

7.1 All deliverables mentioned in this provision shall be submitted to the engineer in a timely manner to the satisfaction of the engineer prior to receiving full compensation for this work.

- Experience submittal
- Preliminary Traffic Mitigation Plan
- Notification of Detour Implementation
- Time Base Reports, As Needed
- Complaint Resolutions

- Notification of Restoration to Normal Operations
- Post Project Report

8.0 Construction Requirements. Construction requirements shall conform to Sections 902, 1061 and 1092.

9.0 Method of Measurement. Method of measurement shall conform to Section 902.

10.0 Basis of Payment. Payment will be considered full compensation for all contractor services, installation, and labor to complete the described work:

Item No.	Type	Description
902-99.01	Lump Sum	Misc. Traffic Signal Maintenance and Programming

U. Pull Box Adjustment

1.0 Height Adjustment. Regardless of type or size the pull boxes shown in the plans require adjustment to match the new grade of the roadway, ramp, landing, sidewalk, slope.

2.1 The contractor shall notify the engineer if boxes belonging to utilities other than MoDOT, are encountered that will require adjustment. The contractor shall coordinate work with the affected utility to ensure that the completed facilities meet ADA requirements.

3.0 Basis of Payment. All costs associated with compliance with this special provision for all material, equipment, and labor shall be completely covered by the contract unit price for:

Item No.	Type	Description
604-99.02	Each	Pull Box Adjustment

V. Conduit

1.0 Description.

1.1 Furnish and install conduits as shown on the plans and as described within this section. The plans depict conduit routing in schematic form only. Determine final routing based on actual field conditions at each site, including utility locator service markings, to assure no conflicts with existing utilities.

1.2 Inspect the project area prior to submittal of bid to determine the types and extent of incidental removal, relocation and replacement items to include in the unit price of conduit and pull boxes.

2.0 Materials.

2.1 Conduits shall meet the requirements of Sec 1060.

2.2 Non-metallic flexible conduit shall be color coded orange for communication cable and black for power cable.

2.3 Pull ropes or tapes shall be polypropylene with a minimum tensile strength of 600 pounds.

2.4 Locator wire shall be solid copper wire, AWG 10, type THHN, with blue insulation.

3.0 Construction Requirements.

3.1 General. The contractor shall comply with Sec 902.16, except as noted in this special provision.

3.1.1 Warning tape shall be furnished and installed in all trenches containing conduit.

3.1.2 Pull ropes shall be furnished and installed in all empty conduit cells.

3.1.3 Install locator wire in all underground non-metallic conduits and into each pull box or base. Affix the wire to the sidewall of each pull box. Locator wire is incidental to the conduit and will not be paid for separately.

3.1.4 Flexible non-metallic duct shall not be spliced. All runs shall be continuous.

3.1.5 When installing flexible duct in trench, keep the duct as straight as possible. Avoid undulations up and down and side to side.

3.2 Directional Drilling.

3.2.1 Preliminary Site Work. Determine all utility locations near the path of the proposed bore, including depth. Use this information to avoid damage to utilities and/or facilities within the work area. Provide this information, including the sources, to the engineer a minimum of five working days prior to boring. Do not bore until the engineer approves that submittal.

Prior to boring, expose all utilities for which it is customary and safe to do so.

3.2.2 Boring. The diameter of the drilled hole shall conform to the outside diameter of the conduit as closely as practical. Pressure grout as directed by the engineer, to fill any voids, which develop during the installation operation. Remove and replace any conduit damaged in directional drilling operations at no expense to the project.

3.2.3 Drilling Fluids. The use of water and other fluids in connection with the drilling operation will be permitted only to the extent necessary to lubricate cuttings. Jetting will not be permitted, and the use of water alone as a drilling fluid will not be permitted. Use a drilling fluid/slurry consisting of at least 10% high grade, processed Bentonite to consolidate excavated material, seal the walls of the hole, and furnish lubrication for subsequent removal of material and immediate installation of the pipe.

Provide a means of collecting and containing drilling fluid/slurry that returns to the surface, such as slurry pit, or a method approved by the engineer. Provide measures to prevent drilling fluids from entering storm sewer systems. Prevent drilling fluid/slurry from accumulating on or flowing onto sidewalks, other pedestrian walkways, driveways, or streets. Immediately remove any slurry that is inadvertently deposited on pedestrian walkways. Transport waste drilling slurry

from the site and dispose of it. Do not allow slurry to enter wetlands. Protect wetlands using appropriate soil erosion control measures approved by the engineer.

3.2.4 Drilling Control. Use a digital walkover locating system to track the drill head during the bore. At minimum, the locating system shall be capable of determining the pitch, roll, heading, depth, and horizontal position of the drill head at any point along the bore. During each drilling operation, locate the drill head every 10 feet along the bore and prior to crossing any underground utility or structure. Upon completion of the drilling operation and conduit installation, furnish the engineer with an as-built profile drawing and plan drawing for the drilled conduit showing the horizontal and vertical locations of the installed conduit.

3.3 Wall Penetrations. Wall penetrations of existing concrete retaining walls shall be performed by the drilling, or other approved construction means, of an opening with a minimum diameter of 1 inch greater than the outside diameter of the conduit(s) to be inserted through the wall. Reinforcing bars shall be located on the fill face of the wall using non-destructive scanning techniques. Openings shall be located to avoid cutting or otherwise damaging reinforcing bars on the fill face side of the wall. Sufficiently remove any rough edges from the wall opening to prevent damage to the conduit(s). The wall penetrations shall be filled with a Type III epoxy grout conforming to Sec 1039. The cost of wall penetrations will be considered incidental to the unit price of conduit.

3.4 Intercept Existing Conduit with Proposed Pull Box. Where indicated on the plans, intercept an existing conduit with a proposed pull box. Excavate existing conduit, cut the existing conduit, and install a new pull box over the existing conduit.

3.4.1 Where plans indicate that existing conduit contains active fiber, the contractor shall carefully cut into the existing conduit so as not to damage the active fiber.

3.4.1.1 Begin by marking the location of a 100 foot segment of the existing conduit, centered on the proposed pull box location. To determine the conduit location, use the existing locator wire in the conduit. Then excavate the earth above a 60 foot section of the conduit centered on the pull box. Take care not to damage the conduit or active cable. Carefully cut the conduit, but not the cable, at two points corresponding to the edges of the new pull box. The pull box's openings for conduit penetration must be slotted from the bottom to facilitate the pull box being slid onto the existing conduit. Install the pull box in the same manner as the other pull boxes in this project, except that the pull box must be slid over the existing conduit without cutting the existing cable, and secured into place by methods approved by the engineer. Ensure that the pull box's slots for conduit penetration align with the trench containing the existing conduit.

3.4.1.2 Carefully cut off the excess conduit protruding into the pull box, without damaging the existing cable. Fill any void area between the slot and the conduit with an engineer-approved filling material to protect against conduit movement and the entry of fill material.

3.4.1.3 In the event that the tracer wire is severed while intercepting the existing conduit, the contractor shall jumper the trace wire connection from one severed conduit end to the other.

3.4.1.4 In the event that the existing active fiber becomes damaged while intercepting the existing conduit, the contractor shall replace the cable from the nearest existing splice points upstream and downstream of the damage, coiling fiber in new pull box as described in the fiber optic cable JSP.

3.4.2 Where plans indicate that existing conduit is empty, verify that no cables remain in the conduit prior to beginning work. In the event that the conduit to be intercepted contains cables, notify the engineer prior to beginning work. The engineer will then direct the contractor to remove and salvage the cables, or to discontinue work at the site until an alternate plan can be devised.

3.4.2.1 Begin by marking the location of a 100 foot segment of the existing conduit, centered on the proposed pull box location. To determine the conduit location, use the existing locator wire in the conduit. Then excavate the earth above a 60 foot section of the conduit centered on the pull box. Take care not to damage the conduit. Saw cut the conduit at a point corresponding to the center of the new pull box. Lift the free ends of the conduit clear of the area where the pull box is to be installed, taking care not to violate the conduit's minimum bending radius. Install the pull box in the same manner as the other pull boxes in this project. Ensure that the pull box's openings for conduit penetration align with the trench containing the existing conduit.

3.4.2.2 On each side of the pull box, lift the midpoint of the exposed conduit until the free end is drawn back far enough to be outside the pull box. At the lifting point, distribute the lifting force evenly over at least a 2 foot segment of the conduit. Then thread the free end of the conduit through the opening in the wall of the pull box and lower the midpoint of the conduit segment so that the conduit extends into the pull box. Cut of the excess conduit protruding into the pull box. Fill any void area between the drilled hole and the conduit with an engineer-approved filling material to protect against conduit movement and the entry of fill material.

3.4.3 Backfill shall be carefully tamped in place. All disturbed areas shall be restored to their original condition.

3.4.4 Intercepting existing conduit shall be considered incidental to conduit installation.

3.5 Install Conduit into Existing Pull Box. Where indicated on the plans, install a proposed conduit into an existing pull box.

3.5.1 Carefully expose the outside of the existing pull box without disturbing any existing conduits or cabling.

3.5.2 Drill the appropriate sized hole for the entering conduit at a location within the pull box that will not disturb the existing cabling, and that will not hinder the installation of new cabling within the installed conduit.

3.5.3 Fill any void area between the drilled hole and the conduit with an engineer-approved filling material to protect against conduit movement and the entry of fill material.

3.5.4 Backfill shall be carefully tamped in place. All disturbed areas shall be restored to their original condition.

3.6 Conduit Splicing. At locations noted on the plans, new conduit shall be spliced to existing conduit.

3.6.1 Requirements. At locations where connection of the new conduit to existing conduit is shown, a watertight connection shall be made using a mechanical coupler. The coupler shall be designed by the manufacturer to join conduits of the type and size to be joined. The splicing device shall be approved by the engineer.

4.0 Conduit System of Structures. This work shall consist of furnishing and installing rigid aluminum conduit systems on walls and bridges including junction boxes, brackets, clamps, hangers, conduit, expansion fittings, conduit outlet bodies, bolts, anchors, and all other fittings and materials necessary for mounting conduit externally on structures and connecting the conduit system to the luminaires.

4.1 Construction Requirements. Rigid aluminum conduit shall be listed to UL 6. Main conduit runs on structures shall be 2" rigid aluminum conduit. Conduit connections to luminaires from main conduit runs shall be sized as needed and shall be rigid aluminum or liquid tight flexible metal conduit, unless approved by the engineer. Junction boxes shall be aluminum, NEMA 4, and sized appropriately for the conduit and cable. Junction Conduit fittings shall be UL listed aluminum. Conduit expansion fittings shall be provided as necessary. Liquid tight flexible metal conduit shall only be used to connect the conduit system to underpass luminaires. Liquid tight flexible metal conduit shall be listed to UL 360. Lengths of liquid tight flexible metal conduit shall be kept to a minimum; however, a drip loop shall be provided. The contractor shall submit detailed plans with sizes, locations, and types of conduit, junction boxes, underdeck luminaires and fittings to be approved by the engineer prior to ordering. At a minimum, junction boxes shall be placed where cable conduit transitions to rigid conduit, every 400' on long conduit runs, at splice/tee locations near fixtures, and areas where snaking of the conduit is needed.

5.0 Shop Drawing Submittal Requirements.

5.1 A Professional Engineer registered in the State of Missouri shall design where conduit and junction boxes are supported on bridge structures or retaining walls, the support system, including fasteners and expansion anchors. Shop Drawings are required and shall show the layout of the conduit and details of the support system, including fasteners and hardware. Calculations showing support system design shall be submitted with the shop drawings, and calculations shall be signed and sealed by a Professional Engineer registered in the State of Missouri.

5.2 Catalog cuts shall be provided for all conduit types.

6.0 Basis of Payment.

6.1 All junction boxes, expansion fittings, liquid-tight flexible conduits, hangers, supports, resin anchor systems, and all hardware are incidental to the cost of conduit.

6.2 Conduit may be installed by directional boring at locations shown as trenched on the plans. Such conduit will be paid for as if it had been installed by trenching.

6.3 No direct payment for compliance with this provision.

W. Protection of Norfolk Southern Railway Interest

1.0 The right of way of the Norfolk Southern Railway Company, herein called "Railroad", is located near the limits of this project. However, this project has been developed with the specific intention that no involvement with the Railroad's facilities, traffic or right of way is required for the performance of the contractual work herein. The work to be performed near the

Railroad's right of way shall not interfere with the Railroad's operations or facilities. Under these circumstances, the requirements of Sec 104.12.3, Sec 104.12.8 through 104.12.10.5 (inclusive), and Sec 107.13.4 shall not apply.

2.0 Should the contactor violate this condition of no railroad involvement, all terms and conditions of the interaction with the Railroad shall be solely between the Railroad and the contractor.

3.0 To report an emergency on the Railroad, call: 800-453-2530

X. Curb Reflectors

1.0 Description. This work consists of furnishing, transporting and installing curb reflectors of the type and spacing specified in the roadway plans. All work shall comply with 620 of Missouri Standard Specifications for Highway Construction, performed to the satisfaction of the engineer and/or City, and include cost of equipment, labor, materials and time required to complete said work.

1.1 General. The surface of the curb to which the reflector shall be applied shall be free of dirt, curing compound, moisture, paint, or any other material which would adversely affect the bond of the adhesive. Cleaning of the surface shall be to the satisfaction of the Engineer. An adhesive, meeting the reflector manufacturer's specifications, shall be placed either on the surface or the bottom of the reflector in sufficient quantity to ensure complete coverage of the contact area with no voids present and with a slight excess after the reflector is pressed firmly in place.

The installed height of the prismatic curb reflectors shall be a maximum of 3/4 in. above the mounting surface. The unit shall have one reflective surface that is placed approximately perpendicular to the mounting surface.

1.2 Basis of Payment. Payment will be made as follows:

Item No.	Type	Description
620-99.02	Each	Curb Reflectors

Y. Island Tubular Markers

1.0 Description. Tubular markers shall be mounted on raised islands at the locations indicated in the plans.

2.0 Requirements. Shall have a height of 18 inches, 2 reflective bands with super high intensity prismatic sheeting in accordance to Sec 1042, and be constructed from thermoplastic polyurethane. Color of the island tubular marker and reflective bands shall match the pavement marking in which it is placed. Post shall be in the shape of a "T" with a width of 3 inches and depth of 2 inches. Post shall be capable of recovering from repeated vehicle impacts. Post shall insert and be secured into the plastic base with horizontal locking pins. When the post is no longer serviceable, it shall be able to be removed and a new post can be manually inserted and locked into the existing base.

3.0 Construction Requirements. Shall be surface mounted on the radius points of the island noses. The roadway shall be cleaned of dirt and gravel before installation. Island tubular markers shall be mounted using proper sized anchor bolts according to manufacturer's instructions.

4.0 Method of Measurement. Measurement for installation of tubular marker with base will be made per each.

5.0 Basis of Payment. All labor, equipment and materials necessary to install these markers will be paid for under:

Item Number	Type	Description
620-99.02	Each	Island Tubular Marker

Z. Countdown Pedestrian Signal Heads

1.0 Description. This work shall consist of furnishing, installing and placing into operation any countdown, pedestrian signal heads.

2.0 System Requirements. Delete Sec. 1092.1.9 in its entirety and substitute the following:

1092.1.9 Pedestrian Signal Heads. Pedestrian signal heads shall be in accordance with ITE specifications and standards for pedestrian traffic control signal indications and the following:

(a) Pedestrian signal head housings shall be constructed of a one-piece, 0.250-inch (6 mm) thick, polycarbonate material as shown on the plans. The housing shall include an integral mounting bracket designed for side-of-pole mounting on all makes of signal poles with a terminal compartment and minimum 5-position, double-row terminal block.

(b) The door, lens and any openings in the housing shall have gaskets or seals to exclude dust and moisture from the inside of the compartment.

(c) Lenses shall be constructed of polycarbonate material.

(d) Pedestrian signal head units shall be provided with a manufactured preformed rectangular visor or screen-type louver.

(e) All plastic material shall be ultraviolet stabilized.

(f) Indications shall be ITE Class 3 symbol messages. The "Upraised Hand" symbol shall be illuminated with a filled, Portland orange LED module. The "Walking Person" symbol shall be illuminated with a filled, white LED module. The "Countdown" display numbers shall be illuminated with a Portland orange LED module. The LED modules shall be in accordance with applicable portions of Sec 1092.1.

(g) Pedestrian traffic control signal faces shall be constructed such that all messages are displayed from the same message-bearing surface having a black opaque

background. The "Countdown" display shall be located to the right of the "Upraised Hand" and “Walking Person” symbols, which will be overlaid.

(h) Pedestrian signal heads require “Countdown” displays and shall have the following features:

(1) Display numbers must be two digits at least 9 inches in height.

(2) Shall only display the “Countdown” time during the pedestrian change interval. Time displayed shall be in seconds, and begin only at the beginning of the pedestrian change interval. The flashing “Upraised Hand” symbol shall be concurrently displayed during the pedestrian change interval. The total time displayed at the start of the pedestrian change interval shall be automatically adjusted by the pedestrian signal head and not require any manual settings or additional wiring to the signal cabinet.

(3) Once the “Countdown” display reaches “0”, the “Countdown” display shall blank-out until the next pedestrian change interval begins.

(4) If the pedestrian change interval is interrupted or shortened as part of a transition into a preemption sequence, the “Countdown” display shall go dark immediately upon activation of the preemption transition.

(5) A test switch shall be provided in order to test the “Countdown” display.

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

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

5.0 Basis of Payment. Payment for pedestrian signal heads, including all materials, equipment, labor and tools shall be made and considered completely covered by the contract unit price bid for:

Item Number	Type	Description
902-99.02	Each	Countdown Pedestrian Signal Head, Type 1S

AA. Optional Temporary Pavement Marking Paint NJSP-18-07E

1.0 Description. This provision provides the contractor with the option to either complete all Permanent Pavement Marking Paint (PPMP) prior to the time limits specified herein or to apply Temporary Pavement Marking Paint (TPMP) in accordance with Sec 620.10.2 (4 in. width) in all locations shown on the plans as PPMP and delay application of the PPMP until the spring of 2025, as allowed herein. PPMP is defined as Standard Waterborne Paint and High Build Waterborne Paint and does not include Sec 620.20.3 Durable Pavement Markings.

1.1 No application of PPMP shall occur between October 1, 2024 and March 1, 2025, both dates inclusive, except as stated herein. When the contractor has begun application of PPMP prior to October 1, 2024, and weather limitations stated in Sec 620.20.2.4 can be met, the

contractor may complete the PPMP within the first seven (7) calendar days of October. If all (100%) of the PPMP is not completed on or before October 7, 2024, all previously applied PPMP, including any painted markings applied prior to October 1, shall be considered TPMP, and the contractor shall complete the remaining marking with TPMP, and then re-apply PPMP in all planned locations after March 1, 2025. All PPMP shall be completed prior to June 1, 2025. No additional payment will be made for PPMP that is later determined to be TPMP due to the contractor's failure to complete the PPMP within the time specified.

1.2 Use of TPMP Prior to October 1. The contractor has the option to apply TPMP in lieu of PPMP prior to October 1, 2024, even when there is sufficient time to complete the PPMP prior to October 1, 2024. For example, the contractor may choose to use TPMP as a base coat for the PPMP on open-graded surfaces in order to achieve higher retroreflectivity readings on the surface coat as compared to a single application.

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

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

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

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

4.0 Time Exception. If application of PPMP is to be delayed to the spring of 2024, the contractor shall submit a request to the engineer for a time exception and shall provide a revised work schedule that shows the planned completion of the PPMP.

4.1 Upon receipt of the time exception request in Section 4.0, the engineer will list "Application of Permanent Pavement Marking Paint" as an exception on the Semi-Final Inspection form, thus granting an exception to the count of contract time thru June 1, 2025, solely for the purpose of delaying application of PPMP. This time exception shall not apply to any time needed to complete any other work items. Liquidated Damages, as specified elsewhere in this contract, shall remain in effect for all other work items not completed by the contract time limits, as specified elsewhere in this contract, and for PPMP not completed by June 1, 2025.

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

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

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

Item Number	Description	Unit
620-99.01	TEMPORARY PAVEMENT MARKING PAINT	LS

BB. Pavement Marking Symbols for Bike Lanes and Shared Lanes

1.0 Description. This work shall consist of furnishing and installing preformed thermoplastic pavement marking symbols for the bike lanes and shared lanes at the locations shown in the plans. This work shall be in accordance with Sec 620 and the accompanying provisions.

2.0 Construction Requirements. The symbols shall be dimensioned as shown in the current edition of the Manual for Uniform Traffic Control Devices (MUTCD) and shall conform to the following requirements.

2.1 Bike lane symbols shall include a helmeted bicyclist and straight arrow as shown in Figure 9C-3B of the MUTCD. The bike lane symbol shall be placed in the center of the bike lane.

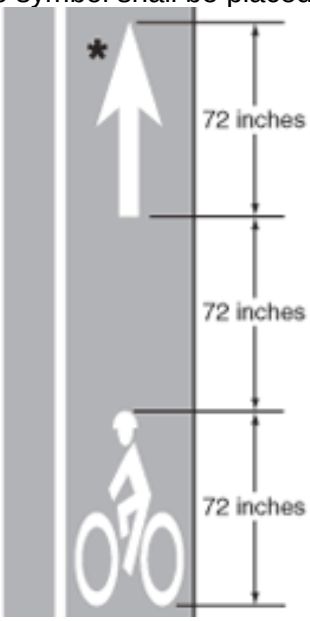


Figure 9C-3B

2.2 Shared lane symbols shall include a bike symbol and double chevron as shown in Figure 9C-9 of the MUTCD. Placement of the symbol in the traffic lane shall conform to Section 9C.07 of the MUTCD.

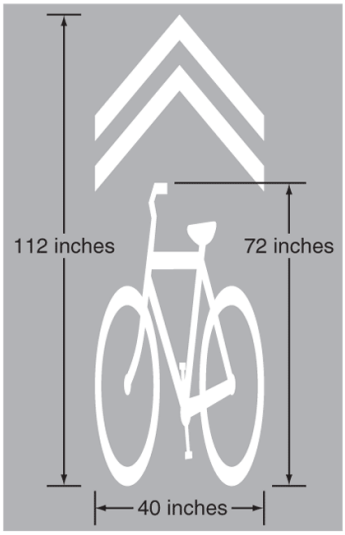


Figure 9C-9

3.0 Method of Measurement. These symbols will be measured per each. For the purpose of measurement, the helmeted bicyclist with straight arrow shall be considered as one unit, and the bike symbol with chevron shall be considered as one unit.

4.0 Basis of Payment. Payment for furnishing and installing the symbols shall include all materials, equipment, tools, labor, and work incidental thereto, and shall be considered completely covered by the contract unit prices for the following pay items:

Item Number	Type	Description
620-99.02	Each	Bike Lane Symbol Pavement Marking
620-99.02	Each	Shared Lane Symbol Pavement Marking

CC. On-Street Parking

1.0 Description. On-street parking is permitted along sections of Route 367/Riverview Ave. Road and the city side streets included in this project that may conflict with the work area required for the project. It will be necessary for the contractor to coordinate with the St Louis City Police Department to arrange for proper posting of temporary “NO PARKING SIGNS” and for any towing of vehicles to allow the project to be completed in a sequential manner.

2.0 Basis of Payment. There shall be no direct payment for any additional cost resulting from work required to conform to this provision for on-street parking.

CC. Pedestrian Push Button Stanchion

1.0 Description. This work shall consist of installing pedestrian push button stanchions at the locations shown on the plans.

2.0 Requirements. Posts used for pedestrian push button stanchions shall be 48-inch long 4-inch diameter (4.5-inch O.D) schedule 40 aluminum pipe.

3.0 Construction Requirements. The post for the pedestrian push button stanchion shall be installed on top of a breakaway pedestal base mounted to a foundation in the sidewalk. The sidewalk foundation shall be constructed as part of the sidewalk and have an 18-inch diameter and 12-inch depth. The breakaway pedestal base shall be mounted to the sidewalk foundation using proper sized anchor bolts according to manufacturer's instructions.

A slip form connection shall be provided on the wiring in the breakaway pedestal base to sever the connection in the event that the pedestrian push button stanchion is struck by a vehicle. Access to wiring shall be provided through an access panel in the breakaway pedestal base as well as the pipe post cap. The cap shall be secured and weather proofed when it is not opened for access.

The final product shall meet or exceed Americans with Disabilities Act (ADA) requirements for pedestrian facilities.

4.0 Method of Measurement. Final measurement of pedestrian push button stanchions will be made per each.

5.0 Basis of Payment. Payment for furnishing all labor, equipment, materials, and tools necessary to place pedestrian push button stanchions shall be completely covered by the contract unit price for:

Item Number	Description	Type
902-99.02	Pedestrian Push Button Stanchion	Each

DD. Granite Curb Removal & Delivery

1.0 Description. This section includes all granite curb construction to be done by the contractor. The work is shown on the plans and hereinafter specified.

2.0 Removal & Delivery of Granite Curb. The contractor shall take care not to damage the granite curb being removed or used in place during the removal of granite curb, as specified in the plans. Granite curb sections that are to be removed shall be delivered to the address listed below & shall be no shorter than 4' or curved sections.

Curb Yard
9214 Riverview Dr., St. louis Mo 63137

2.1 The contractor shall contact the City of St. Louis Street Department as listed below before the removal and disposal of granite curb not to be reset. The contractor is responsible for coordinating the delivery and drop-off of any granite curb which the city chooses to salvage.

Dave Pender
City of St. Louis
Telephone Number: (314) 647-3111 ex.1406

4.0 Basis of Payment. No direct payment will be made to the contractor to recover the cost of digging, saw cutting, or any other equipment, labor, materials, and time required to fulfill the above provisions, unless specified elsewhere in the contract documents.

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

1.0 Bidders are advised that Commission is party to a contract with City of St. Louis, Missouri (name entity) which provides that City of St. Louis, Missouri shall provide substantial funds for construction of Job No. J6S3279 by reason of which City of St. Louis, Missouri has the right to concur or not concur in Commission's award of a contract for this job.

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

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

FF. Supplemental Revisions JSP-18-01AB

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.

Anti-Discrimination Against Israel Certification

By signing this contract, the Company certifies it is not currently engaged in and shall not, for the duration of the contract, engage in a boycott of goods or services from the State of Israel, companies doing business in or with Israel or authorized by, licensed by, or organized under the laws of the State of Israel, or persons or entities doing business in the State of Israel as defined by Section 34.600 RSMo. This certification shall not apply to contracts with a total potential value of less than One Hundred Thousand Dollars ($100,000) or to contractors with fewer than ten (10) employees.

Ground Tire Rubber (GTR) Dry Process Modification of Bituminous Pavement Material

1.0 Description. This work shall consist of the dry process of adding ground tire rubber (GTR) to modify bituminous material to be used in highway construction. Existing GTR requirements in Section 1015 pertain to the wet process method of GTR modification that blends GTR with the asphalt binder (terminal blending or blending at HMA plant). The following requirements shall govern for dry process GTR modification. The dry process method adds GTR as a fine aggregate or mineral filler during mix production. All GTR modified asphalt mixtures shall be in accordance with Secs 401, 402, or 403 as specified in the contract; except as revised by this specification.

2.0 Materials. The contractor shall furnish a manufacturer's certification to the engineer for each shipment of GTR furnished stating the name of the manufacturer, the chemical composition, workability additives, and certifying that the GTR supplied is in accordance with this specification.

2.1 Product Approval. The GTR product shall contain a Trans-Polyoctenamer (TOR) added at 4.5 % of the weight of the crumb rubber or an engineered crumb rubber (ECR) workability additive that has proven performance in Missouri. Other GTR additives shall be demonstrated and proven prior to use such as a five-year field performance history in other states or performance on a federal or state-sanctioned accelerated loading facility.

2.2 General. GTR shall be produced from processing automobile or truck tires by ambient or cryogenic grinding methods. Heavy equipment tires, uncured or de-vulcanized rubber will not be permitted. GTR shall also meet the following material requirements:

Table 1 – GTR Material Properties

Property Test Method Criteria

Specific Gravity ASTM D1817 1.02 to 1.20

Metal Contaminates ASTM D5603 < 0.01%

Fiber Content ASTM D5603 < 0.5%

Moisture Content ASTM D1509 < 1.0%*

Mineral Filler AASHTO M17 < 4.0%

*Moisture content of the GTR shall not cause foaming when combined with asphalt binder and aggregate during mix production

2.3 Gradation. The GTR material prior to TOR or ECR workability additives shall meet the following gradation and shall be tested in accordance with ASTM D5603 and ASTM D5644.

Table 2 – GTR Gradation

Sieve Percent Passing by Weight

No. 20 100

No. 30 98-100

No. 40 50-70

No. 100 5-15

3.0 Delivery, Storage, and Handling. The GTR shall be supplied in moisture-proof packaging or other appropriate bulk containers. GTR shall be stored in a dry location protected from rain before use. Each bag or container shall be properly labeled with the manufacturer's designation for the GTR and specific type, mesh size, weight and manufacturer's batch or Lot designation.

4.0 Feeder System. Dry Process GTR shall be controlled with a feeder system using a proportioning device that is accurate to within ± 3 percent of the amount required. The system shall automatically adjust the feed rate to always maintain the material within this tolerance and shall have a convenient and accurate means of calibration. The system shall provide in-process monitoring, consisting of either a digital display of output or a printout of feed rate, in pounds per minute, to verify feed rate. The supply system shall report the feed in 1-pound increments using load cells that will enable the user to monitor the depletion of the GTR. Monitoring the system volumetrically will not be allowed. The feeder shall interlock with the aggregate weight system and asphalt binder pump to maintain correct mixture proportions at all production rates.

Flow indicators or sensing devices for the system shall be interlocked with the plant controls to interrupt mixture production if GTR introduction rate is not within ± 3 percent. This interlock will immediately notify the operator if GTR introduction rate exceeds introduction tolerances. All plant production will cease if the introduction rate is not brought back within tolerance after 30 seconds. When the interlock system interrupts production and the plant has to be restarted, upon restarting operations; the modifier system shall run until a uniform feed can be observed on the output display. All mix produced prior to obtaining a uniform feed shall be rejected.

4.1 Batch Plants. GTR shall be added to aggregate in the weigh hopper. Mixing times shall be increased per GTR manufacturer recommendations.

4.2 Drum Plants. The feeder system shall add GTR to aggregate and liquid binder during mixing and provide sufficient mixing time to produce a uniform mixture. The feeder system shall ensure

GTR does not become entrained in the exhaust system of the drier or plant and is not exposed to the drier flame at any point after introduction.

5.0 Testing During Mixture Production. Testing of asphalt mixes containing GTR shall not begin until at least 30 minutes after production or per additive supplier's recommendation.

6.0 Construction Requirements. Mixes containing GTR shall have a target mixing temperature of 325 F or as directed by the GTR additive supplier. The additive supplier's recommendations shall be followed to allow for GTR binder absorption/reaction. This may include holding mix in the silo to allow time for binder to absorb into the GTR. Rolling operations may need to be modified.

7.0 Mix Design Test Method Modification. A formal mixing procedure from the additive supplier shall be provided to the contractor and engineer that details the proper sample preparation, including blending GTR with the binder or other additives. Samples shall be prepared and fabricated in accordance with this procedure by the engineer and contractor throughout the duration of the project.

8.0 Mix design Volumetrics. Mix design volumetric equations shall be modified as follows:

8.1 Additional virgin binder added to offset GTR absorption of binder shall be counted as part of the mix virgin binder

8.2 GTR shall be included as part of the aggregate when calculating VMA of the mix.

8.2.1 GTR SPG shall be 1.15

8.3 Mix Gsb used to determine VMA shall be calculated as follows: $Gsb\ (JMF)$=(100− $Pbmv$)($PsGsb$+$PGTRGGTR$)

$where$: $Gsb\ (JMF)$=$bulk\ specific\ gravity\ of\ the\ combined\ aggregate\ including\ GTR$ $Pbmv$=$percent\ virgin\ binder\ by\ total\ mixture\ weight$

Ps=$percent\ aggregate\ by\ total\ mixture\ weight\ (not\ including\ GTR)$ $PGTR$=$percent\ GTR\ by\ total\ mixture\ weight$

Gsb=$bulk\ specific\ gravity\ of\ the\ combined\ aggregate\ (not\ including\ GTR)$ $GGTR$=$GTR\ specific\ gravity$

8.4 Gse shall be calculated as follows: Gse=(100− Pb−$PGTR$)(100Gmm−$PbGb$−$PGTRGGTR$)

8.5 Pbe shall be calculated as follows: Pbe=Pb−Pba100∗(Ps+$PGTR$)

9.0 Minimum GTR Amount. The minimum dosage rate for GTR shall be 5 % by weight of total binder for an acceptable one bump grade or 10 % by weight of total binder for an acceptable two

bump grade as detailed in the following table. Varying percentage blends of GTR and approved additives may be used as approved by the engineer with proven performance and meeting the specified requirements of the contract grade.

Contract Binder Grade Percent Effective Virgin Binder Replacement Limits Required Virgin Binder Grade Minimum GTR Dosage Rate

PG 76-22 0 - 20 PG 70-22 5 % PG 64-22 10 %

PG 70-22 0 - 30 PG 64-22 5 % PG 58-28 10 %

PG 64-22 0 – 40* PG 58-28 5 % PG 52-34 10 %

PG 58-28 0 – 40* PG 52-34 5 % PG 46-34 10 %

* Reclaimed Asphalt Shingles (RAS) may be used when the contract grade is PG 64-22 or PG 58-28. RAS replacement shall follow the 2 x RAS criteria when calculating percent effective binder replacement in accordance Sec 401.

Delete Sec 403.19.2 and substitute the following:

403.19.2 Lots. The lot size shall be designated in the contractor's QC Plan. Each lot shall contain no less than four sublots and the maximum sublot size shall be 1,000 tons. The maximum lot size shall be 4,000 tons for determination of pay factors. Sublots from incomplete lots shall be combined with the previous complete lot for determination of pay factors. When no previous lot exists, the mixture shall be treated in accordance with Sec 403.23.7.4.1. A new lot shall begin when the asphalt content of a mixture is adjusted in accordance with Sec 403.11.

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.

Delete Sec 109.14.1 thru Sec 109.14.8 and substitute the following:

109.14.1 Monthly Fuel Index. Each month, the Monthly Fuel Index will be established as the average retail price per gallon for Ultra Low Sulfur Diesel for the Midwest (PADD 2) area as posted on the first Monday of the month by the U.S. Energy Information Administration (EIA). Should the posted price not be available for any reason, the MoDOT State Construction and Materials Engineer will use reasonable methods, at their sole discretion, to establish the Monthly Fuel Index on an interim basis until the EIA resumes its publication.

109.14.2 Fuel Adjustment Calculation.

B = Base Fuel Index = Monthly Fuel Index in the month in which the project was let

C = Current Index = Monthly Fuel Index in the month in which the work was performed

U = Units of work performed within the current pay estimate period (applicable pay units)

F = Total Fuel Usage Factor (gal./applicable pay units)

Fuel Adjustment (Dollars) = (C – B) x U x F

109.14.3 Each pay estimate period, a fuel adjustment payment or deduction will be applied for the quantity of work performed that period on each qualifying pay item. For calculation of the fuel adjustment, work performed on the first day of a month will generally be included with the second estimate in the previous month to keep fuel adjustments in sync with MoDOT's normal payment estimate period schedule. The Commission reserves the right to include work performed on the first day of the month with the current month to accommodate financial accounting termini, such as the beginning of the state and federal fiscal years (July 1 and October 1).

109.14.4 If the bidder wishes to be bound by these specifications, the bidder shall execute the acceptance form in the proposal. Failure by the bidder to execute the acceptance form will be interpreted to mean election to not participate in the price adjustment for fuel.

Disposal of Blast Media and Paint Residue

1.0 Description. Whereas Sec 1081.10 requires delivery of Blast Media and Paint Residue (BMPR) produced from bridge coating activities to The Doe Run Company for recycling, and considering the amount of BMPR produced on all active MoDOT projects statewide at any given point in time may exceed the recycling capacity of Doe Run, this provision allows for an alternate method of disposal of BMPR. The contractor, at its discretion, can choose this disposal option or the Doe Run recycle option, when both are available. When Doe Run is not currently capable or agreeable to accept the BMPR, this alternate disposal option shall be considered mandatory, and at no additional cost to the Commission.

2.0 Disposal in Landfill. In lieu of delivery to Doe Run for recycling, BMPR material shall be disposed in the appropriate type of approved landfill, as determined by Toxicity Characteristic Leaching Procedure (TCLP) testing. The material must be TCLP tested to determine if it contains a level of hazardous waste such that requires disposal in a hazardous waste landfill. A sampling plan for testing shall be submitted to MoDOT for review and concurrence. Sampling shall be performed by the contractor. MoDOT will witness the sampling to ensure it is conducted per the plan submitted.

2.1 The contractor shall submit the collected samples to a qualified third-party testing facility to perform TCLP testing. If the sample indicates that the BMPR material qualifies as hazardous waste, then the materials represented by that sample shall be delivered to a licensed hazardous waste landfill for disposal. The contractor shall be responsible for hiring a licensed hazardous

waste transporter to transport the hazardous waste to the landfill. The contractor shall comply with all applicable laws and regulations for storage and shipping of the hazardous waste material. If the testing indicates that the BMPR material qualifies as a special waste, it shall be taken to a certified landfill for disposal. The contractor shall be responsible for the transportation of the special waste material to the certified landfill. The requirement to ship the BMPR material by barrels will be waived. Any alternate containers utilized shall comply with all applicable laws and regulations for shipping this type of special waste material. Copies of all shipping manifests, landfill disposal agreements, and any other legally required documentation shall be provided to the engineer.

3.0 Basis of Payment. No payment will be made for any costs associated with this landfill disposal option, including, but not limited to, sampling, testing, delivery, temporary storage, or disposal fees.

GG. Cooperation Between Contractors

1.0 Description. An ADA on-call construction contract along Route 367 will be awarded in 2023 by the City of St. Louis. Each contractor shall conduct their work so as not to interfere with or hinder the progress or completion of the work being performed by other contractors. In case of dispute, the Engineer shall be the referee and the Engineer's decision shall be final and binding on all.

2.0 Coordination. The Contractor shall coordinate all limits of the project to the City's on-call project.

2.1 The Contractor shall assume all liability, financial or otherwise, in connection with their contract work within the right of way while the other contractor may be working within the limits of the same location. The Contractor shall assume all responsibility for all work not completed or accepted because of the presence and operations of the other contractor.

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

4.0 Basis of Payment. No direct payment will be made to the Contractor to recover the cost of the equipment, labor, materials, or time required for this coordination and cooperation.

Job No.: J6S3416 and J6S3416B
Route: 115
County: St. Louis

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

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

THOUVENOT, WADE & MOERCHEN, INC.
3701 S. Lindbergh Boulevard, Suite 100
St. Louis, MO 63127
Certificate of Authority: 001528
Consultant Phone: 314-241-6300

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

JOB NUMBER: J6S3416 & J6S3416B
ST. LOUIS COUNTY, MO
DATE PREPARED: 04/18/2024

ADDENDUM DATE:

Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: A thru E, G thru HH, KK thru QQ, and WW thru PPP

Job No.: J6S3416 and J6S3416B
Route: 115
County: St. Louis

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

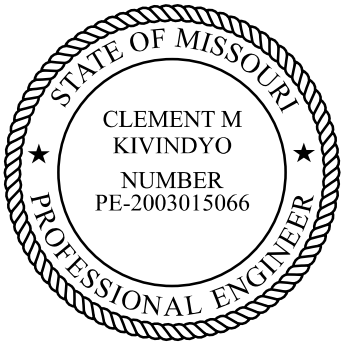
CIVIL DESIGN, INC.
5220 Oakland Avenue
St. Louis, MO 63110
Certificate of Authority: 006804
Consultant Phone: 314-863-5570

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

JOB NUMBER: J6S3416 & J6S3416B
ST. LOUIS COUNTY, MO
DATE PREPARED: 04/18/2024

ADDENDUM DATE:

Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: II thru JJ, and RR thru VV



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

Kivindyo Engineering Services, LLC
1310 Papin Street, Suite 103
St, Louis, MO 63103
Certificate of Authority: 011893
Consultant Phone: 314-623-8942

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

JOB NUMBER: J6S3416 & J6S3416B
ST. LOUIS COUNTY, MO
DATE PREPARED: 04/18/2024

ADDENDUM DATE:

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

JOB
SPECIAL PROVISION

A. General - Federal JSP-09-02J

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 2023 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-13-01C

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 (job numbers) shall be completed on or before the Contract Completion date specified below. Completion by this date shall be in accordance with the requirements of Sec 108.7.1.

Notice to Proceed Date: July 8, 2024
Completion Date: September 1, 2026

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

Job Number	Calendar Days	Daily Road User Cost
J6S3416	N/A	$3,200
J6S3416B	N/A	$3,200

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the contract completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **$2,000** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified 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 Work Zone Specialist (WZS). The Traffic Management Plan shall name an individual, either employed by the contractor or hired by the contractor, to act as the Work Zone Specialist (WZS) throughout the entirety of the project. The (WZS) will have no job duties other than traffic control. The WZS shall be in direct charge of the temporary traffic control pre-activity meeting and traffic control items such as; setup, communications, reviews, and reporting of all daily work zones on the project. Any change in personnel for the WZS shall be submitted in written form to the engineer. The WZS shall be trained and certified as a Traffic Control Supervisor from an organization such as ATSSA or equivalent and will be directly involved with daily traffic management and traffic management planning. It will be the responsibility of the WZS to coordinate daily traffic management with the contractor's traffic control crews, inspector or engineer and the ST. Louis Traffic Management Center (TMC). The WZS shall be required to be on the project daily and remain on the project until all work zones have been removed for the day. The WZS shall be on site before the first work zone sign is placed for the day and until the last traffic control device is taken down for the day. The WZS shall remain on site the entire time daily/nightly lane drops are in use. The WZS shall maintain daily contact with the engineer or inspector on the project.

1.2 Work Zone Set Up. The WZS shall direct the configuration and placement of each work zone daily and ensures work zones are set up and maintained in accordance with the EPG. The WZS shall conduct a daily meeting with the set up crew to determine which traffic control devices are required, their locations and set up and take down times.

1.3 Work Zone Communication. The WZS shall notify the TMC before the first work zone sign is set up and after the last traffic control item is taken down at the end of each work day or night. The WZS shall also to notify the inspector of any work zone cancellation for the day. Notification of cancellations shall be made prior to 3:00 pm for nighttime work zones, as well as for daytime work zones the following day. The WZS shall also notify the inspector or engineer 2 weeks before any new lane closures or detours are put into place.

1.4 Work Zone Reviews. Once the traffic control has been placed for the day, the WZS shall review the work zone to ensure all devices are legible and clean, installed in the correct location with the correct spacing and convey the correct message. The WZS shall approve the work zone before any work can begin. The WZS shall also review the job site hourly to determine if any traffic control devices need to be added, reconfigured or cleaned. If the engineer or inspector notifies the WZS of any safety or traffic related concerns in the work zone, the engineer or inspector will communicate the type of deficiency as per Sec 616.4.2.5.2. This communication will be verbal and documented in writing via the DWR for that day. The DWR entry will include the time of verbal communication. The WZS will also document the deficiency in their daily report. For Category 1 deficiencies, the written documentation will include the time of notification and the time of correction. Any liquidated damages assessed shall be placed on the next Engineer's estimate as per 1.7 of this section.

1.5 Work Zone Reporting. After the WZS has conducted the daily initial review of the work zone, the WZS shall record the findings. Thereafter, the WZS shall conduct reviews on an hourly bases and subsequently record findings, required corrections and times the corrections were completed. Copies of the WZS review documentation shall be furnished to the Engineer within 24 hours.

1.6 Maintaining Work Zones and Work Zone Reviews. The WZS shall maintain work zones on a daily basis to ensure safety to the traveling public and the workers; this includes long term work zones that have devices and/or roadway conditions that need to be maintained. If the engineer or inspector notifies the WZS of any safety or traffic delay concerns in the work zone, the WZS shall promptly inspect and work to provide a solution to correct the situation in accordance with Sec. 616.4.2.5. Missing, damaged or over-turned traffic control devices shall typically be corrected without the need for direction by the engineer. The WZS is responsible to assure all traffic control devices are maintained in accordance with EPG standards. The WZS is responsible to ensure 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 project special provisions. The WZS and engineer shall submit one joint weekly technical review of work zone operations identifying any concerns present and the corrective actions taken. Reviews may be subjected to unannounced inspections by the engineer to corroborate the validity of the ratings. The engineer and WZS will be notified of the results.

1.6.1 Work zone signs and bases shall be removed from both inside and outside shoulders of the roadway when not in use and the end of each work shift. This includes signs and bases used for daily or nightly lane closures.

1.7 Work Zone Conflict Resolution. Any conflict resolution shall be in accordance with Sec 616.4. Failure to make corrections on time may result in the engineer suspending work. The suspension will be non-excusable and non-compensable regardless of whether 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 contractor shall request permission at least two working days prior to lane closures or shifting traffic onto detours, and 14 calendar days prior to the imposition of height, width or weight restrictions. This is to ensure closures do not conflict with other work within the zone of influence and the work zone information on the MoDOT's website can remain real-time. In accordance with Management of Traffic (MOT) procedures, the contractor shall submit lane closures for the following week to the engineer by 3:00pm on Monday.

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 beyond this delay threshold. If disruption of the traffic flow occurs and traffic is backed up in queues equal to or greater than the delay time threshold listed above then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone that generate text and/or email notifications where available. The engineer monitoring the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable. The contractor may refer to the Work Zone Analysis Spreadsheet found in the electronic deliverables under the MoDOT Online Plans Room for detailed information on traffic delays.

2.5.1 Traffic Safety.

2.5.1.1 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 When a traffic queue extends 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 due to non-recurring congestion, 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.

3.0 Work Hour Restrictions.

3.1 There are six major holiday periods shown below. All lanes shall be scheduled to be open to traffic during these holiday periods, from 12:00 noon on the last working day proceeding the holiday until 9:00 a.m. on the first working day subsequent to the holiday.

Memorial Day
Labor Day
Thanksgiving
Christmas
New Year's Day

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

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

3.2 The contractor shall not perform any construction operation on the roadway, including the hauling of material within the project limits, during restricted periods, holiday periods or other special events specified in the contract documents. Any work requiring a temporary reduction the number of through lanes of traffic shall be completed during the following hours:

Route 115 Eastbound:
No work hour restrictions.

Route 115 Westbound:
No work hour restrictions.

3.3 The contractor shall not alter the start time, ending time, or a reduction in the number of through lanes of traffic or ramp closures without advance notification and approval by the engineer. The only work zone operation approved to begin 30 minutes prior to a reduction in through traffic lanes or ramp closures is the installation of traffic control signs. Should lane or ramp closures be placed or remain in place, prior to the approved starting time or after the approved ending time, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delays, with a resulting cost to the traveling public. These damages are not easily computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of **$1000 per 15 minute increment** for each 15 minutes that the temporary lane or ramp closures are in place and not open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of unapproved closure time.

3.3.1 The said liquidated damages specified will be assessed regardless if it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction.

4.0 Detours and Lane Closures.

4.1 The contractor shall provide changeable message signs (CMS) notifying 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. The CMS shall be capable of communication with the Transportation Management Center (TMC), if applicable, 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. Permanent dynamic message signs (DMS) owned and operated by MoDOT may also be used to provide warning and information for the work zone. Permanent DMS shall be operated by the TMC, and any messages planned for use on DMS shall be approved and authorized by the TMC at least 72 hours in advance of the work.

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

5.0 Basis of Payment. No direct payment will be made to the contractor to recover the cost of equipment, labor, materials or time required to fulfill the above provisions, unless specified elsewhere in the contract documents. 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 State Highway Patrol – Troop C Office 891 Technology Drive Weldon Spring, MO 63304 (636) 300-2800	
St. Louis County Police Department Central County Precinct (2nd) 1333 Ashby Road St. Louis, MO 63132 (314) 615-0111	
MoDOT Transportation Management Center (TMC) 14301 S. Outer Forty Road Chesterfield, MO 63017 (314) 275-1500	
City of Beverly Hills – J6S3416	
Police	**Fire / EMS**
North County Police Cooperative 8374 Midland Blvd. Vinita Park, MO 63114 (314) 428-7374	Northeast Ambulance and Fire Protection District 7100 Natural Bridge Road St. Louis, MO 63121 (314) 382-1501
City of Northwoods – J6S3416	
Police	**Fire / EMS**
Northwoods Police Department 4608 Oakridge Blvd. Northwoods, MO 63121 (314) 385-6000	Northeast Ambulance and Fire Protection District 7100 Natural Bridge Road St. Louis, MO 63121 (314) 382-1501
City of Uplands Park – J6S3416B	
Police	**Fire / EMS**
North County Police Cooperative 8374 Midland Blvd. Vinita Park, MO 63114 (314) 428-7374	Northeast Ambulance and Fire Protection District 7100 Natural Bridge Road St. Louis, MO 63121 (314) 382-1501
City of Pine Lawn – J6S3416B	
Police	**Fire / EMS**
North County Police Cooperative 8374 Midland Blvd. Vinita Park, MO 63114 (314) 428-7374	Northeast Ambulance and Fire Protection District 7100 Natural Bridge Road St. Louis, MO 63121 (314) 382-1501

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.

Alvin Nieves-Rosario, PE, Project Contact
MoDOT St. Louis District
1590 Woodlake Drive
Chesterfield, MO 63017

Telephone Number: 314-453-1839
Email: Alvin.Nieves-Rosario@modot.mo.gov

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

F. 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**
Brandon Johnson **Ameren-Missouri (Distribution)** 9823 Mackenzie Road St. Louis, MO 63123 Telephone: 314.599.7773 Email: bjohnson@ameren.com	Yes Section 3.0	Power
Wade Weakley **AT&T (Distribution)** 12930 Olive Blvd. Creve Coeur, MO 63141 Telephone: 636.692.3326 Email: ww8571@att.com	Yes Section 3.1	Communication
Sue Banaszek **Charter/Spectrum** 101 Northwest Plaza St. Ann, MO 63074 Telephone: 314.386.1645 Email: sue.banaszek@charter.com	Yes Section 3.2	Communication
Steve Massmann **Everstream** 900 Walnut St. UNIT 150, St. Louis, MO 63102 Telephone: 314.565.9514 Email: smassmann@everstream.com	No	Communication

Rich Obremski **Lumen (CenturyLink/Level 3)** 1 Solutions Pkwy Town and Country, MO 63017 Telephone: 636.459.1600 Email: Richard.Obremski@lumen.com	No	Communication
Dave Pruitt **Missouri American Water** 727 Craig Rd St. Louis, MO 63141 Telephone: 314.996.2396 Email: Dave.Pruitt@amwater.com	Yes Section 3.5	Water
Domenic NiCastro **MCI/Verizon** 500 Technology Dr Weldon Springs, MO 63304 Telephone 314.459.1600 Email: domenic.nicastro@verizon.com	Yes Section 3.6	Communication
Nick Eggert **Spire Energy** 700 Market St St. Louis, MO 63101 Telephone: 314.330.5720 Email: nicholas.eggert@spireenergy.com	Yes Spire 3.8	Gas
Martin Koeller **St. Louis County – Department of Transportation** 1050 N. Lindbergh Blvd St. Louis, MO 63132 Telephone: 314.615.0210 Email: mkoeller2@stlouisco.com	No	Signal Interconnect

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

1.2 The contractor agrees that any effects of the presence of the utilities, their relocation, contractor's coordination of work with the utilities and any delay in utility relocation shall not be compensable as a suspension of work, extra work, a change in the work, as a differing site condition or otherwise including but, without limitation, delay, impact, incidental or consequential damages. The contractor's sole remedy for the effects of the presence of utilities, delay in their relocation or any other effects shall be an excusable delay as provided in Section 105.7.3. The contractor waives, for itself, its subcontractors and suppliers the compensability of the presence of utilities, delay in their relocation and any cost to the contractor, its subcontractors and suppliers in any claim or action arising out of or in relation to the work under the contract.

1.3 The contractor shall be solely responsible and liable for incidental and consequential damage to any utility facilities or interruption of the service caused by it or its subcontractors operation. The contractor shall hold and save harmless the Commission from damages to any utility facilities interruption of service by it or its subcontractor's operation.

2.0 It shall be noted by the contractor that MoDOT is a member of Missouri One Call (800 Dig Rite). Some work on this project may be in the vicinity of MoDOT utility facilities, which includes but is not limited to traffic signal cables, highway lighting circuits, ITS cables, cathodic protection cables, etc. Prior to beginning work, the contractor shall request locates from Missouri One Call. The contractor shall also complete the Notice of Intent to Perform Work form located at the Missouri Department of Transportation website:

http://www.modot.mo.gov/asp/intentToWork.shtml

The contractor shall submit the form over the web (preferred method) or by fax to the numbers on the printed form. The notice must be submitted a minimum of 2 and a maximum of 10 working days prior to excavation just as Missouri One Call requires.

3.0 AMEREN – MISSOURI (DISTRIBUTION)

Ameren Distribution has the following existing facilities in conflict within the project limits:

Overhead facilities along the south side of Rt. 115 throughout the project:

- Municipal Light Pole at Sta. 295+76.00, 30' Rt Conflicts with proposed curb. Ameren to relocate pole during construction in coordination with contractor.
- Municipal Light Pole at Sta. 298+84.00, 28' Rt No conflict with this pole is anticipated.
- Municipal Light Pole at Sta. 302+64.00, 28' Rt Conflicts with proposed curb. Ameren to relocate pole during construction in coordination with contractor.
- Municipal Light Pole at Sta. 306+04.00, 31' Conflicts with proposed curb. Ameren to relocate pole during construction in coordination with contractor.
- Municipal Light Pole at Sta. 310+26.00, 29' Rt Conflicts with proposed curb. Ameren to relocate pole during construction in coordination with contractor.
- Municipal Light Pole at Sta 313+79.00, 34' Rt No conflict with this pole is anticipated.
- Municipal Light Pole at Sta. 318+24.0, 28' Rt Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.
- Municipal Light Pole at Sta. 322+58.00, 27' Rt Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light at Sta. 327+96.00, 24' Rt Conflicts with proposed curb. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light at Sta. 329+36.00, 27' Rt Conflicts with proposed sidewalk/bus stop pad. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light Pole at Sta. 331+28.00, 24' Rt Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Power Pole at 332+93, 29’ Rt. Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light Pole at 334+57.00, 28' Rt falls. No conflict with this pole is anticipated.

- Municipal Light Pole at 336+56.00, 28' Rt falls. No conflict with this pole is anticipated.

- Municipal Light Pole at Sta. 338+60.00, 30' Rt Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light Pole at 340+49.00, 41’ Rt No conflict with this pole is anticipated.

- Municipal Light Pole at Sta. 341+82.00, 40' Rt Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Power Pole with Municipal streetlight at 342+48.00, 43' Rt No conflict with this pole is anticipated.

- Power Pole with Municipal streetlight at 342+80.00, 43' Rt No conflict with this pole is anticipated.

- Municipal Light Pole at Sta. 343+87.00, 33' Rt Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light Pole at Sta. 346+13.00, 38' Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Power Pole with Municipal streetlight at 349+91.00, 68' Rt No conflict with this pole is anticipated.

- Municipal Light Pole at 352+71.00, 45’ Rt No conflict with this pole is anticipated.

- Power Pole at Sta. 355+06.00, 38’ Rt No conflict with this pole is anticipated.

- Municipal Light Pole at Sta. 357+02.00, 38' RT No conflict with this pole is anticipated.

Overhead facilities along the north side of Rt. 115 throughout the project:

- Municipal Light Pole at Sta. 300+78.00, 31' Lt Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light Pole at Sta. 304+43.00, 27' Lt Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light 308+04.00, 34’ Lt No conflict with this pole is anticipated.

- Municipal Light Pole at Sta. 312+69.00, 28' Lt Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light Pole at Sta. 320+48.00, 32' Lt Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light Pole Sta. 324+08.00, 33’ Lt No conflict with this pole is anticipated.

- Municipal Light Pole Sta. 331+14.00, 56’ Lt No conflict with this pole is anticipated.

- Power Pole Sta. 341+35.00, 60’ Lt No conflict with this pole is anticipated.

- Power Pole Sta. 341+62.00, 33’ Lt No conflict with this pole is anticipated.

- Municipal Light Pole at Sta. 345+02.00, 25' LT Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light Pole at Sta. 347+21.00, 24' LT Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Power Pole at Sta. 349+45.00, 55’ Lt No conflict with this pole is anticipated.

- Municipal Light Pole at Sta. 351+71.00, 24' Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light Pole at Sta. 353+84.00, 23' LT Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

- Municipal Light Pole at Sta. 354+46.00, 22’ Lt No conflict with this pole is anticipated.

- Municipal Light Pole at Sta. 355+98.00, 21' Lt Conflicts with proposed sidewalk. Ameren to relocate pole during construction in coordination with contractor.

Manholes throughout the project that will need to be adjusted to grade:

- Manhole at Sta. 304+51.00, 32' Lt falls within the new sidewalk and will need to be adjusted to grade. Ameren will perform this work in coordination with the contractor during construction.

- Manhole at Sta. 306+14.00, 31' Lt falls within the new sidewalk and will need to be adjusted to grade. Ameren will perform this work in coordination with the contractor

during construction.

Ameren-Missouri has at-grade access points for its facilities at various locations throughout the project. Some of these access points may need to be adjusted to new grades. The contractor shall coordinate directly with Ameren-Missouri for these adjustments. Ameren-Missouri's representative for this will be as follows:

- Brandon Johnson (ph: 314.599.7773, email: bjohnson@ameren.com)

The contractor shall contact Ameren-Missouri a minimum of 4 weeks ahead of need for adjustment.

The contractor shall coordinate with Ameren-Missouri, as necessary, and take measures to protect in place their existing facilities during construction.

The contractor shall directly contact Ameren-Missouri to verify the locations of their facilities.

The Commission cannot warrant the information above which was provided by Ameren-Missouri.

The contractor shall coordinate with Ameren-Missouri as necessary and take measures to protect in place their existing facilities during construction.

The contractor shall directly contact Ameren-Missouri (Distribution) to verify the locations of their facilities.

The Commission cannot warrant the information above which was provided by Ameren-Missouri (Distribution).

The contractor shall discuss the planned work as it relates to Ameren Missouri's energized power lines and coordinate with Ameren Missouri for the installation of any insulation covers over the lines and/or any other designated requirements. Please note Ameren Missouri has revised its policy regarding the charges for placement, length of use and relocation of covers. The contractor is advised to contact Ameren Missouri regarding the current policy so the anticipated cost to the contractor can be estimated and a tentative schedule for this payment can be established. The Contractor shall contact Ameren Missouri at least three weeks in advance of when construction work is scheduled to begin to request covers to be placed at a given location.

No direct payment will be made for this provision. The contractor is responsible for any charges from Ameren Missouri for this provision and payment will be directly to Ameren Missouri.

3.1 AT&T (DISTRIBUTION)

AT&T (Distribution) has the following existing facilities in conflict within the project limits:

Handholes throughout the project that will need to be adjusted to grade:

- Handhole at Sta. 319+49.00, 33' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

Manholes throughout the project that will need to be adjusted to grade:

- Manhole at Sta. 291+10.00, 26' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 291+54.00, 26' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 292+38.00, 45' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 296+46.00, 24' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 297+89.00, 30' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 301+66.00, 21' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 303+16.00, 30' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 307+33.00, 31' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 307+34.00, 20' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 312+60.00, 31' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 312+73.00, 16' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 319+07.00, 26' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with

the contractor.

- Manhole at Sta. 319+07.00, 7' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 324+98.00, 23' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 325+00.00, 13' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 331+48.00, 22' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 331+50.00, 8' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 337+96.00, 17' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 337+98.00, 33' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 340+47.00, 35' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 340+50.00, 19' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 340+54.00, 35' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 340+89.00, 36' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 340+95.00, 36' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 341+60.00, 24' Lt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with

the contractor.

- Manhole at Sta. 343+30.00, 18' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 345+90.00, 36' Rt crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 346+61.00, 25' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 349+80.00, 12' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 350+60.00, 38' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 355+58.00, 15' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

- Manhole at Sta. 356+86.00, 41' Rt falls within the new roadway and will need to be adjusted to grade. ATT-D will perform this work during construction in coordination with the contractor.

Underground facilities along the Southbound lanes of Rt. 115:

- Buried facilities along the southbound side of Rt. 115 from Sta. 290+00.00, 27’ Rt to Sta. 320+78.00, 00’. No conflict with these facilities is anticipated.

- Buried facilities along the southbound side of Rt. 115 from Sta.320+00.00, 40’ Rt to 359+13.25, 00’. No conflict with these facilities is anticipated.

- Buried facilities along the southbound side of Rt. 115 from Sta. 334+36.00, 28' Rt to Sta. 335+27.00, 29' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried facilities along the southbound side of Rt. 115 from Sta. 335+05.00, 30' RT to Sta. 335+27.00, 29' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried facilities along the southbound side of Rt. 115 from Sta. 337+81.00, 4' RT to Sta. 337+90.00, 34' RT crosses the proposed drainage and will need to be relocated. ATT-D

will perform this work during construction in coordination with the contractor.

- Buried manhole duct facilities along the southbound side of Rt. 115 from Sta. 338+26.00, 24' RT to Sta. 338+26.00, 24' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried facilities along the southbound side of Rt. 115 from Sta. 338+45.00, 30' RT to Sta. 338+45.00, 30' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried manhole duct facilities along the southbound side of Rt. 115 from Sta. 338+46.00, 28' RT to Sta. 338+46.00, 28' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried manhole duct facilities along the southbound side of Rt. 115 from Sta. 339+23.00, 30' RT to Sta. 339+23.00, 30' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried manhole duct facilities along the southbound side of Rt. 115 from Sta. 339+23.00, 24' RT to Sta. 339+23.00, 24' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried facilities along the southbound side of Rt. 115 from Sta. 340+70.00, 37' RT to Sta. 340+79.00, 37' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried facilities along the southbound side of Rt. 115 from Sta. 340+79.00, 32' RT to Sta. 340+86.00, 35' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried manhole duct facilities along the southbound side of Rt. 115 from Sta. 340+82.00, 29' RT to Sta. 340+90.00, 29' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried facilities along the southbound side of Rt. 115 from Sta. 342+57.00, 42' RT to Sta. 342+57.00, 42' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried facilities along the southbound side of Rt. 115 from Sta. 342+57.00, 42' RT to Sta. 342+57.00, 42' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

- Buried facilities along the southbound side of Rt. 115 from Sta. 345+30.00, 35' RT to Sta. 345+90.00, 36' RT crosses the proposed drainage and will need to be relocated. ATT-D will perform this work during construction in coordination with the contractor.

Underground facilities along the Northbound lanes of Rt. 115

- Buried facilities along the northbound side of Rt. 115 from Sta 293+38.00, 74' Lt to 310+07.00, 65' Lt. No conflict with these facilities is anticipated.

- Buried facilities along the northbound side of Rt. 115 from Sta 310+59.00, 60' Lt to 316+36.00, 37' Lt. No conflict with these facilities is anticipated.

- Buried facilities along the northbound side of Rt. 115 from Sta 310+79.00, 38' Lt to 324+75.00, 00'. No conflict with these facilities is anticipated.

- Buried facilities along the northbound side of Rt. 115 from Sta 329+37.00, 73' Lt to 331+48.00, 38' Lt. No conflict with these facilities is anticipated.

Underground facilities crossing Rt. 115

- Buried facilities crossing Rt 115 from Sta 306+55.00, 36' Lt to Sta. 306+61.00, 31' Rt. No conflict with these facilities is anticipated.

- Buried facilities crossing Rt 115 from Sta. 312+55.00, 62' Lt to Sta. 312+56.00, 31' Rt. No conflict with these facilities is anticipated.

- Buried facilities crossing Rt 115 from Sta. 312+75.00, 44' Lt to Sta. 312+75.00, 32' Rt. No conflict with these facilities is anticipated.

- Buried facilities crossing Rt 115 from Sta. 324+22.00, 29' Lt to Sta. 325+00.00, 13' Rt. No conflict with these facilities is anticipated.

- Buried facilities crossing Rt 115 from Sta. 331+46.00, 37' Lt to Sta. 331+46.00, 10' Rt. No conflict with these facilities is anticipated.

- Buried facilities crossing Rt 115 from Sta. 341+82.00, 20' Lt to Sta. 343+30.00 20' Rt. No conflict with these facilities is anticipated.

ATT-D has at grade access points for its facilities at various locations throughout the project. Some of these access points may need to be adjusted to new grades. The contractor shall coordinate directly with ATT-D for these adjustments. ATT-D's representative for this will be as follows:

- Wade Weakley (ph: 636.692.3326, email: ww8571@att.com)

The contractor shall contact ATT-D a minimum of 4 weeks ahead of need for adjustment.

The contractor shall coordinate with ATT-D, as necessary, and take measures to protect in place their existing facilities during construction.

The contractor shall directly contact ATT-D to verify the locations of their facilities.

The Commission cannot warrant the information above which was provided by ATT-D.

The contractor shall coordinate with ATT-D as necessary and take measures to protect in place their existing facilities during construction.

The contractor shall directly contact ATT-D to verify the locations of their facilities.

The Commission cannot warrant the information above which was provided by ATT-D.

3.2 Charter/Spectrum

Charter/Spectrum has the following existing facilities in conflict within the project limits:

Overhead facilities within the project limits are:

- Overhead facilities at Sta. 349+43.00, 46’ Lt, Charter will transfer to the relocated power pole during construction in coordination with the contractor.

3.3 Everstream

Everstream has the following facilities adjacent to the project limits.

Underground facilities along Rt. 115

- Buried facilities along the southbound side from north of the project limits to the west side of Lucas-Hunt Rd. No conflict with these facilities is anticipated.

Underground facilities along Lucas-Hunt Rd

- Buried facilities along the southbound side of Lucas-Hunt Rd from the south side of Rt. 115 to the south out of the project limits. No conflict with these facilities is anticipated.

3.4 Lumen

Lumen has the following facilities within the project limits.

Underground facilities crossing Rt. 115 along Jennings Station Rd/Keinlen Ave

- Buried facilities along the southbound side of Jennings Station Rd/Keinlen Ave from north of the project limits to south of the project limits. No conflict with these facilities is anticipated.

3.5 Missouri American Water

Missouri American Water has the following existing facilities in conflict within the project limits:

Missouri American has the existing Fire Hydrants along Rt 115:

- Hydrant at Sta. 301+31.00, 32' Lt falls within the proposed sidewalk and will need to be relocated. MAWC will perform this work during construction in coordination with the contractor.

- Hydrant at Sta. 327+51.00, 48' Lt No conflicts with this utility are anticipated.

- Hydrant at Sta. 342+46.00, 47' Rt falls within the proposed sidewalk and will need to be relocated. MAWC will perform this work during construction in coordination with the contractor.

- Hydrant at Sta. 353+10.00, 25' Lt No conflicts with this utility are anticipated.

Missouri American has the existing Water Valves along the Northbound lanes of Rt 115 that will require adjustments:

- Water valve at Sta. 291+37.00, 9' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 291+37.00, 9' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 294+58.00, 52' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 291+67.00, 10' lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 296+38.00, 14' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 299+03.00, 14' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 301+31.00, 16' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 305+61.00, 16' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 306+24.00, 13' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 307+39.00, 30' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 308+09.00, 12' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 310+29.00, 10' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 312+08.00, 12' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 312+80.00, 16' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 313+48.00, 31' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 315+98.00, 14' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 316+03.00, 36' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 316+04.00, 16' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 318+16.00, 18' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 318+16.00, 21' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 318+88.00, 17' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 319+11.00, 34' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 319+75.00, 32' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 321+55.00, 41' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 324+13.00, 17' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 324+34.00, 30' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 324+71.00, 18' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 325+17.00, 15' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 327+51.00, 49' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 327+51.00, 42' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 327+52.00, 16' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 330+91.00, 18' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 330+92.00, 19' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 334+61.00, 18' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 334+68.00, 24' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 334+78.00, 18' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 337+72.00, 37' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 338+21.00, 8' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 340+50.00, 15' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 340+50.00, 13' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 341+45.00, 8' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 342+23.00, 22' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 343+68.00, 24' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 344+29.00, 23' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 344+78.00, 22' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 344+84.00, 26' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 345+65.00, 26' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 345+77.00, 23' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 345+89.00, 26' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 346+27.00, 27'Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 346+86.00, 41' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 347+15.00, 16' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 349+05.00, 14' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 349+62.00, 19' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 349+64.00, 26' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 351+77.00, 27' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 353+10.00, 28' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 353+11.00, 22' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 353+15.00, 26' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 354+85.00, 28' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 355+70.00, 28' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 357+22.00, 25' Lt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

Missouri American has the existing Water Valves along the Southbound lanes of Rt 115 that will require adjustments:

- Water valve at Sta. 291+44.00, 26' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 295+76.00, 31'Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 302+12.00, 26' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 303+75.00, 35' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 304+92.00, 38' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 310+05.00, 30' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 310+67.00, 29' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 312+21.00, 46' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 312+32.00, 39' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with

the contractor.

- Water valve at Sta. 313+15.00, 30' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 313+56.00, 29' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 314+70.00, 26' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 314+70.00, 36' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 318+62.00, 28' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 318+89.00, 38' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.
- Water valve at Sta. 324+47.00, 32' Rt falls within the propsed curb and will need to be relocated. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 325+32.00, 29' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 342+51.00, 27' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 343+91.00, 23' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 346+63.00, 37' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 346+64.00, 47' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 349+65.00, 51' Rt falls within the proposed sidewalk and will need to be adjusted to grade. MAWC will perform this work during construction in coordination

with the contractor.

- Water valve at Sta. 350+49.00, 38' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 299+60.00, 26' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 301+12.00, 30' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water valve at Sta. 301+12.00, 36' Rt falls within the new roadway and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

Missouri American has the existing Water Meters throughout the Northbound lanes and side streets of Rt 115:

- Water meter at Sta. 345+65.00, 23' Lt falls within the proposed sidewalk and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water meter at Sta. 345+77.00, 26' Lt falls within the proposed sidewalk and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water meter at Sta. 345+89.00, 24' Lt falls within the proposed sidewalk and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

Missouri American has the existing Water Meters throughout the Southbound lanes and side streets of Rt 115:

- Water meter at Sta. 318+63.00, 39' Rt falls within the proposed sidewalk and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

- Water meter at Sta. 319+61.00, 34' Rt falls within the proposed sidewalk and will need to be adjusted to grade. MAWC will perform this work during construction in coordination with the contractor.

Missouri American has the existing Water Mains along the Northbound lanes and side streets of Rt 115:

- 8” cast iron main continuing along Northbound lanes from Sta. 291+39.00, 10’ Lt to Sta. 349+65.00, 18’ Lt. No conflict with this facility is anticipated.

- 6” cast iron from Sta. 295+00.00, 59’ Lt to Sta. 298+27.00, 41’ Lt No conflict with this facility is anticipated.

- 8” PVC from Sta. 349+65.00, 13’ Lt to Sta. 359+13.25, 18’ Lt No conflict with this facility is anticipated.

- 6” cast iron abandoned main from Sta. 349+65.00, 30’ Lt to Sta. 359+13.25, 26’ Lt No conflict with this facility is anticipated.

Missouri American has the existing Water mains along the Southbound lanes and side streets of Rt 115:

- 12” Cast Iron main at Sta. 334+62.00, 27’ Rt crosses proposed drainage pipe and will need to be relocated. MAWC will perform this work during construction in coordination with the contractor.

- 8” Cast Iron main at Sta. 338+27.00, 24’ Rt crosses proposed drainage pipe and will need to be relocated. MAWC will perform this work during construction in coordination with the contractor.

- 8” Cast Iron main at Sta. 338+30.00, 52’ Rt crosses proposed drainage pipe and will need to be relocated. MAWC will perform this work during construction in coordination with the contractor.

Missouri American has the existing Service Hydrant Leads throughout Rt 115:

- Hydrant lead from Sta. 301+32.00, 18’ Lt to Sta 301+32, 38’ Lt. No conflict with this facility is anticipated.

- Hydrant lead from Sta. 334+30.00, 20’ Lt to Sta 334+30.00, 64’ Lt. No conflict with this facility is anticipated.

Missouri American has the existing Water mains crossing Rt 115:

- 8” cast iron main running from Sta. 291+38.00, 19’ Lt to Sta 291+54.00, 110’ Rt No conflict with this facility is anticipated.

- 12” cast iron main running from Sta. 291+38.00, 19’ Lt to Sta. 291+38.00, 132’ Lt No conflict with this facility is anticipated.

- 20” cast iron main from Sta. 291+38.00, 19’ Lt to Sta. 291+60.00, 54’ Lt. No conflict with this facility is anticipated.

- 6” cast iron from Sta. 296+36.00, 15’ Lt to 296+36.00, 37’ Lt. No conflict with this facility is anticipated.

- 6” cast iron main from Sta. 299+00.00, 15’ Lt to 296+12.00, 93’ Rt. No conflict with this facility is anticipated.

- 6” PVC main from Sta. 305+62.00, 17’ Lt to Sta 305+57.00, 66’ Lt, No conflict with this facility is anticipated.

- 4” cast iron main from Sta 306+24.00, 13’ Lt to 306+24.00, 62’ Rt. No conflict with this facility is anticipated.

- 6” cast iron main from Sta. 308+06.00, 12’ Lt to 308+06.00, 110’ Rt. No conflict with this facility is anticipated.

- 6” cast iron main from Sta. 310+30.00, 12’ Lt to Sta. 310+30.00, 53’ Lt. No conflict with this facility is anticipated.

- 4” cast iron main from Sta. 312+08.00, 13’ Lt to Sta. 312+20.00, 37’ Rt. No conflict with this facility is anticipated.

- 8” PVC main from Sta. 312+20.00, 37’ Rt. To Sta. 313+00.00, 150’ Rt. No conflict with this facility is anticipated.

- 6” cast iron main from Sta. 312+79.00, 17’ Lt to Sta. 312+75.00, 136’ Lt. No conflict with this facility is anticipated.

- 4” cast iron main from Sta. 315+97.00, 16’ Lt to Sta. 312+94.00, 29’ Rt. No conflict with this facility is anticipated.

- Main of unknown size/material from Sta. 319+60.00, 20’ Lt to Sta 319+60.00, 32’ Rt. No conflict with this facility is anticipated.

- 6” cast iron main from Sta. 320+00.00, 19’ Lt to Sta. 320+00.00, 68’ Lt. No conflict with this facility is anticipated.

- 6” cast iron main from Sta. 324+30.00, 20’ Lt to Sta. 324+33.00, 81’ Lt. No conflict with this facility is anticipated.

- 6” cast iron main from Sta. 324+48.00, 20’ Lt to Sta. 324+48.00, 34’ Rt. No conflict with this facility is anticipated.

- 6” cast iron main from Sta. 327+50.00, 100’ Lt to Sta. 327+50.00, 161’ Rt. No conflict with this facility is anticipated.

- 6” cast iron main from Sta. 330+98.00, 126’ Lt to Sta. 330+98.00, 91’ Rt. No conflict with this facility is anticipated.

- 12” cast iron main from Sta. 334+64.00, 113’ Lt to Sta. 334+64.00, 99’ Rt. No conflict with this facility is anticipated.

- 6” cast iron main from Sta 336+73.00, 16’ Lt to Sta. 336+73.00, 100’ Lt No conflict with this facility is anticipated.

- 4” cast iron main from Sta 342+54.00, 10’ Lt to Sta. 342+54.00, 27’ Rt Main crosses the proposed drainage. MAWC will perform this work during construction in coordination with the contractor.

- 6” cast iron main from Sta 348+00.00, 725’ Lt to Sta. 354+35.00, 593’ Rt No conflict with this facility is anticipated.

- 4” main from Sta. 352+38.00, 20’ Lt to Sta to Sta. 352+54.00, 88’ Rt No conflict with this facility is anticipated.

MAWC has at grade access points for its facilities at various locations throughout the project. Some of these access points may need to be adjusted to new grades. The contractor shall coordinate directly with MAWC for these adjustments. MAWC’s representative for this will be as follows:

- Dave Pruitt (ph: 314.996.2396, email: dave.pruitt@amwater.com)

The contractor shall contact MAWC a minimum of 4 weeks ahead of need for adjustment.

The contractor shall coordinate with MAWC, as necessary, and take measures to protect in place their existing facilities during construction.

The contractor shall directly contact MAWC to verify the locations of their facilities.

The Commission cannot warrant the information above which was provided by MAWC.

The contractor shall coordinate with MAWC as necessary and take measures to protect in place their existing facilities during construction.

The contractor shall directly contact MAWC to verify the locations of their facilities.

The Commission cannot warrant the information above which was provided by MAWC.

3.6 MCI / Verizon

MCI/ Verizon has the following existing facilities in conflict within the project limits:

Handholes throughout the project that will need to be adjusted to grade:

- Handhole at Sta. 304+43.00, 30' Lt falls in proposed pavement. This facility will be adjusted to grade by MCI/Verizon during construction in coordination with the contractor.

- Handhole at Sta. 305+46.00, 29' Lt falls in proposed pavement. This facility will be adjusted to grade by MCI/Verizon during construction in coordination with the contractor.

- Handhole at Sta. 312+00.00, 33' Lt falls in proposed pavement. This facility will be adjusted to grade by MCI/Verizon during construction in coordination with the contractor.

- Handhole at Sta. 318+31.00, 28' Rt falls in proposed pavement. This facility will be adjusted to grade by MCI/Verizon during construction in coordination with the contractor.

Underground facilities along the northbound lanes of Rt. 115:

- Buried facilities along the northbound side of Rt. 115 from Sta. 304+10, 116'Lt to Sta. 319+17.00, 37' Lt. No conflict with these facilities is anticipated

- Buried facilities along the northbound side of Rt. 115 from Sta. 310+10.00, 30' Lt to Sta. 310+07.00, 110' Lt. No conflict with these facilities is anticipated

Underground facilities crossing Rt. 115 throughout the project:

- Buried facilities crossing Rt 115 at Sta. 312+00.00, 35' Lt. to 312+48.00, 45' Rt. No conflict with these facilities is anticipated.

- Buried facilities crossing Rt 115 at Sta. 319+17.00, 37' Lt. to Sta. 319+35.00, 29' Rt. No conflict with these facilities is anticipated.

MCI/Verizon has at grade access points for its facilities at various locations throughout the project. Some of these access points may need to be adjusted to new grades. The contractor shall coordinate directly with MCI/Verizon for these adjustments. MCI/Verizon's representative for this will be as follows:

- Domenic NiCastro (ph: 636.459.1600, email: domenic.nicastro@verizon.com)

The contractor shall contact MCI/Verizon a minimum of 4 weeks ahead of need for adjustment.

The contractor shall coordinate with MCI/Verizon, as necessary, and take measures to protect in place their existing facilities during construction.

The contractor shall directly contact MCI/Verizon to verify the locations of their facilities.

The Commission cannot warrant the information above which was provided by MCI/Verizon.

The contractor shall coordinate with MCI/Verizon as necessary and take measures to protect in place their existing facilities during construction.

The contractor shall directly contact MCI/Verizon to verify the locations of their facilities.

The Commission cannot warrant the information above which was provided by MCI/Verizon.

3.8 Spire

Spire has the following existing facilities in conflict within the project limits:

Spire Energy has Existing At-Grade Access Points (Valves, Drips, etc.) throughout the project that will require adjustment:

- At-grade gas valve at Sta. 292+49.00, 42' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 299+47.00, 33' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 300+86.00, 35' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 302+10.00, 31' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 303+56.00, 33' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 304+46.00, 30' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 306+22.00, 34' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 306+54.00, 28' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas drip at Sta. 306+58.00, 29' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas drip at Sta. 306+68.00, 28' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 307+27.00, 34' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 308+25.00, 31' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 309+20.00, 35' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 310+09.00, 30' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 310+54.00, 46' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 311+71.00, 35' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 313+14.00, 36' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 313+67.00, 33' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 314+30.00, 28' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 314+92.00, 34' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 315+21.00, 33' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 316+75.00, 34' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 319+54.00, 27' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 319+81.00, 36' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 320+20.00, 33' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 321+32.00, 40 Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 324+54.00, 67' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 324+54.00, 41' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 324+77.00, 27' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 324+78.00, 27' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 326+10.00, 30' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas drip at Sta. 327+30.00, 26' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 327+30.00, 27' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 327+76.00, 57' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 331+21.00, 50' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 333+32.00, 24' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 336+05.00, 29' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 337+95.00, 44' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 337+98.00, 46' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 338+04.00, 19' Lt falls in proposed roadway and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 338+31.00, 30' Rt falls in proposed roadway and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 338+36.00, 45' Rt falls in proposed roadway and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas drip at Sta. 338+39.00, 34' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 342+26.00, 24' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 342+48.00, 44' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 342+81.00, 56' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 342+82.00, 56' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 343+31.00, 23' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 343+40.00, 25' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 343+59.00, 35' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 343+63.00, 35' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 343+80.00, 24' lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 344+22.00, 24' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 344+93.00, 20' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 345+69.00, 21' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 346+17.00, 26' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 346+83.00, 60' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 349+00.00, 21' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 349+14.00, 16' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 349+47.00, 51' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 350+74.00, 28' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 352+19.00, 23' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 352+53.00, 26' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 355+54.00, 29' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 356+32.00, 27' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 356+32.00, 22' Lt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

- At-grade gas valve at Sta. 340+67.00, 38' Rt falls in proposed sidewalk and will need to be adjusted to grade by Spire during construction in coordination with the contractor.

Spire Energy has Underground facilities along the Northbound lanes and side streets of Rt. 115:

- 8” steel main at Sta 341+16.00, 23’ Lt to 341+38.00, 17’ Lt falls in proposed drainage pipe. Spire to relocate main during construction in coordination with contactor.

- 12” steel main at Sta 306+59, 29’ Lt to Sta. 310+10, 29’ Lt. No conflict with this facility is anticipated.

- 2” stainless steel main at Sta. 310+14, 37’ Lt to Sta. 316+75, 35’ Lt. No conflict with this facility is anticipated.

- 2” stainless steel main at Sta. 319+75, 33’ Lt to Sta. 321+34, 31’ Lt. No conflict with this facility is anticipated.

- 8” steel main from Sta. 327+78, 57’ Lt to Sta 341+53.97, 16’ Lt. No conflict with this facility is anticipated.

- 6” steel main from Sta 341+53.97, 16’ Lt. to Sta 349+15, 18’ Lt. No conflict with this facility is anticipated.

- 2” plastic service line from Sta. 350+73, 29’ Lt to Sta 359+13.25, 30’ Lt. No conflict with this facility is anticipated.

Spire Energy has Underground facilities along the Southbound lanes and side streets of Rt. 115:

- 8” steel main at Sta 292+00.00, 91’ Rt to 292+06.00, 86’ Rt falls in proposed drainage pipe. Spire to relocate main during construction in coordination with contactor.

- Gas line of unknown size/material at Sta. 292+01.00, 95’ Rt to Sta. 292+01.00, 95’ Rt. No conflict with this facility is anticipated.

- 24” steel service line from Sta 338+24.00, 23’ Rt crosses proposed drainage pipe. Spire to relocate main during construction in coordination with contactor.

- 24” steel service line from Sta 338+33.00, 51’ Rt crosses proposed drainage pipe. Spire to relocate main during construction in coordination with contactor.

- 8” steel main at Sta. 291+27.57, 83’ Rt to Sta. 327+90, 25’ Rt No conflict with this facility is anticipated.

- 12” steel main at Sta. 310+19, 32’ Rt to 316+17, 32’ Rt. No conflict with this facility is anticipated.

- 8” steel main at Sta. 316+17, 32’ Rt to Sta. 327+87, 25’ Rt No conflict with this facility is anticipated.

- 2” stainless steel service line at Sta. 338+39.00, 20’Rt crosses proposed drainage pipe. Spire to relocate service line during construction in coordination with contactor.

- 2” stainless steel service line at Sta. 338+41.00, 46’ Rt to Sta. 338+43.00, 58’ Rt crosses proposed drainage manhole structure. Spire to relocate service line during construction in coordination with contactor.

- 2” stainless steel service line at Sta. 342+81.00, 59’ Rt to Sta. 342+81.00, 70’, Rt crosses proposed drainage pipe. Spire to relocate service line during construction in

coordination with contactor.

- 2” steel main at Sta. 342+80, 28’ Rt to Sta 343+89, 33’ Rt. No conflict with this facility is anticipated.

- 8” steel main from Sta. 351+85, 43’ Rt to Sta 359+16.25, 36’ Rt No conflict with this facility is anticipated.

Spire Energy has Underground facilities crossing Rt. 115 throughout the project:

- 12” steel main at Sta. 291+53, 131’ Lt to Sta. 291+86, 188’ Rt. No conflict with this facility is anticipated.

- 8” steel main at Sta. 291+66, 131’ Lt to Sta. 292+50, 43’ Rt. No conflict with this facility is anticipated.

- 2” steel main at Sta. 304+56, 29’ Lt to Sta 304+62, 31’ Rt. No conflict with this facility is anticipated.

- 2” steel main at Sta 306+59, 29’ Lt to Sta. 306+58, 37’ Rt. No conflict with this facility is anticipated.

- 12” steel main at Sta. 310+09, 30’ Lt to Sta. 310+19, 32’ Rt. No conflict with this facility is anticipated.

- Main of unknown size/material at Sta. 310+42, 89’ Lt to Sta. 310+78, 33’ Rt. No conflict with this facility is anticipated.

- Main of unknown size/material at Sta. 310+14, 37’ Lt to Sta. 310+14, 34’ Rt. No conflict with this facility is anticipated.

- 2” stainless steel main from Sta. 321+34, 31’ Lt. to Sta. 321+40, 27’ Rt. No conflict with this facility is anticipated.

- 2” stainless steel main from Sta. 324+54, 41’ Lt. to Sta. 324+53, 29’ Rt. No conflict with this facility is anticipated.

- 4” steel main at Sta. 327+78, 57’ Lt to Sta. 327+87, 25’ Rt. No conflict with this facility is anticipated.

- 2” stainless steel main from Sta. 331+19, 37’ Lt to Sta. 331+19, 50’ Rt. No conflict with this facility is anticipated.

- 2” stainless steel main from Sta. 334+89, 34’ Lt to Sta. 334+86, 104’ Rt. No conflict with this facility is anticipated.

- 24” steel service main from Sta 338+00, 45’ Lt to Sta 338+33, 72’ Rt. No conflict with this facility is anticipated.

- 2” stainless steel main from Sta. 338, 27’ Lt to Sta. 338+45, 72’ Rt. No conflict with this facility is anticipated.

- 2” stainless steel main from Sta. 342+81, 18’ Lt to Sta. 342+81, 84’ Rt No conflict with this facility is anticipated.

- 8” steel main at Sta 349+15, 18’ Lt to Sta. 349+16, 48’ Rt No conflict with this facility is anticipated.

Spire Energy has underground facilities along the side streets of Rt 115 throughout the project:

- 2” steel main at Sta. 306+52, 37’ Rt to Sta. 306+52, 117’ Rt. No conflict with this facility is anticipated.

- 2” steel main at Sta. 327+85, 25’ Rt to Sta. 327+85, 96’ Rt. No conflict with this facility is anticipated.

- 1 ¼” plastic service at Sta. 331+00, 37’ Lt to 331+00, 91’ Lt. No conflict with this facility is anticipated.

- Main of unknown size/material Sta. 349+16, 48’ Rt to Sta. 353+15, 356’ Rt No conflict with this facility is anticipated.

- Main of unknown size/material Sta. 348+60, 705’ Lt’ Rt to Sta. 350+73, 29’ Lt No conflict with this facility is anticipated.

Spire has at grade access points for its facilities at various locations throughout the project. Some of these access points may need to be adjusted to new grades. The contractor shall coordinate directly with Spire for these adjustments. Spire’s representative for this will be as follows:

- Nick Eggert (ph: 314.330.5720, email: Nicholas.Eggert@spireenergy.com)

The contractor shall contact Spire a minimum of 4 weeks ahead of need for adjustment.

The contractor shall coordinate with Spire, as necessary, and take measures to protect in place their existing facilities during construction.

The contractor shall directly contact Spire to verify the locations of their facilities.

The Commission cannot warrant the information above which was provided by Spire.

The contractor shall coordinate with Spire as necessary and take measures to protect in place their existing facilities during construction.

The contractor shall directly contact Spire to verify the locations of their facilities.

The Commission cannot warrant the information above which was provided by Spire.

3.8 St. Louis County – Department of Transportation

St. Louis County has the following existing facilities along Jennings Station Rd/Kienlen Ave within the project limits:

Underground facilities along Jennings Station Rd.

- Buried cable along the west side of Jennings Station Rd from north of the project limits to the north side of Rt. 115. No conflict with this facility is anticipated.

- Buried cable crossing Rt. 115 from the NW corner of the Jennings Station Rd/Kienlen Ave intersection to the SE corner of the Jennings Station Rd/Kienlen Ave intersection. No conflict with this facility is anticipated.

- Buried cable along the east side of Kienlen Ave from the south side of Rt. 115 to the south leaving the project limits. No conflict with this facility is anticipated.

It is the responsibility of the contractor to contact St. Louis County Department of Transportation, Operations Division (Signal Section) at (314) 615-0215 a minimum of 48 hours in advance of construction work for locating and marking existing underground traffic signal conduit. One-Call does not locate County underground facilities.

The contractor is advised to email Signal locates@stlouisco.com with each Mo1Call ticket number needing St. Louis County facilities located in the project limits.

Questions about St. Louis County facilities should be directed to Martin Koeller mkoeller2@stlouisco.com , (314) 615-0210).

4.0 Existing Utility Facilities Located in Close Proximity to Proposed Work

The contractor is advised there are existing utility facilities located in close proximity to proposed work. The contractor may need to use shoring to avoid conflicts with utility facilities. The contractor is advised that the cost for this shoring is incidental. No direct payment will be made to the contractor to recover the cost of equipment, labor, materials or time required to fulfill the above provision.

5.0 Utility Coordination by Contractor and any Necessary Potholing of Utility Facilities

Utility Companies with utility adjustments advised they anticipate completing their relocation work during construction in coordination with the contractor. The contractor shall take an active role in verifying that the utility work is complete. The contractor shall directly contact each utility company about the status of their relocation work. The contractor shall submit/coordinate one call tickets early enough at specific locations of planned work to verify everything is marked and if there are questions about old and relocated facilities, so the issues can be addressed in field by utility locators in a timely manner.

The contractor shall also pothole any necessary buried utility facilities in the project limits to verify the buried facilities are deep enough for the roadway improvements and not damage the utility facility. Any utilities determined to be in conflict or that appear to be in conflict with construction shall be brought to the attention of the Engineer immediately. The Engineer shall determine

course of action to remedy the situation. It may be necessary to shallow up rock lining, rock blanket or shift pipe installation to avoid a utility relocation.

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

G. Airport Requirements

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

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

2.0 The maximum height of the improvement and the equipment operating while performing the improvements was assumed to be 30 feet above the current travelway during the process of evaluating the project for compliance with FAA Reg Part 77.

2.1 Aeronautical Study Number 2023-ACE-7844-OE was filed for Temporary Construction Equipment to be used on this project.

2.2 The FAA has issued the following additional requirements with respect to this project.

2.2.1 It is required that the manager of ST LOUIS LAMBERT INTL, (314) 426-8000 be notified at least 3 business days prior to the temporary structure being erected and again when the structure is removed from the site.

2.2.2 It is required that the manager of ST LOUIS LAMBERT INTL Air Traffic Control at (314) 890-4738 be notified at least 3 business days prior to the temporary structure being erected and again when the structure is removed from the site. Additionally, please provide contact information for the onsite operator in the event that Air Traffic Control requires the temporary structure to be lowered immediately.

2.2.3 This determination expires on 06/12/2025 unless extended, revised, or terminated by the issuing office.

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

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

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

H. Temporary Construction Easements

1.0 Description. MoDOT has obtained temporary construction easements from property owners in order to construct improvements for the project. Commercial and church properties within the project limits will continue utilizing those construction easements to conduct their day-to-day business. The contractor shall coordinate with the property owners to minimize the amount of time and space needed to construct the improvements located inside each temporary construction easement.

2.0 Construction Requirements. The contractor shall not disturb any improvements, besides the entrance or parking lot, located inside each temporary construction easement, unless shown as such on the plans. Improvements include such things as, but not limited to, monument signs and their electrical connections, landscaping, or sprinkler systems. The Contractor will be solely responsible for the cost to repair or replace any improvements disturbed that are not specifically marked on the plans for removal or adjustment.

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

I. Coordination with St. Louis County Department of Transportation

1.0 Description. St. Louis County maintains several roadways near MoDOT Job J6S3416 and J6S3416B, including Jennings Station Road and Kienlen Avenue.

2.0 Requirements. The contractor shall contact the St. Louis County Department of Transportation 7 days in advance of beginning work near any of the roadways mentioned above so that St. Louis County can adjust any maintenance activities or work with the contractor to coordinate St. Louis County work in the same general vicinity as Job J6S3416 and J6S3416B. The St. Louis County representative is Adam Spector, Area Engineer at 314-615-8563 or aspector@stlouisco.com.

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

J. Property Owner Notification

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

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

K. Access to Commercial and Private Properties

1.0 Description. This improvement is in a commercial and residential area. While working on entrances or adjacent properties, the contractor shall make every reasonable effort to minimize any interference to the properties and to pursue the work diligently. The contractor shall maintain access to all properties within the project limits that do not have access from another roadway for the duration of the construction. This may be accomplished by constructing entrances half-at-a time if the parcel has only one entrance. If the parcel has multiple entrances, the contractor will be allowed to close one entrance as long as the remaining entrance(s) are open unless otherwise specified in this provision. The contractor may also use temporary surfacing and concrete accelerating admixtures as approved by the engineer to maintain access.

1.1 Under no circumstances shall the contractor block ingress/egress to and from businesses during the normal business hours of each business unless as approved by the property owner and the engineer.

2.0 Construction Requirements. On all commercial entrances or private entrances greater than 20' wide, the contractor shall keep one-half of the entrance open at all times. On commercial entrances less than 20' wide it may be necessary for the contractor to provide temporary aggregate to provide access to the property. The contractor shall remove and dispose of the temporary aggregate following completion of the entrance. For properties with more than one entrance the contractor may construct one entire entrance at a time with the approval of the property owner and the engineer.

2.1 The contractor shall complete the entrances as quickly as possible and shall take no longer than 4 weeks to complete any one entrance over 20' wide. The contractor shall take no longer than 5 days to complete any one private or commercial entrance with a width less than 20'.

2.2 If shown with the temporary traffic control plans provided within this this project, the contractor may shift traffic to allow for 1 lane in each direction on Route 115 enabling the contractor to close lanes directly next to residential or commercial properties between two sideroads in order to complete all entrances, sidewalk, ADA ramps, etc. for that given section of roadway. Space shall be provided for people to park their vehicles and access their properties at all times next to the active lanes of traffic. The minimum parking width to be provided shall be 9'. Temporary connections either through the entrance or via the sidewalk leading to the residence or commercial property shall be provided at all times.

3.2 The contractor has the option of using high early strength Portland cement concrete pavement (PCCP) for use in paved approaches and other areas of improvements as shown on the plans or as approved by the engineer. All materials, mixture and placement requirements shall be in accordance with all applicable portions of Section 501, 502, and 613, except as specified herein. An accelerator will be allowed as approved by the engineer.

3.0 Communication. The contractor shall contact each property owner at least 48 hours prior to any sidewalk or entrance construction within their property limits to advise them of the work that will take place and the timeframe of the work. The contractor will be allowed to vary from Section 1.0 of this provision if other access arrangements are made with the property owner or tenant. These variations must be approved by the engineer prior to beginning work.

4.0 Liquidated Damages Specified. If the entire entrance is not complete and open to traffic within **five (5) calendar days**, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor

will be charged with liquidated damages specified in the amount of **$500.00 per day** for each full day than an entrance is not complete and open to traffic in excess of the limitation as specified elsewhere in the special provision.

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 documents.

L. Delayed Access to Parcels Pending Acquisition

1.0 Description. Acquisition is pending for the parcels listed below on the project. The contractor shall not be permitted to begin work within any designated Temporary Construction Easement or Permanent 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 any of the parcels listed in this provision. The contractor will not be permitted access to work on any of these parcels until notification has been given by the engineer that the parcel has been cleared from this list.

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

(a) Parcel 1, anticipated possession on or before July 8, 2024
(b) Parcel 5, anticipated possession on or before December 31, 2024
(c) Parcel 6, anticipated possession on or before December 31, 2024
(d) Parcel 7, anticipated possession on or before December 31, 2024
(e) Parcel 12, anticipated possession on or before December 31, 2024
(f) Parcel 13, anticipated possession on or before July 8, 2024
(g) Parcel 15, anticipated possession on or before December 31, 2024
(h) Parcel 16, anticipated possession on or before December 31, 2024
(i) Parcel 20, anticipated possession on or before July 8, 2024
(j) Parcel 21, anticipated possession on or before December 31, 2024
(k) Parcel 22, anticipated possession on or before July 8, 2024
(l) Parcel 23, anticipated possession on or before December 31, 2024
(m) Parcel 25, anticipated possession on or before July 8, 2024
(n) Parcel 29, anticipated possession on or before July 8, 2024
(o) Parcel 33, anticipated possession on or before December 31, 2024
(p) Parcel 35, anticipated possession on or before December 31, 2024
(q) Parcel 36, to be voided from plans
(r) Parcel 37, to be voided from plans
(s) Parcel 38, anticipated possession on or before July 8, 2024

(t) Parcel 40, anticipated possession on or before December 31, 2024

(u) Parcel 41, anticipated possession on or before July 8, 2024

(v) Parcel 48, anticipated possession on or before December 31, 2024

(w) Parcel 50, anticipated possession on or before December 31, 2024

(x) Parcel 57, anticipated possession on or before December 31, 2024

(y) Parcel 63, anticipated possession on or before December 31, 2024

(z) Parcel 65, anticipated possession on or before July 8, 2024

(aa) Parcel 68, anticipated possession on or before December 31, 2024

(bb) Parcel 72, anticipated possession on or before December 31, 2024

(cc) Parcel 78, anticipated possession on or before December 31, 2024

(dd) Parcel 79, anticipated possession on or before December 31, 2024

(ee) Parcel 81, anticipated possession on or before July 8, 2024

(ff) Parcel 82, anticipated possession on or before July 8, 2024

(gg) Parcel 85, anticipated possession on or before July 8, 2024

(hh) Parcel 88, anticipated possession on or before December 31, 2024

(ii) Parcel 89, anticipated possession on or before July 8, 2024

(jj) Parcel 92, anticipated possession on or before December 31, 2024

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

M. Right of Way Requirements

1.0 Description. During the negotiations of easements and rights of way, MoDOT entered into agreements with certain property owners. The Contractor shall abide by the following commitments:

(a) **Parcel 14** – Entrances are to be constructed one half at a time.

(b) **Parcel 44** – Entrances are to be constructed one at a time. Tenant requires access to at least one door to front of building during business hours.

(c) **Parcel 53** – Any portion of retaining wall material that is damaged during removal/reinstallation must be replaced. Owner requires advance notice to park elsewhere before driveway work.

(d) **Parcel 54** – Any portion of retaining wall material that is damaged during removal/reinstallation must be replaced. Owner requires advance notice to park elsewhere before driveway work.

(e) **Parcel 66** – Owner requires 72 hours' notice prior to construction. Owner is to receive temporary gravel path for 24/7 access to front porch and front door.

(f) **Parcel 67** – Owner requires 72 hours' notice prior to construction. Owner is to receive temporary gravel path for 24/7 access to front porch and front door.

(g) **Parcel 77** – Driveway is to be constructed one half at time.

(h) **Parcel 85** – East entrance is to be constructed all at once instead of half at a time. West entrance is to be constructed one half at a time.

2.0 Basis of Payment. Payment for the above-mentioned items are to be completely paid for under the unit bid prices. If there are no bid items for the above-mentioned work, the work will be considered incidental and there will be no direct payment.

N. 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 in accordance with Sec 808. 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

O. Concrete Washout

1.0 Description. Concrete washout BMPs shall be established in designated areas for this project if concrete production or delivery is occurring. Washout BMPs can be non-leaking plastic or clay/bentonite lined pits, a straw bale enclosure lined with plastic, a storage tank or prefabricated BMP or other structure approved by the engineer or inspector. Designated washout areas should be located at least 50 feet away from storm drains, ditches, streams or other water bodies. Washouts should be monitored like other BMPs to ensure there are no leaks and that they are operating effectively. They should be cleaned out when they reach 75% of their design capacity. Care should be taken to ensure these structures do not overflow during storm events. Upon completion of concrete washout on the project, the engineer or inspector should ensure proper disposal of washout materials. Washout liquids can be allowed to evaporate or be pumped out and properly disposed of. They cannot be discharged into storm drains, ditches, streams or other bodies of water. Dried concrete can be broken up and used as clean fill on the project, recycled or properly disposed of by other means.

2.0 Basis of Payment. No direct payment will be made to the contractor for installing, maintaining, and removing concrete washout facilities or for properly disposing of materials. The cost of complying with this requirement shall be completely covered in the contract unit price of the concrete pay items included in the contract.

P. Damage to Existing Pavement, Side Roads and Entrances

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

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

3.0 Method of Measurement. No measurement of damaged pavement, curb, ramps or shoulder areas as described above shall be made.

4.0 Basis of Payment. No 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.

Q. Coordination with Metro Transit

1.0 Description. The contractor shall be required to coordinate with Metro Transit where construction operations will involve work on or around existing transit stops. It is requested that the coordination begin prior to the project Preconstruction Conference to ensure minimal disruption in service on Metro's system.

2.0 Construction Requirements. All Metro Transit stops within the project limits shall remain open and operational throughout the duration of the project. In locations where the contractor's operations will involve work in proximity to a transit stop location, the contractor shall notify Metro Transit through the contacts listed below, not later than 72 hours prior to beginning work at that location. The contractor shall also take care to minimize exposure of transit users to construction hazards in proximity to all transit stops that are in service during work operations.

2.1 Project Contacts. The contractor shall notify the following contacts at Metro Transit to coordinate scheduling throughout the project with them or their designated representative(s).

Ms. Natalie Siebert, Senior Planner Transit Operations
Office: (314) 982-1400 x1816
Cell: (314) 497-4916
Email: nmsiebert@MetroStLouis.org

Mr. Lance Peterson, Director of Service Planning
Office: (314) 982-1520
Cell: (314) 220-6756
Email: llpeterson@MetroStLouis.org

3.0 Temporary Facilities. In locations where the contractor's operations may affect a transit stop location, a temporary stop may be required. Signage of the temporary stop shall be in accordance with Specification Section 104.10.2, and placement shall be coordinated with Metro Transit. All temporary transit stops shall be located in proximity to the existing stop it is representing, accessible, clear and conspicuous to both the transit rider and facility operator, and be located where it is safe from hazards within the work area.

4.0 Permanent Facilities.

4.1 Bus Stops. Locations for proposed bus stops are identified in the contract plans. The contractor shall furnish a flush-mount anchor that is to be drilled into the concrete pad per manufacturer's recommendations. Metro Transit will install the new bus stop sign and post.

4.2 Bus Shelters. Locations for proposed bus shelters are identified in the contract plans. The contractor shall construct the concrete pad for the shelters. Shelters will be furnished and installed by Metro upon completion of the pads.

5.0 Basis of Payment. No direct payment will be made for any labor, equipment, materials, and time required to comply with this provision.

R. 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 require a minimum 24-hour advance notification from the contractor unless otherwise allowed by the engineer.

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

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

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

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

1.0 Description.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3.0 Methods for Securing Workforce Participation and Good Faith Efforts.

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

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

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

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

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

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

5.0 Liquidated Damages. If the contractor elects to not submit a workforce plan prior to work starting or fails to fulfill their workforce plan committed to prior to the start of construction, the contractor will be required to establish a good-faith effort determination, as to why either of these events occurred. MoDOT may sustain damages, the exact extent of which would be difficult or impossible to ascertain, as this impacts the cost of future road and bridge construction. Therefore,

in order to liquidate those damages, MoDOT shall be entitled, at its sole discretion, to deduct and withhold the following amounts: **The sum of one thousand five hundred ($1,500)**

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

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

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

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

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

10.0 Federal Workforce Goals.

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

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

TABLE 1:

County	Goal (Percent)	County	Goal (Percent)
Adair	4	Linn	4
Andrew	3.2	Livingston	10
Atchison	10	McDonald	2.3
Audrain	4	Macon	4
Barry	2.3	Madison	11.4
Barton	2.3	Maries	11.4
Bates	10	Marion	3.1
Benton	10	Mercer	10
Bollinger	11.4	Miller	4

Boone	6.3	Mississippi	11.4
Buchanan	3.2	Moniteau	4
Butler	11.4	Monroe	4
Caldwell	10	Montgomery	11.4
Callaway	4	Morgan	4
Camden	4	New Madrid	26.5
Cape Girardeau	11.4	Newton	2.3
Carroll	10	Nodaway	10
Carter	11.4	Oregon	2.3
Cass	12.7	Osage	4
Cedar	2.3	Ozark	2.3
Chariton	4	Pemiscot	26.5
Christian	2	Perry	11.4
Clark	3.4	Pettis	10
Clay	12.7	Phelps	11.4
Clinton	10	Pike	3.1
Cole	4	Platte	12.7
Cooper	4	Polk	2.3
Crawford	11.4	Pulaski	2.3
Dade	2.3	Putnam	4
Dallas	2.3	Ralls	3.1
Daviess	10	Randolph	4
DeKalb	10	Ray	12.7
Dent	11.4	Reynolds	11.4
Douglas	2.3	Ripley	11.4
Dunklin	26.5	St. Charles	14.7
Franklin	14.7	St. Clair	2.3
Gasconade	11.4	St. Francois	11.4
Gentry	10	Ste. Genevieve	11.4
Greene	2	St. Louis City	14.7
Grundy	10	St. Louis County	14.7
Harrison	10	Saline	10
Henry	10	Schuyler	4
Hickory	2.3	Scotland	4
Holt	10	Scott	11.4
Howard	4	Shannon	2.3
Howell	2.3	Shelby	4
Iron	11.4	Stoddard	11.4
Jackson	12.7	Stone	2.3
Jasper	2.3	Sullivan	4

Jefferson	14.7	Taney	2.3
Johnson	10	Texas	2.3
Knox	4	Vernon	2.3
Laclede	2.3	Warren	11.4
Lafayette	10	Washington	11.4
Lawrence	2.3	Wayne	11.4
Lewis	3.1	Webster	2.3
Lincoln	11.4	Worth	10
		Wright	2.3

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

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

As used in these specifications:

"Minority" includes;

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

T. 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:

www.modot.org/business/contractor_resources/forms.htm

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.

U. ADA Material Testing Frequency Modifications JSP-23-01

1.0 Description. This provision revises the Inspection and Testing Plan (ITP) for the construction of ADA compliant features to better match the nature of the work. The Quality Control (QC) testing frequency for the Sections identified below are to be revised as specified.

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

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

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

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

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

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

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

V. Median Island Cut-Throughs – St. Louis District Version 10-18-23

1.0 Description. This work shall consist of providing a median or median island cut-through that is compliant with current Americans with Disabilities Act (ADA) and MoDOT guidelines at locations shown on the plans and as directed by the Engineer.

2.0 Construction Requirements. The contractor shall be responsible for removing the existing median and if necessary, the existing pavement and base prior to installing the new cut-through as shown in the plans and as per Section 608 in both the Standard Plans and Standard Specifications. If new pavement/sidewalk is to be installed, it shall be minimum 7" Concrete Sidewalk on a 4" Type 5 Aggregate Base with new median island doweled into this new sidewalk. Truncated domes installed within the island or median cut-throughs shall be placed flush with the face of the curb/island.

2.1 ADA Ramps. If there is an actual ramp that provides access to the raised portion of the island or median instead of cutting through a portion of the island or median, then that area of concrete will be paid for separately as an ADA Curb Ramp, per each, and not per quantities noted below.

2.2 Cross Slope through Cut-Throughs. The contractor shall meet ADA requirements regarding cross slope through the cut-through.

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

4.0 Basis of Payment. Payment for furnishing and installing a new median or median island cut-through shall include all excavation, base compaction, saw cuts, removal of existing pavement and median island, new sidewalk and base, new median island, new truncated domes, and all materials, equipment, tools, labor, and work incidental thereto, and shall be considered to be completely covered by the contract unit price for items listed below as indicated in the plans.

Pay Item Number	Type / Description	Unit
202-20.10	Removal of Improvements	Lump Sum
304-05.04	Type 5 Aggregate for Base (4 In. Thick)	S.Y.
608-60.07	Concrete Sidewalk, 7 In.	S.Y.
608-10.00	Concrete Median	S.Y.
608-10.12	Truncated Domes	S.F.

W. ADA Curb Ramp – St. Louis District Version 10-18-23

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

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

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

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

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

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

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

- Truncated Domes

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

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

https://www.modot.org/materials

2.3 Gutter Correction. The contractor shall establish the grade of the flow line of the gutter before establishing the grades of ADA facilities. The gutter line shall be free flowing with no ponding next to the curb. Under-performing gutters shall be replaced with a concrete curb and gutter or a minimum 1.75-inch thick asphalt mill and fill. Running or standing storm water shall not be pushed out into the roadway where it may be splashed on pedestrians by passing vehicles or cause a hydroplaning hazard. An asphalt mill and fill shall be a minimum of 1.75 inches thick and the edges shall be at a smooth milled butt joint. The contractor shall use an approved BP-1 mix for all corner asphalt mill and fill work unless another surface asphalt mix is specified elsewhere in the contract. Asphalt mill and fill is included in the work of ADA Curb Ramps. If asphalt mill and fill is needed at a corner without any other ADA work, it will be found as a separate line item in this contract.

2.4 Design Plans

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

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

2.4.3 Special Sheet. A special sheet shows the pay limits for each standard ADA ramp type used by MoDOT. As shown on this special sheet, 15 feet beyond the landing is considered part of the ADA ramp. Payment for the ramp will be 15 feet beyond the landing and no adjustment in sidewalk length/quantity will be made if this 15-foot ramp length is adjusted by the contractor in the field.

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

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

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

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

Pay Item Number	Type / Description	Unit
608-10.12	Truncated Domes	SF
608-99.02	ADA Curb Ramp	Each

X. Curb Ramps and Sidewalk Construction Requirements

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

2.0 Construction Requirements. The following requirements shall be applicable to construction of this project. The work shall include, but is not limited to, sidewalk construction including

landings, joint construction, aggregate base, compaction, apron modifications, transition area, curb ramp construction, Type S Curb or Integral Curb installation (as required), tie bars or dowel bars (as required), clean-up, etc. for each location shown on the plans.

2.1 A one-half (1/2) inch joint filler shall be placed between all new pedestrian facilities and existing immoveable improvements to remain in place such as power poles, fire hydrants, building foundations, pull boxes, manholes, etc.

2.2 Extreme care shall be taken when removing sidewalk adjacent of existing building foundations. This may require additional saw cutting, hand work, time, equipment, materials or other, to avoid damaging the building foundation. All foundations damaged due to the contractor's activities will be completely repaired in kind as approved by the engineer.

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

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

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

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

2.7 Saw cuts for pavement and sidewalks shall be full depth or a minimum of 6 inches, whichever is less. Saw cuts are incidental to Removal of Improvements and Linear Grading for ADA Facilities.

2.8 Closed pedestrian facilities create barriers to access for non-motorized users. Therefore the Contractor shall make every reasonable effort to minimize closures of sidewalk and curb ramps. Prior to the removal of existing pedestrian facilities, the contractor shall confirm crew availability and predicted weather conditions allow replacement and opening of the pedestrian facility within 14 days of closing.

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

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

Y. Concrete Sidewalk and Curb Jointing at Utility Poles

1.0 Description. Contractor shall provide longitudinal and transverse jointing for concrete sidewalk and concrete curbing to direct pedestrians around utility poles. The longitudinal and transverse jointing shall be completed to provide separation from the pedestrian access route on the sidewalk from utility poles.

2.0 Construction Requirements. At each utility pole located within the sidewalk or curbing adjacent to sidewalk, concrete jointing/edging shall be provided to a depth of ¾-inch. The jointing shall be as per direction of Engineer.

2.1 Jointing to be completed to guide sidewalk users around utility poles. The length of longitudinal joints shall be a length of 10-feet (maximum length of 15-feet) at each utility pole. Transverse short jointing shall be completed within the longitudinal joint at 12-inch intervals.

2.2 Jointing pattern shall be approved by Engineer as part of the pre-concrete placement conference.

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

Z. Contractor Furnished Surveying and Staking

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

1.0 Description. The contractor will be responsible for all layout required on the project. All staking required to ensure that improvements installed on this project meet the ADA requirements is the sole responsibility of the contractor. This responsibility will include, but not limited to the following: Construction signs, curb ramp, landing, and sidewalk construction, truncated dome installation, quantity verification, curb construction, pavement marking, pedestrian signal modifications, median strip/island construction and modifications, etc.

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

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

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

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

AA. Saw Cutting for Removal of Improvements

1.0 Description. Saw cutting will be necessary for removal of improvements in certain locations as depicted in the contract plans. A number of the locations and estimated saw cut lengths have been identified and quantified in the table for Removal of Improvements that has been included in the Schedule of Quantities. The list included within the Schedule of Quantities may not be all inclusive and the contractor's means and methods may require an alternate removal method be employed.

2.0 Construction Requirements. All materials and work performed for this item shall be in accordance with Sec 202.

2.1 Exception for Full Depth Pavement Repair Saw Cutting. This JSP does not apply to the perimeter and internal saw cutting required for full depth pavement repairs, which shall be governed by the requirements of Sec 613.

3.0 Method of Measurement. With the exception of full depth pavement repairs, no measurement shall be made for saw cutting.

4.0 Basis of Payment. With the exception of full depth pavement repairs, all saw cutting shall be considered incidental to and completely covered by the contract unit price for Item No. 202-20.10, "Removal of Improvements", per lump sum. No direct payment will be made for any labor, equipment, materials, and time required to comply with this provision.

BB. Linear Grading Class 2 – Modified

1.0 Description. Modified Linear Grading, Class 2 shall consist of any necessary clearing and grubbing in accordance with Sec 201, preparing the subgrade for shoulder, pavement widening, sidewalk, curb and gutter, roadside retaining wall, or other roadside appurtenance by excavating, compacting, fine-grading, and shaping existing shoulder and ditch fore-slope, conforming to the typical section shown on the plans. It may be necessary to haul material.

2.0 Construction Requirements. The shoulder, pavement widening, sidewalk, curb and gutter, roadside retaining wall, or other roadside appurtenance shall be excavated and graded as shown on the typical section with minimal disturbance of the existing sub-grade and fore slope. Density shall be obtained from reasonable compactive efforts consisting of no less than three passes with a roller until no further visible compaction can be achieved, or by other methods approved by the Engineer. Subgrade preparation and compaction shall also be in accordance with Sections 203, 209 and 210.

2.1 All ditches shall be graded to drain and maintain existing flow capacity, unless approved by the engineer. If fill material for the shoulder widening work impacts the ditch capacity, the contractor shall re-grade the backslope to maintain the flow capacity of the ditch. Fore slopes and back slopes shall be constructed at a 3:1, except as noted on the plans or approved otherwise by the engineer.

2.2 It may be necessary to go outside the limits of the right of way to obtain additional material or to dispose of excess material. All costs for providing additional material or disposing of excess material shall be included at the contract unit price for pay item 207-99.09, Modified Linear Grading, Class 2. All contractor furnished material shall be approved by the Engineer prior to being incorporated into the project. Quarry screenings will not be considered an approved contractor furnished material.

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

3.0 Method of Measurement. Measurement will be made to the nearest 1/10 station separately for the length of pavement edge along each side of the roadway, measured along centerline of the traveled way and totaled to the nearest Station for the sum of all segments in accordance with Section 207.

4.0 Basis of Payment. Payment for Modified Linear Grading, Class 2 as described in this provision will be made at the contract unit price for:

Item Number	Unit	Description
207-99.09	Station	Misc. Modified Linear Grading, Class 2

CC. Asphalt Coldmilling / Paving Requirement

1.0 Description. Asphalt coldmilling / paving requirement for the project.

2.0 Construction Requirements. Asphalt coldmilled pavement areas shall be filled with the corresponding asphaltic concrete mixture during the same work shift.

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

DD. Relocate Mailboxes

1.0 Description. This work includes removal and relocation of mailboxes as noted on the contract plans. Installation of the relocated mailbox shall match the current state of the mailbox or be approved by the engineer. If a new post is determined to be necessary, the post shall match size and material of existing mailbox.

1.1 The contractor shall also ensure that during construction operation no disruption to U.S. Postal Services is encountered to any businesses or residents along the project limits. Temporary located mailboxes may be required in order to do so and no direct payment shall be made for a temporary mailbox.

2.0 Method of Measurement. Measurement of the relocated mailboxes shall be made per each mailbox that is permanently moved.

3.0 Basis of Payment. All costs associated with this work shall be considered completely covered by Item No. 608-99.02, "Misc. Relocate Mailbox", per each.

EE. Concrete Curb Ramp (7 In. Thick)

1.0 Description. ADA curb ramps shall be installed at the locations depicted in the contract plans.

2.0 Construction Requirements. Proposed curb ramp types have been identified in the plans for the contractor's information for estimating purposes. The contractor may be permitted to deviate from the curb ramp type shown at a given location, provided that the contractor-proposed change has been approved by the engineer, stays within the constraints of all Right of Way and easements, and the final product is compliant with current ADA standards. No additional payment will be made for any design work or additional labor, equipment, materials, and time associated with a contractor-proposed modification to the ADA curb ramps.

2.1 Thickness. The thickness of the concrete placed for the ADA curb ramps shall be no less than 7 inches.

2.2 All work performed for this item shall be in accordance with Sec 304, 608, and 609. All concrete curb ramps shall include 4 inches of Type 5 Aggregate Base underneath and any necessary integral curbing required for construction of an ADA-compliant ramp.

3.0 Method of Measurement. Measurement will be made per each ADA-compliant curb ramp installed by the contractor and accepted by the engineer. Base rock and integral curbing required for construction of the curb camps shall be considered incidental to the construction of the curb ramps and no measurement will be made for these items.

4.0 Basis of Payment. Payment for the accepted quantity for the ADA curb ramps will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
608-99.02	Each	7" Concrete Curb Ramp

FF. Concrete Staircase with ADA Handrails

1.0 Description. This curb ramp location involves the removal and replacement of the existing stairs, handrails, and other appurtenances to match the grades of proposed new and existing sidewalks at either end of the existing stairs and shall be installed at locations as depicted in the contract plans.

2.0 Construction Requirements. The location of the stairs and handrail to be removed and replace has been identified in the plans for the contractor's information for estimating purposes. No additional payment will be made for any design work or additional labor, equipment, materials, and time associated with a contractor-proposed modification to the stairs. Removal of the existing stairs, handrail and concrete shall be considered incidental to and included in the work for this pay item.

2.1 Thickness. The thickness of the concrete placed for the stairs, and sidewalk tie-ins shall be no less than 7 inches deep.

2.2 Handrails. Handrails shall be replaced in kind, and shall comply with PROWAG standards. A minimum of 6 inches of concrete shall be provided around all handrail posts and an appropriate watertight seal shall be placed at the joint between the handrail posts and concrete.

2.3 Stairs. The new stairs shall consist of evenly spaced stairs with risers that are 7 inches tall. Tread depths shall comply with PROWAG standards.

2.4 All work performed for this item shall be in accordance with Sec 304, 608, and 609; all materials shall be in accordance with Sec 1000. All concrete shall include 4 inches of Type 5 Aggregate Base underneath and any necessary integral curbing required for construction of the stairs.

3.0 Method of Measurement. No measurement will be made for this item.

4.0 Basis of Payment. Each location of stairs, handrails, and appurtenances shall be considered one unit. Payment for the accepted quantity for the removal and replacement of the stairs at locations depicted on the contract plans will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
608-99.02	Each	Concrete Staircase with ADA Handrails

GG. Decorative Colored and Stamped Concrete – J6S3416B Only

1.0 Description. The contractor shall install stamped, colored decorative concrete paving at the locations along mainline Route 115 as depicted in the contract plans.

1.1 The mold used for the installation of the pattern shall be furnished by the contractor and retained by the City of Pine Lawn.

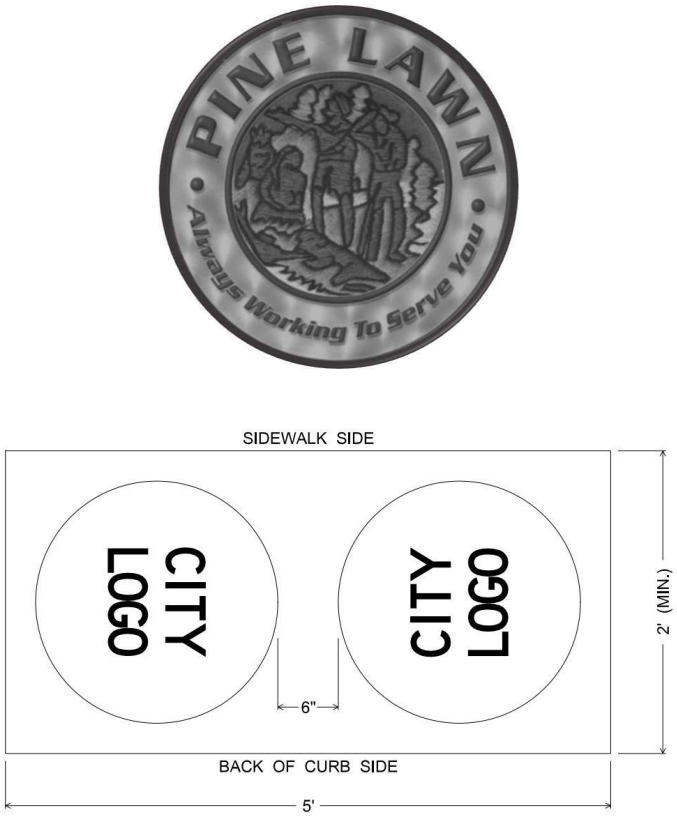
2.0 Construction Requirements.

2.1 Materials. All material shall be in accordance with Sec 608.2. The contractor shall provide all material certifications for concrete coloring pigment, including manufacturer technical and safety data for each product. The contractor shall also supply samples of all concrete color and texture for prior review and approval by the engineer prior to construction of the mockup.

2.1.1 Color Pigment. Color pigment shall be added to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved mockup. Color shall be an earth-tone red-brown or red-orange that shall be approved by the Engineer prior to ordering.

2.1.2 Stamped Concrete Pattern. The pattern used shall be a uniform texture of moderate depth relief consistent with natural cleft granite stone. The stamp should be a 24” inch square mold with 4”x4” or 6”x6” smaller cobble type square stones with joints in between. Stone relief dimensions should be between 0.150” and 0.172” in depth and the joint detail approximately 0.25” to 0.33”. The pattern shall be approved by the Engineer prior to ordering.

2.1.3 City of Pine Lawn Logo. Within the stamped concrete pattern, at an interval of no less than 50 feet, the contractor shall block out an area no smaller than 2’x5’ and shall place a pair of stamped City of Pine Lawn Logos, oriented top-to-top and perpendicular to the sidewalk and street. The contractor shall obtain an electronic copy of the Pine Lawn City Logo (sample seen below) and have it transferred to a specially-made mold for use in stamping concrete. The mold shall be approximately 2 feet in diameter and shall be of sufficient depth for the design to properly transfer into the concrete, but no deeper than 0.375” in depth. The shop drawings of the logo shall be approved by the City of Pine Lawn prior to ordering.



2.1.4 Polyethylene/plastic used in the stamping process shall be of sufficient thickness to adequately transfer the design while resisting tearing or breakage.

2.1.5 Locations. The decorative colored and stamped concrete is to be placed in locations as noted on the plans. The contractor shall not place stamping, coloring, or the logo-stamped concrete in any location that will serve as the ADA accessible sidewalk path.

The stamped City of Pine Lawn logos shall be placed on the locations left of the centerline for this project.

2.1.6 Stamped Concrete Molds. Upon completion of stamped concrete work, the mold used for the pattern and the mold used for the City of Pine Lawn Logo shall be delivered to the City of Pine Lawn by the contractor. The contractor shall be responsible for contacting the City at the contact below to arrange delivery of the mold to the following address:

Mayor of Pine Lawn
6250 Steve Marre Ave.
Pine Lawn, MO 63121
(314) 261-5500

2.2 Mockup. A mockup or test patch of the decorative concrete shall be constructed by the contractor to demonstrate aesthetic effects and set quality standards for materials and execution. The location of the mockup shall be approved by the engineer and shall be of sufficient size for review and approval with the minimum acceptable size being 5'x5' square.

2.3 Subgrade and Baserock. Subgrade preparation shall be in accordance with Sec 209. Baserock material shall be Type 5 Aggregate Base in accordance with Sec 304 and shall be of the thickness identified in the contract plans. All deficient areas of subgrade and baserock shall be corrected prior to placement of the decorative concrete paving. No direct payment will be made for preparation of the subgrade or for Type 5 Aggregate Base.

2.4 Joints. Joints and saw cuts shall be placed in a manner similar to the adjacent concrete sidewalk. Joint filler material shall be in accordance with Sec 1057.

2.5 Concrete Protection And Curing.

2.5.1 Curing Compound. Curing compound shall be a clear compound in accordance with Sec 1055 that will not react with or otherwise change the color of the concrete pigment.

2.5.2 Protection. The contractor shall take care to not damage the decorative concrete paving once it has been placed. Traffic shall be excluded for a minimum of 14 days after placement. When construction traffic is permitted, maintain decorative concrete pavement as clean as possible by removing surface stains and spillage of materials as they occur, and maintain free of stains, discoloration, dirt, and other foreign material. The contractor shall replace any damaged sections of decorative concrete pavement at their cost.

3.0 Method of Measurement. Measurement shall be made in accordance with Sec 608.4 to the nearest 1/10 square yard.

4.0 Basis Of Payment. Approved locations of decorative concrete paving shall be paid for at the contract unit price for the item listed below and shall include all necessary equipment, materials and labor necessary for compliance with these provisions.

Item No.	Unit	Description
608-99.05	SQYD	Misc. Stamped Concrete

HH. Modified Curb & Gutter

1.0 Description. There are a number of locations on the project where gutter widths vary and are narrower than standard, and in those locations, Modified Curb and Gutter shall be used.

2.0 Construction Requirements. All materials and work performed for this item shall be in accordance with Sec 609.

3.0 Method of Measurement. Measurement will be made in accordance with Sec 609.

4.0 Basis of Payment. Payment for the accepted quantity for the Modified Curb and Gutter will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
609-99.03	Linear Foot	Modified Curb and Gutter (1' Gutter)
609-99.03	Linear Foot	Modified Curb and Gutter (1.5' Gutter)
609-99.03	Linear Foot	Modified Curb and Gutter (2' Gutter)

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

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

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

2.1 Multi-Lane Undivided Highway Right Lane Closure

(a) All work within project limits that requires Multi-Lane Undivided Highway Right Lane Closure as shown in the plans.

2.2 Center Turn Lane Closure

(a) All work within project limits that requires Center Turn Lane Closure as shown in the plans.

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

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

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

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

JJ. Lump Sum Temporary Traffic Control JSP-22-01

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	Misc. Lump Sum Temporary Traffic Control

KK. Detectable Pedestrian Channelizing Barricade

1.0 Description. This work shall consist of utilizing Detectable Pedestrian Channelizing Barricades as shown on the plans and in accordance with the Manual for Uniform Traffic Control Devices. The pedestrian barricade is similar to the Type 2 Barricade indicated in Section 6F.63.

2.0 Basis of Payment. Payment for furnishing and installing, including relocating, the pedestrian barricades shall be completely covered by the contract unit price for Item No. 616-99.02, Detectable Pedestrian Channelizing Barricade, per each.

LL. Contrast Pavement Markings

1.0 Description. This work shall consist of installing a minimum of 1.5 inch black outside contrast border surrounding any pavement acrylic waterborne pavement marking paint and any preformed thermoplastic pavement markings installed on existing or proposed concrete pavement. For preformed markings, this black contrast border shall be either preformed thermoplastic paint or acrylic waterborne paint.

2.0 Basis of Payment. Payment for furnishing and installing the 1.5 inch black outside contrast border shall be included in the cost of the pavement marking items included in the plans.

MM. Lane Reduction Arrows

1.0 Description. This work shall consist of installing special pavement markings as shown in the plans.

2.0 Lane reduction arrows shown in the plans shall be in accordance with MUTCD Figure 3B-24F and shall be preformed thermoplastic pavement marking in accordance with Section 620 of the Standard Specifications.

3.0 Basis of Payment. Payment for furnishing and installing the pavement markings noted above, including all materials, equipment, tools, labor, and work incidental thereto (including the 1.5 inch black outside border), and shall be considered to be completely covered by the contract unit prices for the following:

Item No.	Type	Description
620-99.02	Each	Lane Reduction Arrow, Preformed Thermoplastic Pavement Marking

NN. Pavement Marking Layout

1.0 Description. The striping lane lines on sections of roadway with multiple traffic lanes in one direction shall be placed in a manner in which the start and stop points for all intermittent lane lines match and line up even transversely across all traffic lanes. For all installations of intermittent pavement markings care should be taken to align the skips longitudinally to consistently match the spacing of the existing UIP intermittent lane lines at both start and end points of the improvement section.

2.0 Construction Requirements. The contractor shall submit to the Engineer for review and approval a pavement marking installation plan. This plan will include the contractor's proposal for installing the intermittent pavement markings to meet the requirements outlined above.

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

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

OO. Pavement Marking Notification

1.0 Description. Before beginning striping the contractor shall contact the sign shop at least 24 hours in advance. No additional pay shall be made to comply with this provision. Contact information is provided below.

Michael Love	Signing / Striping Supervisor
Office: (314) 205-7310,	Cell: (314) 624-3318

PP. 18 Inch Island Tubular Marker

1.0 Description. Tubular markers shall be mounted on raised islands at the locations indicated in the plans.

2.0 Requirements. Island tubular markers shall have a height 18-inches as noted on plans, 2 reflective bands with super high intensity prismatic sheeting in accordance to Sec 1042 and be constructed from thermoplastic polyurethane. Color of the island tubular marker and reflective bands shall match the pavement marking in which it is placed. Post shall be in the shape of a "T" with a width of 3 inches and depth of 2 inches. Post shall be capable of recovering from repeated vehicle impacts. Post shall insert and be secured into the plastic base with horizontal locking pins. When the post is no longer serviceable, it shall be able to be removed and a new post can be manually inserted and locked into the existing base.

3.0 Construction Requirements. Shall be surface mounted on the radius points of the island noses. The roadway shall be cleaned of dirt and gravel before installation. Island tubular markers shall be mounted using proper sized anchor bolts according to manufacturer's instructions.

4.0 Method of Measurement. Measurement for installation of tubular marker with base will be made per each.

5.0 Basis of Payment. All labor, equipment and materials necessary to install these markers will be paid for under:

Item Number	Type	Description
620-99.02	Each	18 IN. Yellow Island Tubular Marker
620-99.02	Each	18 IN. White Island Tubular Marker

QQ. Drainage Maintenance During Construction

1.0 Description. The contractor's attention is called to the drainage construction. The Contractor is required to maintain drainage during construction and to ensure that the existing drainage system continues to convey all storm water until the new structures and pipes are in place.

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

RR. MSD As-Built Submittals (21MSD-00541)

1.0 Description. Metropolitan St. Louis Sewer District (MSD) requires as-built drawings of the constructed drainage facilities to be submitted for their records. The contractor shall perform all work necessary to produce and submit the final as-built drainage plans to MSD, per MSD's as-built submittal requirements. The contractor shall submit the MSD as-builts for 21MSD-00541 and subsequent revisions after all drainage structures related to the project have been constructed or adjusted.

1.1 The contractor shall provide a copy of the as-built drainage plans to the MoDOT engineer at the time of the MSD submittal.

2.0 Basis of Payment. No direct payment will be made for this item and shall be considered incidental to the following:

Item Number	Type	Description
627-99.01	Lump Sum	MSD As-Built Submittals

SS. Culvert Clean Out

1.0 Description. This work shall consist of removal of debris and silt from existing inlets and manholes at locations designated on the plans as "**Culvert Clean Out",** or by the Engineer.

2.0 Construction Requirements. The designated inlet/manhole shall be cleaned by a method and process approved by the Engineer. All debris and silt shall be removed from drainage structures. Removed material shall be properly disposed of by the contractor off the right of way. Upon completion of the clean out, the drainage structure and pipes shall be thoroughly flushed with water.

3.0 Method of Measurement. Measurement for Culvert Clean Out will be made per each.

4.0 Basis of Payment. The accepted quantity of culvert cleanout will be paid for at the contract unit price for:

Item Number	Type	Description
206-35.00	Each	Culvert Clean Out

Payment will be considered full compensation for all labor, equipment, and material necessary to clean out the designated inlets and manholes.

TT. MSD Drainage Structures

1.0 Description. Metropolitan St. Louis Sewer District (MSD) standard drainage structures will be used on this project at the locations specified on the plans. Contractor shall follow the Metropolitan St. Louis Sewer District Standard Specifications for Sewers and Drainage Facilities (2009 edition) for standard details.

2.0 Basis of Measurement. Measurement will be made for each structure for the vertical distance between the elevation of the top structure and the elevation of the flowline at the structure base and will include all necessary assemblies associated with that structure, such as adapter rings, joints, connectors, grade adjustment rings, waterproofing required to adhere to MSD standards for storm drainage structures.

MSD PCC Short Top Manhole – 48" Base
MSD PCC Manhole – 48" Base includes 1-standard MSD Frame and Cover
MSD PCC Double Street Inlet includes 1- MSD standard double inlet base, PCC Unit "B" and 2- inlet stone and cover.
MSD PCC Trapped Double Street Inlet includes 1-MSD standard double inlet trapped base, PCC Unit "B" and 2- inlet stone and cover.
MSD PCC 2 Grate Inlet with Side Intake – 42" Base includes 1- MSD standard 48" base, 2 Grate Inlet seat & cast iron side intake
MSD PCC Trapped 2 Grate Inlet with Side Intake – 42" Base includes 1-MSD standard trapped base, 2 grate inlet seat & cast iron side intake.

3.0 Basis of Payment. Payment for work associated with these drainage structures will include the entire cost for all assemblies necessary to furnish and install the entire structure, including all materials, equipment, labor and work will be made under the bid items for MSD drainage structures included in the contract.

The accepted quantity for drainage structures will be paid for at the contract unit price for:

Item Number	Type	Description
731-99.03	Pay Depth	MSD PCC Short Top Manhole – 48" Base
731-99.03	Pay Depth	MSD PCC Manhole – 48" Base
731-99.03	Pay Depth	MSD PCC Double Street Inlet
731-99.03	Pay Depth	MSD PCC Trapped Double Street Inlet
731-99.03	Pay Depth	MSD PCC 2 Grate Inlet with Side Intake – 42" Base
731-99.03	Pay Depth	MSD PCC Trapped 2 Grate Inlet with Side Intake – 42" Base

UU. TBR&R Per MSD Inspection

1.0 Description. This project falls within the jurisdiction of the Metropolitan St. Louis Sewer District. The MSD inspector may choose to replace existing drainage structures based on condition. At this time there is no way to determine which structures will be identified by the inspector for replacement. Structures with the potential for removal and replacement are identified on the plans as "TBR&R Per MSD Inspector".

If the MSD inspector requires existing structure replacement the Contractor shall follow the Metropolitan St. Louis Sewer District Standard Specifications for Sewers and Drainage Facilities (2009 edition) for standard details, material specifications, and construction requirements.

2.0 Basis of Payment. Payment for work associated with TBR&R Per MSD Inspector will include furnishing and installing the designated drainage structure, all excavation, connection to existing or new pipe, including all gaskets, joints, materials, equipment, labor and work will be made under the bid items for TBR&R Per MSD Inspector included in the contract.

The accepted quantity will be paid for at the contract unit price for:

Item Number	Type	Description
731-99.03	PAY DEPTH	TBR&R Per MSD Inspection

VV. PVC Pipe

1.0 Description. PVC Pipe will be used on this project at the locations specified on the plans. Contractor shall follow the Metropolitan St. Louis Sewer District Standard Specifications for Sewers and Drainage Facilities (2009 edition) for standard details, material specifications, and construction requirements.

2.0 Basis of Payment. Payment for work associated with these drainage structures will include furnishing and installing PVC Pipe, including all gaskets, joints, materials, equipment, labor and work will be made under the bid items for PVC Pipe included in the contract.

The accepted quantity will be paid for at the contract unit price for:

Item Number	Type	Description
725-99.03	Linear Feet	12" PVC Pipe
725-99.03	Linear Feet	15" PVC Pipe
725-99.03	Linear Feet	18" PVC Pipe
725-99.03	Linear Feet	21" PVC Pipe
725-99.03	Linear Feet	24" PVC Pipe

WW. Preformed Thermoplastic Pavement Marking, Lane Reduction Arrow

1.0 Description. This work shall consist of installing lane reduction arrows as shown in the plans.

2.0 Materials. The contractor shall use preformed thermoplastic pavement marking material for the lane reduction arrows shown in the plans, dimensioned in the MUTCD, and in accordance with Section 620 of the Standard Specifications.

3.0 Basis of Payment. Payment for furnishing and installing the lane reduction arrows shall include all materials, equipment, tools, labor, and work incidental thereto, and shall be considered to be completely covered by the contract unit prices for :

Item No.	Unit	Description
620-99.02	Each	Preformed Thermoplastic Pavement Marking, Lane Reduction Arrow

XX. Small Block Wall

1.0 Description. This work shall consist of furnishing and constructing precast small block gravity retaining walls without soil reinforcement in accordance with these specifications, as shown on the plans or as directed by the engineer.

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

Item	Section
Concrete	501
Select Granular Backfill for Structural Systems	1010
Geotextile	1011
Miscellaneous Drainage Material	1013
Resin Anchor Systems	1039
Small Block Wall Systems – Concrete Blocks	1052.40

2.1 The unit fill shall consist of a granular backfill in accordance with Gradation D or E of Sec 1005.

2.2 Class B or B-1 concrete shall be used for cast-in-place concrete leveling pads used for the wall system.

3.0 Design Requirements.

3.1 Only the small block wall systems shown in the bridge prequalified products listing will be allowed for use by the contractor. The bridge prequalified products list may be obtained through Bridge or MoDOT's web site. Any deviations from the prequalified wall system details previously submitted to Bridge shall be specifically outlined in the cover letter submitted with the design plans, details and computations.

3.2 The contractor shall submit six complete sets of the manufacturer's design plans, details, and computations for each individual wall structure to the engineer. All submitted information shall be clear and complete, and thoroughly checked before the information is submitted. All submitted information shall be legible and of sufficient contrast to be suitable for archiving in accordance with MoDOT's current practice for archiving. Submitted information determined to be unsuitable for archiving purposes will be returned for corrective action.

3.3 The contractor will be solely responsible for the content of the design plans, details, and computations that are submitted, and for the performance of the wall system. The contractor shall be solely responsible for ensuring that the information submitted by the manufacturer is in accordance with all contract plans and specifications and with the wall system used. Completed design plans shall contain all material, fabrication and construction requirements for erecting the wall system complete in place. The completed design plans shall show the longitudinal and lateral layout of the drainage systems used for the wall system. The contractor shall be responsible for the internal and external stability of the structure including compound stability and overall global stability.

3.4 All design plans, details, and computations submitted for distribution shall be signed, sealed, and stamped in accordance with the laws relating to architects and professional engineers (Chapter 327, RSMo).

3.5 Small block walls shall be designed in accordance with the AASHTO specifications shown on the plans and in accordance with additional publications or specifications referenced within the AASHTO specifications. The seismic performance category, angle of internal friction for the selected granular backfill for structural systems and other design requirements shown on the plans shall be incorporated into the design of the wall system.

4.0 Construction Requirements.

4.1 Unit Fill. The contractor shall use a unit fill to fill the voids of the blocks for the wall system. This unit fill shall extend a minimum distance of 12 inches beyond the extreme back face of the wall system. Each course of the wall system shall have the unit fill in place before the next course of the wall system is placed.

4.2 Precast Top Cap. Precast top cap units shall be used. The top cap units shall be permanently attached utilizing either a resin anchor system or an equivalent detail approved by the engineer.

4.3 Drainage Requirements. A drainage system shall be provided at the base of the wall. The drainage system shall consist of a perforated pipe wrapped in a Class 2 geotextile to prevent clogging of the perforations. The pipe shall be placed in such a manner that water drains freely from the pipe. When the wall length is such that the slope of the pipe becomes excessive in the engineer's judgment, lateral drain pipes shall be installed underneath the concrete leveling pad.

4.4 Foundation Preparation. The foundation for the wall system shall be graded level as shown on the plans. Prior to wall construction, the foundation, if not on rock, shall be compacted as directed by the engineer. Any foundation soils found to be unsuitable shall be removed and replaced, as directed by the engineer.

4.5 Geotechnical Engineer. The contractor shall retain a geotechnical engineer to observe excavations to determine if unsuitable existing fill must be removed. This work will be considered completely covered by the contract unit price for Small Block Wall.

4.6 Leveling Pad. An unreinforced cast-in-place concrete leveling pad shall be provided at the foundation level for each base unit of the wall system. The leveling pad shall be built to the elevations shown on the plans and shall not be raised in elevation to allow for the use of a particular wall system. The leveling pad shall be built a minimum width of 12 inches and a minimum depth of 6 inches. The concrete on the leveling pad shall be cured a minimum of 12 hours before any of the wall system modules are placed.

4.7 Select Granular Backfill for Structural Systems Placement.

4.7.1 Select granular backfill for structural systems shall be placed concurrently with the placement of the retained backfill. The placement of the select granular backfill for structural systems shall closely follow the erection of each course of the wall system and shall be placed in such a manner to avoid any damage or disturbance to the wall material or any misalignment of the facing elements of the wall system. Any wall system material that becomes damaged or disturbed during the installation of the wall system shall be removed, replaced, or corrected at the contractor's expense, as directed by the engineer. Whenever placement of the select granular backfill for structural systems results in the wall facing system being misaligned or distorted outside the limits of this specification, the contractor shall correct the misalignment or distortion as directed by the engineer.

4.7.2 The select granular backfill for structural systems shall be compacted in accordance with Sec 203, with the following exceptions:

a) The minimum density shall be no less than 95 percent of maximum density, determined in accordance with AASHTO T 99.

b) When the material used contains more than 30 percent retained on the ¾ inch sieve, a method of compaction consisting of at least four passes by a heavy roller shall be used.

c) The moisture content of the material prior to and during compaction shall be uniformly distributed throughout each layer. The placement moisture content shall be no lower than three percentage points less than the optimum moisture content and shall be no more than the optimum moisture content.

d) Compaction within 3 feet of the back face of the wall system shall be achieved by at least three passes of a lightweight mechanical tamper, roller, or vibratory system.

e) The contractor shall ensure that runoff within the wall system construction site is directed away from the wall facing during construction, and that runoff from adjacent areas of the general construction site is directed such that runoff does not enter the wall system construction site.

f) Class 1 geotextile material shall be placed between the select granular backfill for structural systems, and the retained backfill and over the top of the select granular backfill for structural systems to prevent piping of in-situ soil into the wall system.

g) Tamping-type (sheep’s foot) rollers shall not be used for compaction of the select granular backfill for structural systems.

4.8 Construction Tolerances.

4.8.1 Wall systems shall be built in accordance with the dimensions and elevations specified on the plans and in accordance with the requirements of the system manufacturer. Alignments shall be maintained within the following dimensional tolerances:

Dimensional Item	Dimensional Tolerance
Final Joint Gaps Between Adjacent Block Units	± 1/4 inch
Vertical and Horizontal Alignment of Facing Elements	± 1/16 inch per foot

4.8.2 Vertical alignments shall be measured along a theoretical vertical line established from the top of the wall system to the base of the wall system. For walls that have a built-in setback, the alignment shall be measured along the theoretical vertical line and the straight line that describes the horizontal setback.

4.9 Technical Assistance. The contractor shall be responsible for having a technical advisor from the wall system manufacturer available for assistance during the installation of the wall system.

5.0 Method of Measurement.

5.1 Measurement of small block walls will be made to the nearest square foot. The quantity to be paid will be measured from "Top of Wall Line" to the "Theoretical Top of Leveling Pad Line" shown on the plans. No adjustments in the measured quantity will be permitted for additional wall area required to meet the minimum wall elevations shown on the plans for any particular wall system.

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

5.3 No measurement will be made for required excavation for placement of the leveling pad for the wall system. All other excavation required for the construction of the wall system will be included in roadway items.

6.0 Basis of Payment. Payment for the accepted quantity for small block walls will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time as required to comply with this provision.

Item No.	Unit	Description
720-99.04	SQFT	Small Block Wall

YY. Sodding

1.0 Description. The contractor shall install sod on all disturbed areas except for surfaced areas, solid rock, and slopes consisting of primarily broken rock.

2.0 Construction Requirements. The contractor shall use sodding as specified for all disturbed areas shown in the plans. Seedbed preparation will be in accordance with Sec 801 and placement shall be accomplished in accordance with Sec 803. The contractor shall place the sodding **within 14 calendar days** of ground disturbance to reduce soil erosion or as approved by engineer. Disturbed area shall not exceed maximum of 1 acre at one time for all locations combined on the project.

2.1 Temporary seeding may be utilized to fulfill maximum land disturbance requirement or at the discretion of the contractor. No direct payment will be made for temporary seeding.

2.2 Acceptance will be in accordance with Sec 803.4.

3.0 Basis of Payment. Payment for sod, including seedbed preparation will be considered

completely covered by the contract unit price for Item No. 803-10.00A, “Turf Type Tall Fescue Sodding”, per square yard.

ZZ. 30’ Roadway Top Mount Pole

1.0 Description. This work shall consist of furnishing and installing Top Mount Poles as indicated in the plans.

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

2.1 All exposed surfaces shall have a powder coat black finish.

3.0 Basis of Payment. Payment for furnishing and installing top mount poles shall include all excavation, materials, equipment, tools, labor, and work incidental thereto, and shall be considered to be completely covered by the contract unit price per Each for Item 901-99.02 – Misc. 30’ Roadway Top Mount Pole.

AAA. 30’ Roadway LED B Top Mounted Luminaires

1.0 Description. This work shall consist of furnishing and installing Light-Emitting Diodes (LED) B Top Mounted Luminaires as indicated in the plans.

2.0 Construction Requirements. Luminaires shall be vertical top mount type (pole top mount) with a slip-fitter that accommodates a standard 2” top mount. Available types are listed on the MoDOT approved products list and must meet all MoDOT Specifications. The contractor shall coordinate the pole top mount size with the luminaire to ensure compatibility.

2.1 The luminaires shall have flat glass optics and be low tilt fixtures mounted at 0 degrees horizontal.

2.2 All exposed surfaces shall have a black painted finish.

3.0 Basis of Payment. Payment for furnishing and installing top mounted luminaries shall include all excavation, materials, equipment, tools, labor, and work incidental thereto, and shall be considered to be completely covered by the contract unit price per Each for Item 901-99.02 – 30’ Roadway LED B Top Mounted Luminaire.

BBB. Pedestrian Scale Lighting – J6S3416B Only

1.0 Description. This work shall consist of installing ornamental lighting for the Pine Lawn streetscape enhancements. Installation details shall be in accordance with the plans and the manufacturer’s recommendations.

2.0 Construction Requirements. This work shall be in accordance with Sec 901 and Ameren requirements. Luminaires and poles shall be furnished and installed by Ameren. Concrete foundations and wiring between poles shall be furnished and installed by the contractor. All equipment shall be in accordance with the manufacturer's recommendations.

2.1 Coordination with Ameren. The contractor shall notify Ameren and the City of Pine Lawn once the installation of all bases, wiring, conduit, pull boxes and lighting controllers are complete.

All coordination with Ameren for the pedestrian scale lighting shall be directed to the following contact listed below.

Aaron Robberson
Ameren Missouri
Supervisor, Distribution Services
North Metro – Archview Division
4401 N. Union Blvd.
St. Louis, MO 63115

Telephone Number: 314-992-9802 (Office); 618-900-6691 (Cell)
Email: ARobberson@ameren.com

All coordination with the City of Pine Lawn for the pedestrian scale lighting shall be directed to the following contact listed below.

Mayor of Pine Lawn
6250 Steve Marre Ave.
Pine Lawn, MO 63121
(314) 261-5500

2.2 Light Pole Foundation. The pole foundation shall be concrete and per the manufacturer's recommendations with the design and construction being the responsibility of the contractor. The contractor shall provide shop drawings as required by the engineer prior to installation.

2.3 Mounting Hardware. Ameren shall be responsible for providing all mounting hardware required for assembling each ornamental light pole and luminaire to be attached to the footing. No payment for this hardware will be made and shall be considered incidental to and included in the pay item listed below for the pedestrian scale lighting installation.

2.4 Labeling of Pull Boxes. The Contractor shall place a label indicating that the City of Pine Lawn is the owner of the pull boxes.

2.5 Wiring, Conduit, and Pull Boxes. The contractor shall be responsible for providing all wiring between the lighting controller and each pole location, and for connection between the base and luminaire. Ameren shall be responsible for providing wiring between the power source and lighting controller, any conduit, and pull boxes needed to install the luminaire at each pole location, and shall be responsible for testing and energizing the circuitry upon completion of the installation. Payment for the accepted quantity for the conduit, wiring, and pull boxes will be made in accordance with the contract unit bid price for the items listed below and includes and all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
901-61.10	Each	Pull Box, Preformed Class 1

901-74.07	Linear Foot	Cable-Conduit, 1 In., 2 Conductors and 1 Bare Neutral, 8 AWG

2.6 Lighting Controller. The contractor shall be responsible for providing and installing the lighting controllers and all necessary wiring, circuitry, and equipment associated with the lighting control system to the power supply. Payment for the accepted quantity for the lighting controller will be made in accordance with the contract unit bid price for the item listed below and includes and all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
901-99.02	Each	Misc. Combination Pad Mounted PS & LC (120/240V)

3.0 Method of Measurement. Foundations shall be installed in accordance with the manufacturer's recommendations. For the basis of this contract, the footing and any hardware required for its assembly, shall be considered as a single unit at each installation location. Measurement will be made for each fully completed ornamental lighting assembly.

4.0 Basis of Payment. Payment for the accepted quantity for the ornamental lighting will be made per each pedestrian light pole location in accordance with the contract unit bid price for the item listed below and includes coordination with Ameren, and all labor, equipment, materials, and time required to comply with this provision. No direct payment will be made for materials furnished by Ameren.

Item No.	Unit	Description
901-99.02	Each	Misc. Pedestrian Lighting Installation

CCC. Rectangular Rapid Flashing Beacon

1.0 Description. Rectangular Rapid Flashing Beacons (RRFBs) shall be placed at the locations indicated in the plans. Rectangular Rapid Flashing Beacons shall consist of two signal posts with each post having pedestrian crossing signs and two rapid flashing beacons facing both directions of traffic. Advanced signing upstream of the crossing shall be installed.

2.0 Beacon Requirements.

1. General Conditions:
    a. RRFBs shall meet requirements set forth by this JSP and in the MUTCD and found at:
        http://mutcd.fhwa.dot.gov/resources/interim_approval/ia11/fhwamemo.htm
    b. An RRFB shall consist of two rapidly and alternately flashed rectangular yellow indications having LED-array based pulsing light sources, and shall be designed, located, and operated in accordance with the detailed requirements specified below.
    c. Each post shall have both front and rear facing signs and RRFBs for a total of 2pedestrian signs, four plaques, and 8 RRFBs per crossing.
    d. Power for the RRFBs shall be self-sustained through solar panels and batteries.
    e. One solar-powered crosswalk illuminator that operates upon pedestrian actuation during times with low ambient light shall also be included at each RRFB location.

2. Restrictions:
    a. An RRFB shall only be used to supplement a W11-2 (Pedestrian) with a diagonal downward arrow (W16-7p) plaque, located at or immediately adjacent to a marked crosswalk.
    b. An RRFB shall not be used for crosswalks across approaches controlled by YIELD signs, STOP signs, or traffic control signals. This prohibition is not applicable to a crosswalk across the approach to and/or egress from a roundabout.
    c. An RRFB shall not be installed independent of the crossing signs for the approach the RRFB faces. The RRFB shall be installed on the same support as the associated W11-2 (Pedestrian) and plaque.
3. Beacon Dimensions and Placement in Sign Assembly:
    a. Each RRFB shall consist of two rectangular-shaped yellow indications, each with an LED-array based light source. Each RRFB indication shall be a minimum of approximately 5 inches wide by approximately 2 inches high.
    b. The two RRFB indications shall be aligned horizontally, with the longer dimension horizontal and with a minimum space between the two indications of approximately seven inches (7 in), measured from inside edge of one indication to inside edge of the other indication.
    c. The outside edges of the RRFB indications, including any housings, shall not project beyond the outside edges of the W11-2 sign.
    d. As a specific exception to 2003 MUTCD Section 4K.01 guidance, the RRFB shall be located between the bottom of the crossing warning sign and the top of the supplemental downward diagonal arrow plaque. (or, in the case of a supplemental advance sign, the AHEAD plaque), rather than 12 inches above or below the sign assembly.

       See example photo at:

       http://mutcd.fhwa.dot.gov/resources/interim_approval/ia11/fhwamemo.htm#image
4. Beacon Flashing Requirements:
    a. When activated, the two yellow indications in each RRFB shall flash in a rapidly alternating "wig-wag" flashing sequence (left light on, then right light on).
    b. As a specific exception to 2003 MUTCD Section 4K.01 requirements for the flash rate of beacons, RRFBs shall use a much faster flash rate. Each of the two yellow indications of an RRFB shall have 70 to 80 periods of flashing per minute and shall have alternating but approximately equal periods of rapid pulsing light emissions and dark operation. During each of its 70 to 80 flashing periods per minute, one of the yellow indications shall emit two rapid pulses of light and the other yellow indication shall emit three rapid pulses of light.
    c. The flash rate of each individual yellow indication, as applied over the full on-off sequence of a flashing period of the indication, shall not be between 5 and 30 flashes per second, to avoid frequencies that might cause seizures.
    d. The light intensity of the yellow indications shall meet the minimum specifications of Society of Automotive Engineers (SAE) standard J595 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles) dated January 2005.
5. Beacon Operation:

a. The RRFB shall be normally dark, shall initiate operation only upon pedestrian actuation, and shall cease operation at a predetermined time after the pedestrian actuation or, with passive detection, after the pedestrian clears the crosswalk. The length of actuation shall be programmable and changeable.
b. All RRFBs associated with a given crosswalk (including those with an advance crossing sign, if used) shall, when activated, simultaneously commence operation of their alternating rapid flashing indications and shall cease operation simultaneously.
c. If pedestrian pushbuttons (rather than passive detection) are used to actuate the RRFBs, a pedestrian instruction sign with the legend PUSH BUTTON TO TURN ON WARNING LIGHTS should be mounted adjacent to or integral with each pedestrian pushbutton. Push buttons shall meet American's with Disabilities Act (ADA) requirements in both location and design with both visible and audible feedback when pushed.
d. The duration of a predetermined period of operation of the RRFBs following each actuation should be based on the MUTCD procedures for timing of pedestrian clearance times for pedestrian signals.
e. A small light directed at and visible to pedestrians in the crosswalk will be installed integral to the RRFB or push button to give confirmation that the RRFB is in operation.

6. Crosswalk Illuminator:

   Upon activation by pedestrian during times of low ambient light, the controllers shall activate all crosswalk illuminators in the crosswalk system simultaneously and then cease operation after a programmable timeout coordinated with the flashing beacons.

   a. The crosswalk illuminator shall be Tapco SafeWalk Crosswalk Illuminator.
   b. Shall operate in conjunction with the crosswalk controller and intelligent warning devices.
   c. Shall activate when less than 10 lux of ambient light is present (when activated by a pedestrian).
   d. Designed to provide at least 20 vertical lux at 5 feet for a standard 2 lane crosswalk.
   e. Activate with a 0.5 second soft start.
   f. Allow for multiple brightness options for each of illuminator
   g. Be housed in its own IP66 type enclosure.
   h. Be made of weather resistant materials (aluminum or stainless steel).
   i. Be able to be adjusted and aimed both horizontally and vertically.
   j. Be independently replaceable.
   k. Operate between the temperatures of -40° to +176°F (-40° to +80°C).
   l. Mounting height and illumination angle should be considered when selecting RRFB pole height.

7. Other:

   a. Except as otherwise provided above, all other provisions of the MUTCD applicable to Warning Beacons shall apply to RRFBs.
   b. The signs shall meet the requirements of Sec 903. The minimum height of the lowest sign shall be seven feet if mounted in sidewalk to meet ADA requirements.
   c. The W11-2 and W16-7p signs shall be reflective yellow.

d. The post shall meet MoDOT signal standards in Sec 902. The post will be located so that a minimum of four feet of walkable sidewalk is maintained.

4.0 Method of Measurement. Measurement for installation of RRFBs will be made per each rectangular rapidly flashing beacon system. No measurement will be made for individual items that make up the RRFB system.

5.0 Basis of Payment. All labor, equipment, and materials necessary to install the beacons, signs, solar panels with batteries, push buttons, post, foundation, crosswalk illuminator, and other equipment to have a fully operational RRFB system will be included in the pay item below.

Item No.	Unit	Description
902-99.02	Each	Rectangular Rapid Flashing Beacon

DDD. Passive Pedestrian Detection for RRFBs

1.0 Description. The contractor shall select a passive pedestrian detection system from one of the following manufacturer's to be incorporated into the new RRFB setup at each new midblock crossing of Route 115:

TAPCO

MS SEDCO

FLIR

1.1 The selected system shall be either a video detection system, an infrared radar detection system, a thermal imaging detection system or a microwave sensor detection system that automatically activates the RRFB without a pedestrian pushing the push button to cross Route 115. The selected system shall work in tandem with the installed push button detectors.

1.2 The manufacturer of the selected system shall provide an onsite representative when the contractor installs the passive pedestrian detection system. This onsite representative shall provide training to MoDOT staff just prior to the system being operational.

2.0 Basis of Payment. Payment for the passive pedestrian detection system, including all material, components, labor and testing of the system selected by the contractor for the RRFBs shall be included in the cost of the Rectangular Rapid Flashing Beacon per JSP – Rectangular Rapid Flashing Beacon.

EEE. Installation of Mid-block Crossings

1.0 Description. Prior to installing any signal equipment for the Rectangular Rapid Flashing Beacons along Route 115, the contractor shall have any widening of Route 115 completed and shall have temporary striping in place for the lane shifts through this section of roadway. The contractor shall also have all sidewalk, advanced signing, lighting and the concrete median island installed prior to installing and making the beacon operational.

1.1 Prior to turning on the rectangular rapid flashing beacon, the contractor shall notify the Engineer 2 weeks prior to allow for the following:

1.1.1 Notification to the ATE – MoDOT's Area Traffic Engineer in order for that person to check the timing and general setup of the RRFB (Rectangular Rapid Flashing Beacon).

1.1.2 Notification to the AE – MoDOT's Area Engineer and Public Relations staff so they can prepare a public outreach plan for the new crossing.

2.0 No direct payment shall be made to the contractor to comply with this provision.

FFF. Audible Pedestrian Push Buttons and Signing

1.0 Description. Audible pedestrian pushbuttons and signing will be required for all pedestrian indications at all the intersections.

2.0 Installation. Audible signals should be installed as part of a pushbutton assembly.

3.0 Equipment.

3.1 Walk Indications. Accessible pedestrian signals shall have both audible and vibrotactile walk indications.

3.2 Vibrotactile. Vibrotactile walk indications shall be provided by a tactile arrow on the pushbutton that vibrates during the walk interval. Tactile arrow shall be located on the pushbutton that vibrates during the walk interval. Tactile arrow shall be located on the pushbutton, have high visual contrast (light on dark or dark on light), and shall be aligned parallel to the direction of travel on the associated crosswalk.

3.3 Audible. Accessible pedestrian signals shall have an audible walk indication during the walk interval only. The audible walk indication shall be audible from the beginning of the associated crosswalk.

3.4 Pushbutton signage. In addition to standard pedestrian sign requirements, all pushbuttons for the locations mentioned in 1.0 shall have additional signage to indicate crosswalk direction by use of a tactile arrow and the name of the street containing the crosswalk served by the audible pedestrian signal. The sign shall be located immediately above the push button mechanism and parallel to the crosswalk controlled by the button. The street name shall be the name of the street or reasonable abbreviation whose crosswalk is controlled by the push button. Signage shall comply with ADA Accessibility Guidelines (ADAAG) 703.2 specifications for Braille and raised print.

3.4.1 Arrow. Signs shall include a tactile arrow aligned parallel to the crosswalk direction. The arrow shall be raised 0.8 mm (.03 inch) minimum and shall be 4 mm (1.5 in) minimum in length. The arrowhead shall be open at 45 degrees to the shaft and shall be 33 percent of the length of the shaft. Stroke width shall be 10 percent minimum and 15 percent maximum of arrow length. The arrow shall contrast with the background.

3.4.2 Street Name. Accessible pedestrian signals (APS) shall include street name information aligned parallel to the crosswalk direction and shall comply with Revised Draft Guidelines for Accessible Public Rights-of-Way R409.3 or shall provide street name information in audible format.

4.0 Performance.

4.1 Audible Locator Tone. Locator tone that tells the pedestrian that the intersection is equipped with APS and where it is. Pushbutton locator tones shall have duration of 0.15 seconds or less and shall repeat at 1-second intervals. Pushbutton locator tones shall be intensity responsive to ambient sound and be audible 6 to 12 feet from the pushbutton, or to the building line. The locator tone shall operate during the DON'T WALK and flashing DON'T WALK intervals only and shall be deactivated when the pedestrian signal is not operative.

4.2 Verbal Wait Message. Acknowledge tone that tells the pedestrian that they have placed a call and informational message that tells the pedestrian to “Wait to cross” street name at intersecting street name.

4.3 Verbal Walk Message. The verbal messages shall provide a clear message that the walk interval is in effect, as well as to which crossing it applies. If available, the audio tone feature will not be used. The verbal message that is provided at regular intervals throughout the timing of the walk interval shall be the term “walk sign,” which will be followed by the name of the street to be crossed.

4.4 Volume. Automatic volume adjustment in response to ambient traffic sound level will be provided up to a maximum volume of 100 dB. The units shall be responsive to ambient noise level changes up to no more than 5 dB louder than ambient sound. Tone or voice volume measured at 36 inches from the unit shall be 2dB minimum and 5dB maximum above ambient noise level. At installation, signal system is to be adjusted to be audible at no more than 5 to 12 feet from the system.

5.0 Documentation and Support.

5.1 Operation and Maintenance Manuals. Two copies of the operation and maintenance manuals for each station shall be included.

5.2 USB with Audible Messages. The Contractor shall provide two copies of USB data card to the Engineer that contains files for the manufacturer’s audible messages for complete operation of all APS signals at all stations.

6.0 Construction Requirements. Construction requirements shall conform to Sec 902, 1061, and 1092.

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

8.0 Payment. Payment for the audible signals will be for each unit per bid item,

Item No.	Type	Description
902-99.02	Each	Audible Pedestrian Pushbutton and Signing

This will include all wiring, power adaptors, and installation hardware needed. Payment for signing will be included in the pay item for audible pedestrian pushbutton.

GGG. 12-Position Backpanel Flashing Yellow Arrow (Route U/Lucas-Hunt Rd. and Jennings Sta./Kienlen Intersections)

1.0 Definition. This work will include modifying the cabinets to provide new Special and Standard Overlaps to accommodate Flashing Yellow Arrow installation and programming as detailed on the plan sheets. The installation, cabinet modification, and programming of 3-section permissive only FYA and 4-section protected/permissive FYA signal heads and new FYA signs will vary by intersection. There are four categories for the cabinet modifications:

- One-approach modification
- Two-approach modification
- Three-approach modification
- Four-approach modification

The contractor shall refer to the plans for more details.

1.1 Default Load Switch Assignment – 12 position cabinets

1.1.1 Description. The contractor shall apply 12-compact Flashing Yellow Arrow installation method on all 12-position traffic signal cabinets. The NEMA Load Switch assignment for 12-compact FYA installation method is as follows:

12-Position Cabinet FYA NEMA Load Switch Assignments											
1	2	3	4	5	6	7	8	9	10	11	12
OLA FYA	PHASE 2	OLB FYA	PHASE 4	OLC FYA	PHASE 6	OLD FYA	PHASE 8	PHASE 2 PED / PHASE 1 LEFT	PHASE 4 PED / PHASE 3 LEFT	PHASE 6 PED / PHASE 5 LEFT	PHASE 8 PED / PHASE 7 LEFT

1.2.2 Wiring. The contractor shall use following color code for the installation of Flashing Yellow Arrow:

If separate 7-conductor cable is present for the existing left turn signal head:

- Red Wire = Load Switch 1, 3, 5, or 7 Red output = 4-section Red Left Arrow
- Orange Wire = Load Switch 1, 3, 5, or 7 Yellow output = 4-section Steady Yellow Arrow
- Black/White Wire = Load Switch 1, 3, 5, or 7 Green output = 4-section Flashing Yellow Arrow
- Green Wire = Load Switch 9, 10, 11, or 12 Yellow output = 4-section Green Arrow

If no separate 7-conductor cable is present for the existing, permissive only, left turn signal head:

- Black Wire = Load Switch 1, 3, 5, or 7 Red output = 3-section Red Left Arrow
- Blue Wire = Load Switch 1, 3, 5, or 7 Yellow output = 3-section Steady Yellow Arrow
- Black/White Wire = Load Switch 1, 3, 5, or 7 Green Output = 3-section Flashing Yellow Arrow

If existing cabinet wiring does not allow the described color code to be met, the contractor shall tag all wires with assigned phases and direction used for the successful completion of the installation of Flashing Yellow Arrow.

1.2.3 Signal Monitor programming. The contractor shall use 12 channel programming mode for the signal monitor.

1.2.4 The contractor shall notify the engineer 24 hours after any successful modification to the load switch assignment, wiring, Controller and MMU programming described in this document.

HHH. Countdown Pedestrian Signal Heads

1.0 Description. This work shall consist of furnishing, installing and placing into operation any pedestrian signal heads.

2.0 System Requirements. Delete Sec. 1092.1.6 in its entirety and substitute the following:

1092.1.9 Pedestrian Signal Heads. Pedestrian signal heads shall be in accordance with ITE specifications and standards for pedestrian traffic control signal indications and the following:

(a) Pedestrian signal head housings shall be constructed of a one-piece, 0.250-inch (6 mm) thick, polycarbonate material as shown on the plans. The housing shall include an integral mounting bracket designed for side-of-pole mounting on all makes of signal poles with a terminal compartment and minimum 5-position, double-row terminal block.

(b) The door, lens and any openings in the housing shall have gaskets or seals to exclude dust and moisture from the inside of the compartment.

(c) Lenses shall be constructed of polycarbonate material.

(d) Pedestrian signal head units shall be provided with a manufactured preformed rectangular visor or screen-type louver.

(e) All plastic material shall be ultraviolet stabilized.

(f) Indications shall be ITE Class 3 symbol messages. The "UPRAISED HAND" symbol shall be illuminated with a filled, Portland orange LED module. The "WALKING PERSON" symbol shall be illuminated with a filled, white LED module. The “Countdown” display numbers shall be illuminated with a Portland orange LED module. The LED modules shall be in accordance with applicable portions of Sec 1092.1.

(g) Pedestrian traffic control signal faces shall be constructed such that all messages are displayed from the same message-bearing surface having a black opaque background. The "Countdown" display shall be located to the right of the "UPRAISED HAND" and “WALKING PERSON” symbols, which will be overlaid.

(h) Pedestrian signal heads require “Countdown” displays and shall have the following features:

I. Display numbers must be two digits at least 9 inches in height.

II. Shall only display the “Countdown” time during the pedestrian change interval. Time displayed shall be in seconds and begin only at the beginning of the pedestrian change interval. The flashing “UPRAISED HAND” symbol shall be concurrently displayed during the pedestrian change interval. The total time displayed at the start of the pedestrian change interval shall be automatically adjusted by the pedestrian signal head and not require any manual settings or additional wiring to the signal cabinet.

III. Once the “Countdown” display reaches “0”, the “Countdown” display shall blank-out until the next pedestrian change interval begins.

IV. If the pedestrian change interval is interrupted or shortened as part of a transition into a preemption sequence, the “Countdown” display shall go dark immediately upon activation of the preemption transition.

V. A test switch shall be provided in order to test the “Countdown” display.

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

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

5.0 Basis of Payment. Accepted pedestrian signal heads will be paid at the contract unit price per each. Payment will be considered full compensation for all labor, equipment and material to complete the described work and considered completely covered by the contract unit price bid for:

Item No.	Type	Description
902-08.11	Each	Signal Head, Type 1S, Pedestrian

III. Damaged Traffic Signal Conduit

1.0 Description. In the event that any existing traffic signal or lighting conduit that is indicated or shown on the plans to have new cable added or existing cable removed and replaced, is discovered to be broken and/or damaged, the Engineer shall determine, at each and every occurrence, whether the Contractor shall repair the existing conduit or bore a new conduit between existing pull boxes.

2.0 Construction Requirements. Work and materials shall be in accordance with Sec 901 and 902.

3.0 Method of Measurement: If the Engineer orders the existing conduit to be repaired, final measurement in accordance with Sec 901 and 902.

4.0 Basis of Payment. Payment for repair or replacement of damaged existing conduit, including all materials, equipment, labor and tools shall be made and considered completely covered by the contract unit price bid for:

Item No.	Type	Description
902-99.03	Linear Foot	Misc. Replace Broken Conduit

JJJ. Coordination with MoDOT Signal Shop for Cabinet Entry

1.0 Description. Commission-furnished color-coded pad locks have been placed on all of MoDOT’s signal cabinets in addition to the key used to unlock the door handle. To gain access to the appropriate cabinets during the project all contractors shall coordinate with MoDOT’s signal shop to obtain the proper keys and locks.

1.1 Keys & Locks. Red locks and keys are provided when a contractor has modified the signal cabinet and MoDOT staff shall not have access to the cabinet until it is accepted for maintenance. The blue keys are provided for entry into the cabinet where MoDOT's Signal Shop group deems the access to be minor in nature (entry to the cabinet to make a simple network switch connection, for example).

1.2 Completion of Project. At the completion of the project all keys and pad locks distributed to contractor during the project shall be returned to the Signal Shop supervisor or their representative and keys shall not be reproduced.

2.0 Contact. Initial contact must be made at least seven calendar days before work begins, preferably when the project has the notice to proceed or during the pre-construction meeting, if applicable. MoDOT's Signal Shop supervisors shall be notified prior to work beginning. Contact the signal shop via email at **sltrs@modot.mo.gov** to coordinate which padlocks are to be used.

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

KKK. Traffic Signal Maintenance and Programming

1.0 Description. Traffic signal maintenance and timing for this project shall be in accordance with Section 902 of the Standard Specifications, and specifically as follows.

2.0 Existing Traffic Signals.

2.1 Once any part of an existing traffic signal or its controller within the limits of this project has been modified or adjusted by the contractor, or the contractor makes any roadway changes to reduce the traffic capacity through a signalized intersection within the limits of the project, or the contractor begins work at an intersection with signals already in operation, the contractor shall then be solely responsible for that signal's controller programming and all signal maintenance as specified in 902.2 and 902.3, except for power costs, until Final Acceptance of the project.

2.2 The engineer shall provide to the contractor at the start of the project a detailed report on the existing phasing and timing of each traffic signal, which may be the contractor's responsibility to program. The engineer shall be available to the contractor before any changes are made to a signal or controller to answer any questions about the report. Once the contractor has modified a signal or controller for any reason, the contractor shall be solely responsible for the existing timing plans and all subsequent timing changes.

2.3 The contractor will notify the engineer of the changes no later than 1 working day after changes are programmed if unable to provide advance notice as specified in 902.2.

2.4 Once the communication lines which carry information necessary for these or any other signal controllers outside the limits of this project to maintain coordination is removed by the contractor, the contractor shall be solely responsible for maintaining the coordination at any affected signal to the satisfaction of the engineer until Final Acceptance of the project. Maintenance of coordination may include the synchronization of the affected controller's internal time clocks to the second using an atomic clock, or other means approved by the engineer. If time clock synchronization is used, the contractor shall verify all affected controllers are synchronized at least 1 time per week with a report to the engineer.

3.0 Existing Traffic Signal Maintenance and Response. The contractor shall respond to any signal timing complaints or malfunction complaints for those locations detailed in paragraph 2.0

as specified in 902.21.1. Response time shall be 1 hour for complaints received by the engineer between 6:00 a.m. and 6:00 p.m. on non-holiday weekdays, and 2 hours for all other times. For some cases (due to travel times or other extenuating circumstances), additional time may be acceptable within reason, but must be approved by the engineer. These timeframes will replace the 24 hour response time in Section 105.14 for any signal-related incidents, where the entire cost of the work, if performed by MoDOT personnel or a third party, will be computed as described in Sec 108.9 and deducted from the payments due the contractor

4.0 New Signal Controller Programming. In order to satisfy the provisions of 902.2, the contractor shall provide at least 5 working days' notice to the engineer that a new signal will be ready for operation. At least 2 working days before this new controller turn-on, the engineer will provide to the contractor a signal programming report. The contractor may use all or part of this report when programming the signal but providing this report in no way waives the contractor's responsibility for the programming.

5.0 Method of Measurement. No measurement for separate payment.

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

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

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

2.0 Disassembly and Delivery.

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

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

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

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

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

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

MMM. Disposition of Existing MoDOT Assets

1.0 Existing assets shall be removed and delivered to a designated MoDOT facility as described herein. Existing assets, including signal cabinet assemblies and ITS facilities shall be removed by the contractor, tagged with the time and date of removal and intersection name, and transported to the Missouri Department of Transportation's maintenance lot located at 2309a Barrett Station Road, Ballwin, Missouri 63021 within 48 hours. The contractor shall notify the following MoDOT signal shop Supervisors 24 hours prior to each delivery:

Ron Mize, Cell 314-565-6727, Office 314-205-7320

Dennis Hixson, Cell 314-565-6726, Office 314-205-7319.

All other existing signal and lighting equipment to be removed as shown on plans or as directed by Engineer shall be removed and disposed of by the contractor.

2.0 The contractor shall exercise reasonable care in the handling of existing assets and the signal cabinet assemblies during removal and transportation. Should any of the equipment be damaged by the contractor's negligence, it shall be replaced at the contractor's expense. All other equipment removed from the intersections shall become the property of the contractor and be removed from MoDOT right-of-way.

3.0 The contractor shall restore those areas disturbed by the equipment removal or installation according to specifications herein. This work will be considered included in the unit contract price for Removal of Improvements.

NNN. 2.5 Inch PSST Sign Posts

1.0 Description. Proposed signs have been designed with 2.5-inch PSST posts and hardware. The contractor shall not be permitted to submit a Value Engineering (VE) proposal to reduce the size of the posts to a smaller size. No direct payment will be made for compliance with this provision.

OOO. Remove and Relocate Existing Signs

1.0 Description. Existing signs interfering with the construction of the sidewalk shall be removed, salvaged, and reinstalled on new posts as shown in the plans. All work, including the post type, height and base anchors/sleeves to be furnished, shall be in accordance with Section 903 of the Missouri Standard Specifications for Highway Construction except as modified herein.

2.0 Construction Requirements.

2.1 Signs will be removed from their existing sign supports and relocated to new sign supports. STOP signs shall remain visible at all times. Therefore, the STOP signs may need to be temporarily mounted on supports, similar to temporary traffic control sign supports, until they can be moved to their ultimate location. The Contractor may also elect to install the STOP sign in the final location if doing so will not interfere with construction of ADA facilities. No direct pay will be made to remove signs from their existing sign support, temporarily mount the signs, and move

them to the ultimate location. Any signs damaged due to the contractor's construction activities will be replaced in kind at the contractor's expense.

2.2 The Contractor may be required to drill through existing concrete to install PSST sign support sleeves/anchors. Such core drilling is incidental to the sign relocation work and shall be performed at no direct pay.

3.0 Method of Measurement. The measurement for Permanent Signing shall be measured by each installation of sign. It shall include all necessary foundations, posts, breakaway assemblies, anchors, brackets, sign sheeting and any other necessary items needed to install the signs in accordance with the plans, specifications and standard drawings for Section 903.

4.0 Basis of Payment. Payment for sign relocation, including removal and furnishing new posts, and all labor, equipment and materials incidental to this work, will be considered completely covered by the contract unit price for

Item No.	Type	Description
903-99.02	Each	Misc. Relocate Existing Ground Mount Sign and Post
903-99.02	Each	Misc. Relocate Existing Ground Mount Sign and Post (Non-Standard Sign)
903-99.02	Each	Misc. Relocate Existing Metro Bus Sign and Post

PPP. Supplemental Revisions JSP-18-01AB

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.

Anti-Discrimination Against Israel Certification

By signing this contract, the Company certifies it is not currently engaged in and shall not, for the duration of the contract, engage in a boycott of goods or services from the State of Israel, companies doing business in or with Israel or authorized by, licensed by, or organized under the laws of the State of Israel, or persons or entities doing business in the State of Israel as defined by Section 34.600 RSMo. This certification shall not apply to contracts with a total potential value of less than One Hundred Thousand Dollars ($100,000) or to contractors with fewer than ten (10) employees.

Ground Tire Rubber (GTR) Dry Process Modification of Bituminous Pavement Material

1.0 Description. This work shall consist of the dry process of adding ground tire rubber (GTR) to modify bituminous material to be used in highway construction. Existing GTR requirements in Section 1015 pertain to the wet process method of GTR modification that blends GTR with the asphalt binder (terminal blending or blending at HMA plant). The following requirements shall govern for dry process GTR modification. The dry process method adds GTR as a fine aggregate or mineral filler during mix production. All GTR modified asphalt mixtures shall be in accordance with Secs 401, 402, or 403 as specified in the contract; except as revised by this specification.

2.0 Materials. The contractor shall furnish a manufacturer's certification to the engineer for each shipment of GTR furnished stating the name of the manufacturer, the chemical composition, workability additives, and certifying that the GTR supplied is in accordance with this specification.

2.1 Product Approval. The GTR product shall contain a Trans-Polyoctenamer (TOR) added at 4.5 % of the weight of the crumb rubber or an engineered crumb rubber (ECR) workability additive that has proven performance in Missouri. Other GTR additives shall be demonstrated and proven prior to use such as a five-year field performance history in other states or performance on a federal or state-sanctioned accelerated loading facility.

2.2 General. GTR shall be produced from processing automobile or truck tires by ambient or cryogenic grinding methods. Heavy equipment tires, uncured or de-vulcanized rubber will not be permitted. GTR shall also meet the following material requirements:

Table 1 – GTR Material Properties

Property	Test Method	Criteria
Specific Gravity	ASTM D1817	1.02 to 1.20
Metal Contaminates	ASTM D5603	$\leq$ 0.01%
Fiber Content	ASTM D5603	$\leq$ 0.5%
Moisture Content	ASTM D1509	$\leq$ 1.0%*
Mineral Filler	AASHTO M17	$\leq$ 4.0%

*Moisture content of the GTR shall not cause foaming when combined with asphalt binder and aggregate during mix production

2.3 Gradation. The GTR material prior to TOR or ECR workability additives shall meet the following gradation and shall be tested in accordance with ASTM D5603 and ASTM D5644.

Table 2 – GTR Gradation

Sieve	Percent Passing by Weight
No. 20	100
No. 30	98-100
No. 40	50-70
No. 100	5-15

3.0 Delivery, Storage, and Handling. The GTR shall be supplied in moisture-proof packaging or other appropriate bulk containers. GTR shall be stored in a dry location protected from rain before use. Each bag or container shall be properly labeled with the manufacturer's designation for the GTR and specific type, mesh size, weight and manufacturer's batch or Lot designation.

4.0 Feeder System. Dry Process GTR shall be controlled with a feeder system using a proportioning device that is accurate to within ± 3 percent of the amount required. The system shall automatically adjust the feed rate to always maintain the material within this tolerance and shall have a convenient and accurate means of calibration. The system shall provide in-process monitoring, consisting of either a digital display of output or a printout of feed rate, in pounds per minute, to verify feed rate. The supply system shall report the feed in 1-pound increments using load cells that will enable the user to monitor the depletion of the GTR. Monitoring the system volumetrically will not be allowed. The feeder shall interlock with the aggregate weight system and asphalt binder pump to maintain correct mixture proportions at all production rates.

Flow indicators or sensing devices for the system shall be interlocked with the plant controls to interrupt mixture production if GTR introduction rate is not within ± 3 percent. This interlock will immediately notify the operator if GTR introduction rate exceeds introduction tolerances. All plant production will cease if the introduction rate is not brought back within tolerance after 30 seconds. When the interlock system interrupts production and the plant has to be restarted, upon restarting operations; the modifier system shall run until a uniform feed can be observed on the output display. All mix produced prior to obtaining a uniform feed shall be rejected.

4.1 Batch Plants. GTR shall be added to aggregate in the weigh hopper. Mixing times shall be increased per GTR manufacturer recommendations.

4.2 Drum Plants. The feeder system shall add GTR to aggregate and liquid binder during mixing and provide sufficient mixing time to produce a uniform mixture. The feeder system shall ensure GTR does not become entrained in the exhaust system of the drier or plant and is not exposed to the drier flame at any point after introduction.

5.0 Testing During Mixture Production. Testing of asphalt mixes containing GTR shall not begin until at least 30 minutes after production or per additive supplier's recommendation.

6.0 Construction Requirements. Mixes containing GTR shall have a target mixing temperature of 325 F or as directed by the GTR additive supplier. The additive supplier's recommendations shall be followed to allow for GTR binder absorption/reaction. This may include holding mix in the silo to allow time for binder to absorb into the GTR. Rolling operations may need to be modified.

7.0 Mix Design Test Method Modification. A formal mixing procedure from the additive supplier shall be provided to the contractor and engineer that details the proper sample preparation, including blending GTR with the binder or other additives. Samples shall be prepared and fabricated in accordance with this procedure by the engineer and contractor throughout the duration of the project.

8.0 Mix design Volumetrics. Mix design volumetric equations shall be modified as follows:

8.1 Additional virgin binder added to offset GTR absorption of binder shall be counted as part of the mix virgin binder

8.2 GTR shall be included as part of the aggregate when calculating VMA of the mix.

8.2.1 GTR SPG shall be 1.15

8.3 Mix G_{sb} used to determine VMA shall be calculated as follows:

$$G_{sb\ (JMF)} = \frac{(100 - P_{bmv})}{\left(\frac{P_s}{G_{sb}} + \frac{P_{GTR}}{G_{GTR}}\right)}$$

$$where:$$

$G_{sb\ (JMF)} = bulk\ specific\ gravity\ of\ the\ combined\ aggregate\ including\ GTR$
$P_{bmv} = percent\ virgin\ binder\ by\ total\ mixture\ weight$
$P_s = percent\ aggregate\ by\ total\ mixture\ weight\ (not\ including\ GTR)$
$P_{GTR} = percent\ GTR\ by\ total\ mixture\ weight$
$G_{sb} = bulk\ specific\ gravity\ of\ the\ combined\ aggregate\ (not\ including\ GTR)$
$G_{GTR} = GTR\ specific\ gravity$

8.4 G_{se} shall be calculated as follows:

$$G_{se} = \frac{(100 - P_b - P_{GTR})}{\left(\frac{100}{G_{mm}} - \frac{P_b}{G_b} - \frac{P_{GTR}}{G_{GTR}}\right)}$$

8.5 P_{be} shall be calculated as follows:

$$P_{be} = P_b - \frac{P_{ba}}{100} * (P_s + P_{GTR})$$

9.0 Minimum GTR Amount. The minimum dosage rate for GTR shall be 5 % by weight of total binder for an acceptable one bump grade or 10 % by weight of total binder for an acceptable two bump grade as detailed in the following table. Varying percentage blends of GTR and approved additives may be used as approved by the engineer with proven performance and meeting the specified requirements of the contract grade.

Contract Binder Grade	Percent Effective Virgin Binder Replacement Limits	Required Virgin Binder Grade	Minimum GTR Dosage Rate
PG 76-22	0 - 20	PG 70-22	5 %
		PG 64-22	10 %
PG 70-22	0 - 30	PG 64-22	5 %
		PG 58-28	10 %
PG 64-22	0 – 40*	PG 58-28	5 %
		PG 52-34	10 %
PG 58-28	0 – 40*	PG 52-34	5 %
		PG 46-34	10 %

* Reclaimed Asphalt Shingles (RAS) may be used when the contract grade is PG 64-22 or PG 58-28. RAS replacement shall follow the 2 x RAS criteria when calculating percent effective binder replacement in accordance Sec 401.

Delete Sec 403.19.2 and substitute the following:

403.19.2 Lots. The lot size shall be designated in the contractor's QC Plan. Each lot shall contain no less than four sublots and the maximum sublot size shall be 1,000 tons. The maximum lot size shall be 4,000 tons for determination of pay factors. Sublots from incomplete lots shall be combined with the previous complete lot for determination of pay factors. When no previous lot exists, the mixture shall be treated in accordance with Sec 403.23.7.4.1. A new lot shall begin when the asphalt content of a mixture is adjusted in accordance with Sec 403.11.

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.

Delete Sec 109.14.1 thru Sec 109.14.8 and substitute the following:

109.14.1 Monthly Fuel Index. Each month, the Monthly Fuel Index will be established as the average retail price per gallon for Ultra Low Sulfur Diesel for the Midwest (PADD 2) area as posted on the first Monday of the month by the U.S. Energy Information Administration (EIA). Should the posted price not be available for any reason, the MoDOT State Construction and Materials Engineer will use reasonable methods, at their sole discretion, to establish the Monthly Fuel Index on an interim basis until the EIA resumes its publication.

109.14.2 Fuel Adjustment Calculation.

B = Base Fuel Index = Monthly Fuel Index in the month in which the project was let
C = Current Index = Monthly Fuel Index in the month in which the work was performed
U = Units of work performed within the current pay estimate period (applicable pay units)
F = Total Fuel Usage Factor (gal./applicable pay units)

Fuel Adjustment (Dollars) = (C – B) x U x F

109.14.3 Each pay estimate period, a fuel adjustment payment or deduction will be applied for the quantity of work performed that period on each qualifying pay item. For calculation of the fuel adjustment, work performed on the first day of a month will generally be included with the second estimate in the previous month to keep fuel adjustments in sync with MoDOT's normal payment estimate period schedule. The Commission reserves the right to include work performed on the first day of the month with the current month to accommodate financial accounting termini, such as the beginning of the state and federal fiscal years (July 1 and October 1).

109.14.4 If the bidder wishes to be bound by these specifications, the bidder shall execute the acceptance form in the proposal. Failure by the bidder to execute the acceptance form will be interpreted to mean election to not participate in the price adjustment for fuel.

Disposal of Blast Media and Paint Residue

1.0 Description. Whereas Sec 1081.10 requires delivery of Blast Media and Paint Residue (BMPR) produced from bridge coating activities to The Doe Run Company for recycling, and considering the amount of BMPR produced on all active MoDOT projects statewide at any given point in time may exceed the recycling capacity of Doe Run, this provision allows for an alternate method of disposal of BMPR. The contractor, at its discretion, can choose this disposal option or the Doe Run recycle option, when both are available. When Doe Run is not currently capable or agreeable to accept the BMPR, this alternate disposal option shall be considered mandatory, and at no additional cost to the Commission.

2.0 Disposal in Landfill. In lieu of delivery to Doe Run for recycling, BMPR material shall be disposed in the appropriate type of approved landfill, as determined by Toxicity Characteristic Leaching Procedure (TCLP) testing. The material must be TCLP tested to determine if it contains a level of hazardous waste such that requires disposal in a hazardous waste landfill. A sampling plan for testing shall be submitted to MoDOT for review and concurrence. Sampling shall be performed by the contractor. MoDOT will witness the sampling to ensure it is conducted per the plan submitted.

2.1 The contractor shall submit the collected samples to a qualified third-party testing facility to perform TCLP testing. If the sample indicates that the BMPR material qualifies as hazardous waste, then the materials represented by that sample shall be delivered to a licensed hazardous waste landfill for disposal. The contractor shall be responsible for hiring a licensed hazardous waste transporter to transport the hazardous waste to the landfill. The contractor shall comply with all applicable laws and regulations for storage and shipping of the hazardous waste material. If the testing indicates that the BMPR material qualifies as a special waste, it shall be taken to a certified landfill for disposal. The contractor shall be responsible for the transportation of the special waste material to the certified landfill. The requirement to ship the BMPR material by barrels will be waived. Any alternate containers utilized shall comply with all applicable laws and regulations for shipping this type of special waste material. Copies of all shipping manifests, landfill disposal agreements, and any other legally required documentation shall be provided to the engineer.

3.0 Basis of Payment. No payment will be made for any costs associated with this landfill disposal option, including, but not limited to, sampling, testing, delivery, temporary storage, or disposal fees.