

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

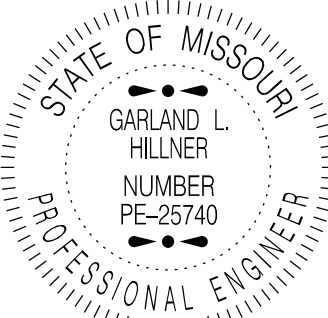
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Job No.: J6P3510B

Route: Various

County: Various

 <p>STATE OF MISSOURI GARLAND L. HILLNER NUMBER PE-25740 PROFESSIONAL ENGINEER</p> <p><i>Garland L. Hillner</i> 05/15/2024 4:15:54 PM GARLAND L. HILLNER - CIVIL MO-PE-25740</p>	<p>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636</p>
	<p>Engineering Design Source, Inc. 16141 Swingley Ridge Road, #300 Chesterfield, MO 63017 Certificate of Authority: #001523 Consultant Phone: 636-537-5585</p>
	<p>If a seal is present on this sheet, JSP's have been electronically sealed and dated.</p>
	<p>JOB NUMBER:J6P3510B JEFFERSON, St. LOUIS, AND ST. CHARLES COUNTY, MO DATE PREPARED::02/29/2024</p>
	<p>ADDENDUM DATE: R001 5/15/2024</p>

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
Contract Completion Date: June 30, 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
J6P3510B	N/A	\$7,600

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 **\$750.00** 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.



REVISED

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

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

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

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

2.0 Traffic Management Schedule.

2.1 Traffic management schedules shall be submitted to the engineer for review prior to the start of work and prior to any revisions to the traffic management schedule. The traffic management schedule shall include the proposed traffic control measures, the hours traffic control will be in place, and work hours.

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

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

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

2.5 Traffic Congestion. The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of **10 minutes** to prevent congestion from escalating beyond this delay threshold. If disruption of the traffic flow occurs and traffic is backed up in queues equal to or greater than the delay time threshold listed above, then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone that generate text and/or email notifications where available. The engineer monitoring the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable. When a Work Zone Analysis Spreadsheet is provided, the contractor will find it in the electronic deliverables on MoDOT's Online Plans Room. The contractor may refer to the Work Zone Analysis Spreadsheet for detailed information on traffic delays.

2.5.1 Traffic Safety.

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

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

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

2.6 Transportation Management Plan. The contractor Work Zone Specialist (WZS) shall review the Transportation Management Plan (TMP), found as an electronic deliverable on MoDOT’s Online Plans Room and discuss the TMP with the engineer during the preconstruction conference. Throughout the construction project, the WZS is responsible for updating any changes or modifications to the TMP and getting those changes approved by the engineer a minimum of two weeks in advance of implementation. The WZS shall participate in the post construction conference and provide recommendations on how future TMPs can be improved.

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

3.0 Work Hour Restrictions.

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

- Memorial Day
- Labor Day
- Thanksgiving
- Christmas
- New Year’s Day

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

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

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

3.3 Any work requiring a reduction in the number of through lanes of traffic shall not be performed between 6:30 a.m. to 8:30 a.m. and 3:00 p.m. to 6:00 p.m.

3.4 The contractor shall not alter the start time, ending time, or a reduction in the number of through lanes of traffic or ramp closures without advance notification and approval by the engineer. The only work zone operation approved to begin 30 minutes prior to a reduction in through traffic lanes or ramp closures is the installation of traffic control signs. Should lane closures be placed or remain in place, prior to the approved starting time or after the approved ending time, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delays, with a resulting cost to the traveling public. These damages are not easily computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of **\$1,000 per 10 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.

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

4.0 Detours and Lane Closures.

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

4.2 During day time operations at least ~~two lanes~~ **one lane** of traffic in each direction shall be maintained. During nighttime operations one lane of traffic in each direction shall be maintained at all times, unless a rolling closure has been approved by the engineer. This provision shall apply except for brief intervals of time required when the movement of the contractor's equipment will seriously hinder the safe movement of traffic. Periods during which the contractor will be allowed to interrupt traffic will be designated by the engineer.



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

D. Coordination with Other Projects in the Vicinity

1.0 Description. The contractor shall be aware that other contracts may be administered in the vicinity and timeframe as this project.

2.0 Construction Requirements. The contractor shall coordinate work to prevent interference with or hinder the project or completion of work being done by the other contractors. The contractor shall also coordinate work to minimize impacts to the traveling public.

3.0 Basis of Payment. No direct payment or additional time 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.

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.

Antonia Fire Department
6633 Moss Hollow Rd
Barnhart, MO 63012
(636) 948-4433

Arnold Police Department
2101 Jeffco Blvd,
Arnold, MO 63010, United States
(636) 296 3204

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Route: Various

County: Various

Rock Community Fire Protection District
3749 Telegraph Road
Arnold, MO 63010
(636) 296-2211

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

St. Louis County Police - Fenton Precinct
625 New Smizer Mill Rd,
Fenton, MO 63026, United States
(636) 349 8120

Fenton Fire Protection District
1001 Assembly Parkway
Fenton, Missouri 63026
(636) 343-4188

Mercy Hospital South Hospital
10010 Kennerly Rd,
Saint Louis, MO 63128, United States
(314) 525 1000

City of Woodson Terrace Police Department
4305 Woodson Rd,
Saint Louis, MO 63134, United States
(314) 427 5858

Woodson Terrace Fire Department
8847 Saint Charles Rock Rd
Saint Louis, MO 63114
(314) 428-1122

SSM HEALTH DEPAUL HOSPITAL ST LOUIS
12303 DePaul Drive
Bridgeton, MO 63044
(314) 344-6000

Missouri Baptist Medical Center
3015 N Ballas Rd,
Saint Louis, MO 63131, United States
(314) 996 5000

Sunset Hills Police Department
3905 S Lindbergh Blvd,

Job No.: J6P3510B
Route: Various
County: Various

Saint Louis, MO 63127, United States
(314) 849 4400

Town and Country Police Department
1011 Municipal Center Dr, Unit 1,
Saint Louis, MO 63131, United States
(314) 432 4696

St. Charles County Police Department
O'Fallon, MO 63366
636-949-3000

St. Charles County Ambulance District
2000 Salt River Road
St. Peters, MO 63378
636-344-7600

SSM Health St. Joseph Hospital - Lake Saint Louis
100 Medical Plaza
Lake St Louis, MO 63367
636-625-5200

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.

Jeff Bohler, PE
St Louis District Design Engineer
MoDOT – St. Louis District
1590 Woodlake Drive
Chesterfield, Mo 63017

Phone: 314-453-5052

Email: jeffrey.bohler@modot.mo.gov

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

G. 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 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 subplot 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) = $(C - B) \times U \times F$

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.

H. 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:

<u>Utility Name</u>	<u>Known Required Adjustment</u>	<u>Type</u>
Ameren Missouri Aaron Killebrew Telephone: 314.874.7994 Email: akillebrew@ameren.com	No	Electric
Charter Communications(Spectrum) John Danowski Telephone: 636.262.0395 Email: john.danowski@charter.com	No	Communications
AT&T Distribution Tosha Hurst Telephone: 636.795.3754 Email: th9527@att.com	No	Communications
City Of St. Peters Tim Myers Telephone: 636.477.6600 Tim.Myers@stpeterscitymo.org	No	FO,S,SD,SL,SS,TS,W
City of St. Charles Dan Mann Telephone: 636.293.3871 Daniel.mann@stcharlescitymo.org	No	FO,S,SL,SS,TS,W
City Of Fenton Dan Howard Telephone: 636.349.8155 Dhoward@fentonmo.org	No	SL,TS
City Of Webster Groves Todd Rehg Telephone: 314.963.5312 Todd Rehg@webstergrovescitymo.org	No	Communication (TS)

Jefferson County PWSD 1 Mike Siedler Telephone: 636.296.0659 Email: msiedler@live.com	No	Water
Jefferson County CPWSD C1 Lynne Edwards Telephone: 636.948.2500 Email: lyne.edwards@cpwsdc1.com	No	Water
Rock Creek Sewer District Jason Seger Telephone: 636.461.2578 jasons@rockcreekpsd.com	No	Sewer
Glaize Creek Sewer District David Foster Telephone: 636.464.3230 Email: david.foster@glazecreekpsd.com	No	Sewer
Lumen (Formerly CenturyLink-National) Rich Obremski Telephone: 314.378.9931 Email: Richard.Obremski@lumen.com	No	Communications
MoDOT St. Louis District Telephone: 314.275.1500	No	E,FO,SL,TS
MCI/Verizon Jeremy Phillips Telephone: 636.399.1023 Email: Jeremy.Phillips@verizon.com	No	Communications
AT&T-t Lenny Vohs Telephone: 816.275.4014 Email: lv2121@att.com	No	Communications

FidelityLink (Clearwave) Roth Clayton Telephone: 618.841.2600 Email: rclayton@corp.clearwave	No	Communications
MNA – Bluebird Jamie Scott Telephone: 800.778.9140 James.Scott@bluebirdnetwork.com	No	Communication
Missouri American Water Company Dave Pruitt Telephone: 314.996.2396 Email: dave.pruitt@amwater.com	No	Water
St Louis County Highway – Traffic Division Scott Halter Telephone: 314.615.0210 Email: shalter@stlouisco.com	No	Communication
Metropolitan Sewer District Jeremy McCoy Telephone: 636.861.6722 Email: jmccoy@stlmsd.com	No	Sewer
Spire Energy (EAST) Nick Eggert Telephone: 314.330.5720 Email: Nicholas.Eggert@spireenergy.com	No	Gas
Energy Transfer formerly Enable & Mississippi River Transmission Pipeline Kelly Orndorff Telephone: 314.203.7860 Kelly.Ordorff@energytransfer.com	No	Gas
I3 Broadband Jon Gibson Telephone: 309.670.0400 Email: engineering@i3broadband.net	No	Communication

Everstream Robert Sewell Telephone: 314.546.7927 Email: rsewell@everstream.net	No	Communication
Metrolink Dave Still Telephone: 314.982.1400 Ext: 2878 Email: dstill@metroslouis.org	No	E,TEL,TS

1.1 The Contractor shall be aware there are numerous utilities present along the routes in this contract. Utility locates were not performed during the design phase of the project; therefore, the extent of buried conflicts with utilities are unknown. While no utility conflicts are anticipated, it is the inherent risk of the work under this contract that the contractor may encounter these utilities above and/or below the ground or in the vicinity of any given work item which may interfere with their operations. The contractor expressly acknowledges and assumes this risk even though the nature and extent are unknown to both the contractor and the Commission at the time of bidding and award of the contract.

2.0 If utility facilities are discovered the contractor shall contact the MoDOT Area Utility Coordinator, Alanna Ahern,(EDSI) @ (314) 332-3107, aa@engdesignsource.com. The engineer will determine whether relocation of the utility is necessary to accommodate construction or if the work can be installed in accordance with Missouri Standard Plans for Highway Construction for the item of work specified.

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

I. Pot Holing Utility Facilities

1.0 Description. The contractor is advised the Utility Companies in the project limits will not “pot hole” their underground utilities facilities for the contractor on this project. The contractor shall be responsible to “pot hole” any existing utilities under the pavement or outside the pavement for all the contractor’s needs to construct work associated with the project. Core drilling pavement prior to pot holing may be necessary.

2.0 Basis of Payment. All labor, equipment, materials and restoration necessary to pot hole buried utilities shall considered incidental to the contract, and no direct pay will be provided.

J. Adjust to Grade Items

1.0 Description. This work shall consist of adjusting water valves, water meters, basins/inlets, manholes, lighting pull boxes, and signal pull boxes that are within areas where either new sidewalks, curb ramps, approaches or pavements are to be constructed as shown on the plans.

The contractor shall verify the type of frame and cover in the field before performing the work. The adjustments shall be made to match the final proposed grade. Various pull boxes are called out to be relocated and adjusted to grade. The relocation of these pull boxes is included in the adjust to grade pay item.

1.1 Contractor shall, where indicated on plans, remove existing concrete MoDOT pull boxes and replace with new Class 2 Pull Box and adjust to grade as necessary.

2.0 Construction Requirements. Adjusting manholes and adjusting basins or inlets shall be done in accordance with Sec 604 except as modified herein.

2.1 Adjustments, extensions, and/or lowering of utility and any related excavation and backfill shall be constructed as approved by the Engineer. For MoDOT owned facilities, adjustments shall conform to current Missouri Standard Specifications for Highway Construction. For MSD owned facilities, adjustments shall conform to current MSD Standards and Specifications. Adjustments for inlets require the top lid slopes to be adjusted to less than 2% slope in all directions and some of these inlets need to be raised to the final sidewalk grade. These are called out in the plans as “adjust inlet top”. Adjustments shall be completed so that the finished sidewalk, ramp, approach, or pavement meets current ADA standards.

2.2 Contractor responsible for adjusting water valves to grade. Contractor shall coordinate with Missouri American Water for Water Meter Adjustments.

3.0 Basis of Payment.

3.1 All costs for materials, equipment, labor and installation shall be included in the cost for adjusting the water valves, water meters, basins/inlets, manholes, and pull boxes.

Item Number	Description	Unit
603-99.02	Water (Adjust to Grade Water Valve)	Each
902-99.02	MISC (Remove and Replace Conc. Pull Box w/Prefomed Class 2 Pullbox)	Each
902-99.02	MISC (Adjust Pull Box to Grade)	Each

K. Lump Sum Temporary Traffic Control

1.0 Description. This work consists of installing, relocating, and maintaining all necessary traffic control devices as indicated by the Typical Applications within the construction plans, and as directed by the Engineer. This work shall be in accordance with Section 616 along with the following provisions which shall govern.

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 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 (Traffic Control)

L. Pavement Marking Removals

1.0 Description. Pavement Marking Removal shall be in accordance with Section 620.50 and specifically as follows.

2.0 Construction Requirements. Removal of all pavement marking within the project limits that conflict with the new pavement markings designated on the plans. Pavement marking shall be completely removed to the satisfaction of the engineer with minimal damage to the pavement. The contractor shall use an approved **water blasting method** to remove the pavement marking on concrete surfaces. No more than five percent of the existing marking shall remain. The pavement surface shall not be left scarred with an image that might mislead traffic. Any excess damage or scarring of the pavement shall be repaired at the contractor's expense. It shall be the contractor's responsibility to determine what type of material needs to be removed.

3.0 Method of Measurement. Final measurement will be made to update the contract quantity as needed for approved field modifications. 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 pavement marking removal including all labor, equipment, and material necessary to remove the existing marking will be paid for at the contract unit price for the following pay item:

Item No.	Unit	Description
620-70.01	LF	Pavement Marking Removal

M. 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.

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

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

2.0 Construction Requirements. Any cracking, gouging, or other damage to the existing pavement, shoulders, side roads, or entrances resulting 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 areas shall be as approved by the engineer.

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

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

O. Contractor Quality Control NJSP-15-42

1.0 Description. 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.

P. ADA Curb Ramps

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. 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, and surface texturing, of concrete surface to match existing conditions 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 be yellow in color where the curb ramps are tinted red.

2.2.3 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. This special sheet is not intended to replace the Standard Plans, Standard specifications or MoDOT's ADA checklist but is intended only to provide consistency regarding pay lengths/limits within the St. Louis District.

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.

2.4.4 When a project is **only** replacing ADA Curb Ramps at intersections, a warping panel shall be included and considered incidental to the cost of the new ADA Curb Ramp. When a project is also constructing new sidewalk tied into the new ADA Curb Ramp, this warping panel shall be paid for within the sidewalk pay item. A warping panel consists of tying in an ADA compliant cross slope to an existing cross slope.

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:

Item Number	Description	Unit
608-10.12	Truncated Domes	SF
608-99.02	MISC (Concrete Curb Ramp)	EA
608-99.02	MISC (Concrete Curb Ramp – Decorative Concrete)	EA

Q. Concrete Sidewalk, 4 IN. – Decorative Concrete

1.0 Description. This work shall consist of pigmenting and texturing the concrete sidewalks, where shown on the plans. Contractor shall match to the best of their abilities the existing pigmenting and texturing of the existing sidewalks that are to be replaced.

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

2.1 Pigment shall be a Hampshire Red or approved equivalent in color and shall be free from oil, grease, dirt and nonferrous particles and shall cause no deleterious effects to the concrete mix. The manufacturer shall guarantee that all materials used in the pigmenting process will have no deleterious effects on the strength and overall integrity of the concrete.

3.0 Sample. A minimum of 10 working days prior to the placement of the pigmented textured concrete, the contractor shall submit a sample pavement section to the engineer. The sample shall be constructed using the identical process for pigmenting and texturing the permanent pavement. If, in the opinion of the engineer, changes need to be made to the texturing or color, a new sample shall be submitted before final approval can be given. The minimum size sample shall be 4 feet by 4 feet.

4.0 Texturing. After surface irregularities have been removed, the concrete shall be given a uniform surface finish that matches the existing sidewalk textures to the best of their abilities. The method by which the surface is textured is left to the discretion of the contractor. A stamp or roller device is preferred to maintain consistency. Hand texturing will be permitted in irregular areas where, in the opinion of the engineer, a stamp or roller device would no longer be beneficial or would not give a satisfactory appearance to the surface of the concrete. Prior to placing the concrete, the contractor and engineer shall review all perceived areas where hand

texturing may be necessary. The engineer shall make all efforts to minimize the amount of area to be hand textured.

5.0 Construction Requirements. This work shall be done in accordance with the requirements of Section 502 and 608 of the latest edition of the Standard Specifications.

6.0 Method of Measurement. No final measurement shall be made for this item.

7.0 Basis of Payment. Payment for the above-described work including all materials, equipment, labor and any other incidental work necessary to complete the work, shall be considered as completely covered in item 608-99.05, "MISC (Concrete Sidewalk, 4 IN. – Decorative Concrete), per Square Yard".

Item Number	Unit	Description
608-99.05	SY	MISC (Concrete Sidewalk, 4 IN. – Decorative Concrete)

R. 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: Public Rights of Way Accessibility Guidelines (PROWAG) dated August 8, 2023, 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.

S. Conduit

1.0 Description. This work shall consist of installing new conduit into an existing pull box or installing a new pull box into an existing conduit.

2.0 Intercept Existing Conduit with Proposed Pull Box.

2.1 Determine whether the conduit is occupied. If so, disconnect the cables at one end of the cables and pull them back so that they are not damaged when the conduit is cut. Alternatively, they can be removed entirely and replaced with new, identical cables. Notify the engineer if any of the cables appear to be in poor condition.

2.2 Excavate a pit big enough for the pull box and drain material, with at least an additional foot on each side with conduit.

2.3 Install the drain material. From the top of the drain material, measure the vertical distance to the bottom the conduit at the points corresponding to the walls of the box.

2.4 If the conduit is PVC or metal, cut it in two places such that the distance between the cuts is longer than the box. Be sure the ends are cut squarely. If the conduit is HDPE, cut it in the center of the pit. Ensure that the pit is long enough that the conduit can be bent out of the way when the box is installed, and can be bent enough to insert the conduit through the wall of the box.

2.5 Make a hole in the wall of the box at each point that the conduit will enter. Use the distances measured earlier to determine how far from the box's bottom to make the holes.

2.6 Set the pull box in the pit with the holes aligned with the conduits.

2.7 Pass the conduits through the wall of the box so that they end about one inch inside the wall. For PVC conduit, extend the existing conduit using a short length of new PVC conduit that includes a socket end. For metal conduit, thread the existing conduit, apply a threaded coupling, and add a short length of new conduit. For HDPE, bend the existing conduit to pass through the box wall, then cut it to length inside the box.

2.8 Use non-shrink grout to completely fill the space between the conduit and box wall.

2.9 Backfill the pit and restore the area as with any pull box installation.

2.10 Reinstall, reconnect, and test the cables that were pulled back at the beginning of the procedure. Alternatively, replace them in kind and test them.

3.0 Install Conduit into Existing Pull Box.

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

3.2 Make 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.

3.3 Install the conduit.

3.4 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 Backfill shall be carefully tamped in place. All disturbed areas shall be restored.

4.0 Basis of Payment.

4.1 No direct payment will be made to provide conformance to the specifications in this section. Payment is to be included as part of the respective pull box installation and conduit installation.

T. Conduit Splicing

1.0 Description. At locations noted on the plans, trenched conduit shall be spliced to existing conduit.

2.0 Requirements. At locations where connection of the new trenched 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.

3.0. Construction Requirements. Construction requirements shall conform to Sec 902.16.

4.0 Basis of Payment. No direct payment will be made to provide conformance to this section. Payment is to be included as part of the respective conduit pay item.

U. 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".

Item Number	Unit	Description
202-20.10	Lump Sum	Removal of Improvements

V. Remove and Relocate Existing Ground Mounted Sign

1.0 Description. Existing traffic signs that are designated to be moved shall be reused at the new location. The when applicable, posts shall be driven anchor installations, for pipe post new concrete foundations shall be installed with a break-away assembly. The installation shall be performed the same day as the removal or temporary signs utilized in the interim. The Contractor shall install the signs in a straight and neat condition.

2.0 Basis of Payment. All costs associated with removing, disassembling, transporting, break-away assemblies, concrete footings, and reinstallation and assembly shall be considered as completely covered by the contract unit price for Item No. 903-99.02, "Remove and Relocate Existing Ground Mounted Sign, per each".

Item Number	Unit	Description
903-99.02	Each	MISC (Remove and Relocate Existing Ground Mounted Sign)

W. Disposal 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.

X. 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.

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

Y. LED Blank-out Signs

1.0 Description. LED blank out sign shall be used as noted on the plans and conform to the following standards. The signs shall turn on only when the pedestrian phase is actuated by pressing the pedestrian push and remain on until the pedestrian phase ends.

Size and Message.

2.0 Size. Sign face shall be 30 inches wide and 30 inches high.

2.1 Message. Sign shall duplicate the graphics characteristics of MUTCD sign R3-1, "No Right Turn".

3.0 Functional Requirements

3.1 Visibility. The symbol shall be clearly legible, attracting attention under any lighting condition. At full intensity the sign must be completely visible anywhere within an approximate

15- degree cone centered about the optic axis. The LED Blank Out Sign shall be capable of displaying the symbol when energized and be completely blank out when not energized.. No phantom words or legend shall be seen under any ambient light conditions.

3.2 Components. The sign shall consist of:

Weatherproof housing and door.
LED's.
Transformers.

3.3 LED's. All LED's should have an expected lifetime of 100,000 hours and be high in optical power.

3.4 Transformers. Transformers shall be used to reduce the incoming 120 volts AC to the design DC voltage. The transformers shall contain Class A insulation and weatherproofing.

3.5 Operation and Dimming. The sign shall be capable of continuous operation over a range in temperatures from -35F to +165F (-37C to +75C). 50% Pulse Width Modulation Dimming must be available for improved nighttime visibility.

4.0 Sign Housing

4.1 Construction. Housings shall be constructed of extruded aluminum. A flat aluminum panel shall be welded into the housing back. All corners and seams of one or two-way housings are to be heli-arc welded to provide a weatherproof seal around the entire case. Continuous full-length stainless steel hinges shall connect the housing and the extruded aluminum door. Sign shall have #3 stainless steel ¼ turn link-locks per door to tightly secure the door onto a gasket between it and the housing. Link-locks shall provide tool free access to the interior of the sign. Drainage shall be provided by at least four and no more than six drain holes at the corners of the housing.

4.2 Doors. Door gaskets should provide a weatherproof seal. The extruded aluminum doors shall have one side removable to gain access to the sign face. Each door shall be fitted with a sun hood. Standard length is 6".

4.3 Face. Sign face shall have the entire LED assembly mounted to it. The sign face will be protected by a polycarbonate, matte clear, lexan faceplate.

4.4 Finish. Finish on the sign housing shall be in powder coated matte black finish.

5.0 LED Message Modules

5.1 Components. The LED message module shall consist of the following components:

A rigid aluminum message plate.
High intensity LED's.
LED drive electronics.

5.2 Mounting and Color. The LED's shall be mounted in panel via mounted fixing clips. Each

LED shall be individually serviceable with spares included from the same batch to assure color uniformity upon replacement. Arrow shall be white and the circle with a diagonal line across it/slash symbol should be red unless approved by the engineer. Door panels shall be flat black to maximize legibility when activated.

5.3 Connections and Fasteners. The signs shall be able to operate using 3c#16 electrical cable and all electrical connections shall be made via barrier-type terminal strip. All fasteners and hardware shall be corrosion resistant stainless steel.

6.0 Warranty. Signs shall be warranted to be free of defects due to material and workmanship for a period of at least two (2) years.

7.0 Construction Requirements. Construction requirements shall conform to Sec 1092.

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

9.0 Basis of Payment. Payment will be for 1 unit per bid item "902-99.02 – LED Blank-Out Sign". Payment will be considered full compensation for all labor, equipment and material to complete the described work. It should be noted that the 3c#16 cable isn't included in this pay item.

Z. Push Button Extension

1.0 Description. This work shall consist of furnishing and installing a push button extension as indicated in the plans. The new push button shall be placed on an extension that is within a horizontal reach range of less than 10" and a vertical reach of 42". The Contractor shall submit shop drawings of the proposed push button extensions for approval before installing.

2.0 Construction Requirements. Work shall be in accordance with Sec 902 and the manufacturer's requirements.

3.0 Basis of Payment. Payment for furnishing and installing the push button extension shall include all materials, equipment, tools, labor, and work incidental thereto, and shall be considered to be completely covered by the contract unit price for Item Number 902-99.02, "MISC (Pedestrian Push Button Extension), per each" as indicated on the plans.

Item Number	Type	Description
902-99.02	Each	MISC (Push Button Extension)

AA. Median Island Cut-throughs

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.

Item Number	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.
608-30.06	6 In. Concrete Median Strip	S.Y.
608-10.12	Truncated Domes	S.F.

BB. Pedestrian Pushbutton Stanchion, 4 FT

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

2.0 Material Requirements.

2.1 Post. Posts shall be 48-inch long 4-inch diameter (4.5-inch O.D) schedule 40 aluminum pipe.

2.2 Foundation. Concrete and reinforcing shall comply with Sec 902.

3.0 Construction Requirements. The post shall be installed on top of a breakaway pedestal

base mounted to a foundation in the sidewalk or raised median. The foundation shall be constructed as part of the sidewalk or raised median and have an 18-inch diameter and 12-inch depth. The breakaway pedestal base shall be mounted to the sidewalk or raised median 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 push button post 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 stanchion will be made per each. This shall include the dome cap, post, breakaway base, anchor rods, concrete forming tube, concrete, removal of existing concrete medians, median strips or concrete pavement, and all miscellaneous appurtenances to construct the post as shown on the plans.

5.0 Basis of Payment. Payment for furnishing all labor, equipment, materials, labor, and tools, including all items listed in paragraph 4.0 Method of Measurement necessary to place pedestrian pushbutton posts shall be completely covered by the contract unit price for:

Item No.	Unit	Description
902-99.02	Each	MISC (Pedestrian Pushbutton Stanchion, 4 FT.)

CC. Driveway Entrance Replacement

1.0 Description. While working on entrances or adjacent properties, the contractor shall make every reasonable effort to minimize any interference to the properties and to complete the work diligently. Under no circumstances shall the contractor block ingress/egress to and from businesses during the normal business hours of each business unless as approved by the property owner and engineer. The contractor to be aware that some parcels may have property owner agreements.

2.0 Construction Requirements. On all commercial and residential entrances 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 10 days to complete any one entrance.

3.0 Basis of Payment. No direct payment will be made to the contractor for any expenses incurred for compliance with this provision.

DD. Site Restoration

1.0 Description. Restore to its original condition any disturbed area at sites including, but not limited to, guardrail, pull box, conduit, and pole base installations. Restoration shall be accomplished by placing material equivalent to that of the adjacent undisturbed area. Disturbed unpaved areas shall be fertilized and 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 contract, and no additional payment will be made.

2.2 Sidewalks and sidewalk ramps that are disturbed as described in this provision shall be replaced to meet current ADA standards at the contractor's expense. The existing brick paving at Elm Street and I-44 shall be replaced to match the existing bricks and shall align with the curb ramp construction.

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, and/or pull box. No direct payment will be made for any materials or labor, which is performed under this provision.

EE. Positive Drainage

1.0 Description. The contractor is made aware that the grade both behind and in front of the new sidewalk is being altered and care shall be taken during construction to provide proper drainage to prevent localized ponding issues.

2.0 Construction Requirements. The contractor shall maintain positive drainage for all properties and shall not create locations of ponding or other drainage concerns to property owners. The contractor shall alert the Engineer of any potential concerns during construction that may affect the ability to maintain positive drainage. The contractor shall also be required to dewater any areas of ponding or flooding within the project limits that are caused by the contractor's operations and construction methods as determined by the Engineer.

3.0 Basis of Payment. No direct payment will be made for compliance with this provision. All equipment and labor necessary for the work described shall be considered incidental to and completely covered by other items in the contract.

FF. Metro Bus Service

1.0 The Contractor shall be aware Metro Bus Service operates routes in the project area with The Contractor shall be responsible for notifying Metro when project activities will require disruption in bus service. The contact persons for Metro are:

Lance Peterson
Metro Transit

Email: lpeterson@MetroStLouis.org

Natilie Siebert
Metro Transit

Email: nmsiebert@MetroStLouis.org

2.0 The Contractor shall notify Metro 30 days in advance of when work is scheduled to close sidewalks or reconstruct bus stop pads on routes that have active bus lines.

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

GG. 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 (Linear Grading, Class 2 - Modified)

HH. Irrigation Systems

1.0 This work includes relocation or replacement of all sprinkler heads and sprinkler system pipes that are impacted by construction activities and installation of improvements.

2.0 The contractor is advised that various properties along the project length may have irrigation systems whose sprinkler heads and associated pipe systems are located within or in close proximity to the proposed sidewalk. The contractor shall relocate undamaged sprinkler heads or replace damaged sprinkler heads as directed by the engineer.

2.1 The contractor shall check with individual property owners to shut off watering as necessary and be aware of the location of said systems. Any damage to the watering system, sprinkler heads, etc. will be repaired or replaced at the contractor's expense and at no direct cost to the MoDOT.

2.2 The contractor is strongly advised to drive the project to determine the extent of impact to the existing sprinkler systems located along the route and adjust the bid accordingly.

3.0 Method of Measurement: No measurement shall be made.

4.0 Basis of Payment: No direct payment will be made for the relocation or replacement of sprinkler systems located along the project limits. All costs associated with this work shall be considered incidental to other pay items provided in the contract.

II. 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.

JJ. Sidewalk Edge Grinding

1.0 Description. This provision applies to locations that require sidewalk grinding.

2.0 Diamond Grinding. Diamond grinding of the concrete sidewalk shall be performed to remove the trip hazard lip of the existing sidewalk a minimum 10" wide for the width of the sidewalk. The grinding shall follow the requirements of Sec 622.30

3.0 Measurement. The sidewalk grinding shall be measured per width of the sidewalk grinding performed.

4.0 Basis of Payment. Payment for the Diamond Gridding Sidewalk Edge as described in this provision will be made at the contract unit price for:

Item Number	Unit	Description
622-99-03	LF	MISC (Sidewalk Edge Gridding)

KK. Coordination with ITS Staff and Utility Locates

1.0 Description. Any work that will impact the existing communications network must be coordinated with the Commission's St. Louis District ITS staff. This includes but not limited to removal and replacement of any existing communications equipment, adding new devices and changes to power sources or disconnects. Minor modifications to the existing communications network can have significant impacts on the system and operation of other ITS and traffic signal systems.

1.1 MoDOT is a member of MO-One-Call System. Prior to any excavation or work within MoDOT Right-Of-way, the contractor must contact MO-One Call at 1-800-DIG-RITE and request for Utility Locates within noted project limits. If the scope of work contains modification, addition and/or expansion of existing underground MoDOT ITS, lighting, or signal facilities, the contractor must notify the MoDOT Utilities Locate staff prior to any work, in order for MoDOT to update MoDOT utility location records with Missouri One Call.

2.0 Contact. The contractor shall notify the ITS group via an email to SLITS@modot.mo.gov at least 2 days before any work that may impact the existing network communications. The contractor shall include the Job#, location and brief scope of work in the email's subject line. The engineer shall be notified prior to making contact with ITS staff. For MoDOT Utility location updates, the contractor must contact MoDOT TMC at 314-275-1500 and ask for Utility Locate Section at least seven calendar days before performing any work.

3.0 The ITS and network devices located within the project limits are a crucial part of the traffic operation system for this area. It is imperative that the downtime be kept to a minimum when adding, removing, or modifying any existing ITS and network devices. This may require the contractor to perform work that will affect existing network devices during nighttime and/or weekend hours, at the discretion of the Engineer. Allowable timeframes for this work will be subject to the need for ITS devices in the area to be used to manage other traffic impacting workzones.

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

LL. 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.

MM. Audible Pedestrian Pushbuttons 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 Basis of Payment. Payment for the audible signals will be for each unit per bid item, 902-99.02, "MISC (Audible Pedestrian Pushbutton and Signing with Verbal Walk Message), per each". This will include all wiring, conduit, power adaptors, pushbuttons and installation hardware needed. Payment for signing and mounting hardware will be included in the pay item for audible pedestrian pushbutton. All costs incurred for complying with this provision including labor shall be considered completely covered by the contract unit price for:

Item Number	Type	Description
902-99.02	EA	MISC (Audible Pedestrian Pushbutton and Signing with Verbal Walk Message)

NN. 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 2025, 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	MISC (Temporary Pavement Marking Paint)	LS

OO. ADA Compliant Moveable Barricades

1.0 Description. This work shall consist of providing moveable barricades to satisfy the requirements of the pedestrian traffic control plans as shown in the bidding documents. The contractor will be responsible for moving the pedestrian barricades to coincide with their planned order of work.

2.0 Construction Requirements. The contractor shall use a movable barricade that meets the requirements as established by the ADA. The pedestrian barricades shall be of self-supporting type having a minimum length of 6 feet per unit. The face of the barricade shall not extend into adjacent sidewalk considered open for pedestrian use. The contractor will be responsible for setting and maintaining the pedestrian barricades until all of the proposed improvements have been constructed.

3.0 Method of Measurement. Measurement for ADA Compliant Moveable Barricade will

be made per each for each 6 feet (min.) unit provided.

4.0 Basis of Payment. Payment for all work necessary to fulfill the requirements noted above shall be considered completely covered in the contract unit price for Temporary traffic control will be paid for at the contract lump sum price for Item:

Item Number	Description	Unit
6169901	MISC (Traffic Control)	LS

4.1 Basis of Payment. No direct payment will be made for any necessary relocation of the ADA compliant barricade.

PP. Coordination with St. Louis County Department of Transportation

1.0 Description. The intersection is located within St. Louis County however MoDOT maintains signal equipment at the Murdoch Ave at I-44 interchange.

2.0 Requirements. The contractor shall coordinate with St. Louis County Department of Transportation 14 days in advance of performing work on Murdoch Ave. The St. Louis County representative is Ray Gawlik at 314-615-8592 or RGawlik@stlouiscountymo.gov.

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