

Job No.: J6S1718 J6S1718B J6S1718C
Route: 100 100 100
County: St. Louis St. Louis St. Louis

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)


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


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 <p>STATE OF MISSOURI JOHN R. LANDECK NUMBER PE-2013032918 PROFESSIONAL ENGINEER</p> <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY</p>	<p>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636</p>
	<p>THOUVENOT, WADE & MOERCHEN, INC. 720 Olive Street, Suite 200A St. Louis, MO 63101 Certificate of Authority: 001528 Consultant Phone: 314-241-6300</p>
	<p>If a seal is present on this sheet, JSP's have been electronically sealed and dated.</p>
	<p>JOB NUMBER: J6S1718, J6S1718B, and J6S1718C ST. LOUIS COUNTY, MO DATE PREPARED: 03/01/2021</p>
	<p>ADDENDUM DATE:</p>
<p>Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: R-A. thru R-TT and R-BBB.</p>	

 <p>STATE OF MISSOURI MATTHEW J. JOOST NUMBER PE-2011007468 PROFESSIONAL ENGINEER</p> <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY</p>	<p>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636</p>
	<p>THOUVENOT, WADE & MOERCHEN, INC. 720 Olive Street, Suite 200A St. Louis, MO 63101 Certificate of Authority: 001528 Consultant Phone: 314-241-6300</p>
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	<p>JOB NUMBER: J6S1718, J6S1718B, and J6S1718C ST. LOUIS COUNTY, MO DATE PREPARED: 03/01/2021</p>
	<p>ADDENDUM DATE:</p>
<p>Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: R-UU. thru R-AAA.</p>	

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JOB
SPECIAL PROVISION
(ROADWAY)

R-A. General - Federal JSP-09-02F

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 2020 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.

R-B. Contract Liquidated Damages JSP-13-01B

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

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

Early Notice to Proceed (Demo work): July 26, 2021
 Notice to Proceed: August 9, 2021
 Completion Date: July 1, 2023

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
J6S1718	N/A	\$7,600
J6S1718B	N/A	\$7,600
J6S1718C	N/A	\$7,600

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **\$3,000** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified completion date or calendar days.

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

R-C. Early Notice to Proceed (Demo Work) – Job J6S1718B Only

1.0 The requirement in Sec 103.5 of the Missouri Standard Specifications for Highway Construction that the contractor "shall return the prescribed copies of the contract and bond, properly executed, to the office of the Commission within 15 days after the unexecuted contract has been mailed to the bidder" is waived for this project.

1.1 Instead, the contractor shall return the prescribed copies of the contract and bond, properly executed, to the office of the Commission prior to the Early Notice to Proceed (Demo Work) Date found in the Job Special Provisions.

1.1.1 This Early Notice to Proceed shall only apply to the work necessary to perform the demolition work prescribed at 2702 Mary Avenue. The contractor shall have 21 days to perform this work and shall be subject to the Liquidated Damages as specified in the "Liquidated Damages Specified" JSP.

1.2 All other provisions in Sec 103.5 et seq. of the Missouri Standard Specifications for Highway Construction shall remain in full force and effect, and shall continue to govern the contractor and its subcontractors.

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

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

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

Missouri State Highway Patrol – Troop C Office 891 Technology Drive Weldon Spring, MO 63304 (636) 300-2800	
St. Louis County Police Department Central County Precinct (2nd) 1333 Ashby Road St. Louis, MO 63132 (314) 615-0111	
MoDOT Transportation Management Center (TMC) 14301 S. Outer Forty Road Chesterfield, MO 63017 (314) 275-1500	
City of Maplewood – J6S1718	
Police	Fire / EMS
Maplewood Police Department 7601 Manchester Road Maplewood, MO 63143 (314) 645-3000	Maplewood Fire Department 7601 Manchester Road Maplewood, MO 63143 (314) 646-3666
City of Brentwood – J6S1718B	
Police	Fire / EMS
Brentwood Police Department 272 Hanley Industrial Court Brentwood, MO 63144 (314) 644-7100	Brentwood Fire Department 8756 Eulalie Avenue Brentwood, MO 63144 (314) 963-8612
City of Rock Hill – J6S1718	
Police	Fire / EMS
Rock Hill Police Department 827 N. Rock Hill Road Rock Hill, MO 63119 (314) 962-6600	Rock Hill Fire Department 827 N. Rock Hill Road Rock Hill, MO 63119 (314) 962-6254
City of Glendale – J6S1718	

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Police	Fire / EMS
Glendale Police Department 424 N. Sappington Road Glendale, MO 63122 (314) 965-0000	Glendale Fire Department 424 N. Sappington Road Glendale, MO 63122 (314) 965-7097
City of Warson Woods – J6S1718	
Police	Fire / EMS
Warson Woods Police Department 10015 Manchester Road Warson Woods, MO 63122 (314) 965-1131	Glendale Fire Department 424 N. Sappington Road Glendale, MO 63122 (314) 965-7097
City of Kirkwood – J6S1718C	
Police	Fire / EMS
Kirkwood Police Department 131 W. Madison Avenue Kirkwood, MO 63122 (314) 822-5858	Kirkwood Fire / Rescue 137 W. Argonne Drive Kirkwood, MO 63122 (314) 822-5883

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

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

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

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

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

Stuart McNeil, PE, Project Contact
 MoDOT St. Louis District
 Project Manager
 1590 Woodlake Drive
 Chesterfield, MO 63017

Telephone Number: (314) 453-5042
 Email: Stuart.McNeil@modot.mo.gov

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

R-F. Liquidated Damages Specified

1.0 Description.

1.1 Black Creek Bridge Reconstruction. The contractor shall be permitted a full closure (all lanes) of Route 100 for a period of no more than 120 consecutive calendar days. This closure shall only be permitted from May to August of 2022.

1.1.1 If the Black Creek Bridge Reconstruction is not complete and open to traffic prior to the end of the 120 consecutive calendar day closure period, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$11,500.00 per day for each full day that the Black Creek Bridge Reconstruction is not complete and open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

1.2 Pedestrian Underpass at Mary Avenue Work. The contractor shall be permitted a partial closure of Route 100 for a period of no more than 120 consecutive calendar days. This closure shall only be permitted from May to August of 2022. For the purposes of this item of work, partial closure shall be defined as one lane closed in each direction of Route 100.

1.2.1 If the Pedestrian Underpass at Mary Avenue Work is not complete and open to traffic prior to the end of the 120 consecutive calendar day partial closure period, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$1,000.00 per day for each full day that the Pedestrian Underpass at Mary Avenue Work is not complete and open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

1.3 Deer Creek Bridge Rehabilitation. The contractor shall be permitted a partial closure of Route 100 for a period of no more than 42 consecutive calendar days. This closure shall only be permitted from May to August of 2022. For the purposes of this item of work, partial closure shall be defined as one lane closed in each direction of Route 100.

1.3.1 If the Deer Creek Bridge Rehabilitation is not complete and open to traffic prior to the end of the 42 consecutive calendar day partial closure period, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$1,000.00 per day for each full day that the Deer Creek Bridge Rehabilitation is not complete and

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open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

1.4 Demolition Work for 2702 Mary Avenue. The contractor shall be granted early Notice to Proceed to complete this work, as noted in the “Early Notice to Proceed (Demo Work) – Job J6S1718B Only” JSP, and shall be completed within 21 consecutive calendar days from the early Notice to Proceed date.

1.4.1 If the Demolition Work for 2702 Mary Avenue is not complete and earthwork restored to acceptable condition in accordance with Sec 202 prior to the end of the 21 consecutive calendar day period, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$1,000.00 per day for each full day that the Demolition Work for 2702 Mary Avenue is not complete in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess completion time.

1.5 If the Construction Work on the Millman Lumber Company Property (Parcels 121, 122, 123, and 133) is not complete and open to traffic prior to the end of the 14 consecutive calendar day construction work period, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$1,500.00 per day for each full day that the Construction Work on the Millman Lumber Company Property (Parcels 121, 122, 123, and 133) is not complete and open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

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

R-G. Liquidated Damages for Winter Months JSP-04-17

1.0 Description. Revise Sec 108.8.1.3 (a) and (b) and substitute the following for the project:

- (a) Liquidated damages will be assessed from December 15 to March 15
- (b) Liquidated damages will be assessed for Saturdays, Sundays and Holidays.

R-H. Winter Months Requirements JSP-15-07A

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

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

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

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

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

R-I. Contractor Quality Control NJSP-15-42

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

2.0 Quality Control Plan.

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

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

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

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

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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.

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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.

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

1.0 Description.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3.0 Methods for Securing Workforce Participation and Good Faith Efforts.

3.1 By submitting a bid, the Bidder agrees, as a material term of the contract, to carry out MoDOT's Construction Workforce Program by making good-faith efforts to utilize minority and female workers on the contractor's job sites to the fullest extent consistent with submitting the

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lowest bid to MoDOT. The Bidder shall agree that the Program is incorporated into this document and agree to follow the Program. If a bidder is unable to meet the workforce goals at the time of bid, it shall be required to objectively demonstrate to MoDOT that the goals have been met or demonstrate a good faith effort has been made with the level of effort submitted prior to the start of construction.

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

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

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

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

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

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

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

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

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

project site protocols.

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

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

10.0 Federal Workforce Goals.

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

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

TABLE 1:

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

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

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

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

As used in these specifications:

"Minority" includes;

- (i) Black (all person having origins in any of the Black African racial groups not of Hispanic origin);
- (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South

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- (iii) American or other Spanish Culture or origin, regardless of race); Asian and pacific islander (all persons having origins in any of the original peoples of the Far East, southeast Asia, the Indian Subcontinent, or the Pacific Islands; and
- (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North American and maintaining identifiable tribal affiliations through membership and participation or community identification).

R-K. Notice to Bidders of Third Party Concurrence in Award JSP-98-19 – Job J6S1718B Only

1.0 Bidders are advised that Commission is party to a contract with the City of Brentwood which provides that the City of Brentwood shall provide substantial funds for construction of Job No. J6S1718B by reason of which the City of Brentwood has the right to concur or not concur in Commission's award of a contract for this job.

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

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

R-L. Notice to Bidders of Third Party Concurrence in Award JSP-98-19 – Job J6S1718C Only

1.0 Bidders are advised that Commission is party to a contract with the City of Kirkwood which provides that the City of Kirkwood shall provide substantial funds for construction of Job No. J6S1718C by reason of which the City of Kirkwood has the right to concur or not concur in Commission's award of a contract for this job.

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

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

R-M. Site Restoration

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

2.0 If the contractor elects and receives approval from the engineer for alternate trench and/or pull box locations, any areas of concrete slope protection, sidewalk, pavement, shoulders, islands and medians – as well as any similar improvements consisting of asphaltic concrete materials – removed in conjunction with their construction shall be replaced with improvements of similar composition and thickness. Removals shall be achieved by means of full depth saw cuts; the resulting subgrade compacted to minimum density requirements and topped with 4 inches of compacted aggregate base course prior to replacement of surface materials. Concrete materials, used in replacement, shall be approved by the engineer. A commercial asphalt mix may be used for replacement of asphaltic surfacing upon approval of the engineer.

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

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

2.2.1 Seed and mulch will not be an acceptable means to reestablish grass in disturbed areas adjacent to ADA facilities constructed with this project. Any grassy areas around these facilities that have been disturbed by the contractor in order to construct ADA compliant facilities shall be replaced with sod in accordance with Sec 808. For locations where an existing ADA facility is removed and replaced on a new, accessible alignment, the old alignment shall have the subgrade appropriately prepared and sod shall be installed at the surface.

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

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

R-N. Property Owner Notification

1.0 Description. It shall be the contractor's responsibility to inform and notify the adjacent property owner 48 hours prior to starting any construction activities that may impact driveway access or occur along the frontage of the property owner's parcel. Notification shall be in written form and include the contractor's contact information, the engineer's contact information, and an estimated schedule of work and the associated impacts.

2.0 Basis of Payment. No direct payment will be made to the contractor for the labor, equipment, material, or time required to comply with this provision.

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R-O. Damage to Existing Pavement, Shoulders, Side Roads and Entrances

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

2.0 Construction Requirements. Any cracking, gouging or other damage to the existing pavement, shoulders, side roads, or entrances from general construction shall be repaired within twenty-four (24) hours of the time of damage at the contractor's expense. Repair of the damaged pavement, shoulders, side roads, or entrances shall be determined by the engineer.

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

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

R-P. ADA Compliance and Final Acceptance of Constructed Facilities JSP-10-01B

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

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

www.modot.org/business/contractor_resources/forms.htm

2.1 The ADA Checklist is intended to be a helpful tool 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. Situations may arise where the checklist may not fully address all requirements needed to construct a facility to the full requirements of current ADA law. In those situations, the contractor shall propose a solution to the engineer that is compliant with current ADA law using the following hierarchy of resources: 2010 ADA Standards for Accessible Design, Draft Public Rights of Way Accessibility Guidelines (PROWAG) dated November 23, 2005, MoDOT's Engineering Policy Guidelines (EPG), or a solution approved by the U.S. Access Board.

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

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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.

R-Q. Right of Way Requirements

1.0 Description. The Right of Way has been cleared on this project. However, there are some special requirements and conditions that have been agreed to in the negotiation process that the contractor shall adhere to.

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2.0 Construction Requirements. All materials and work performed for this item shall be in accordance with applicable Standard Specifications. Please note that the list of special requirements below may not be all inclusive. The contractor shall consult the Right of Way Negotiator's Report for a full detail of any special requirements at each parcel.

2.1 Business Hours. A number of parcels within the project require minimal or no disruptions during business hours. If specific business hours are not listed or where multiple tenants share a building, it shall be the responsibility of the contractor to verify the proper business hours with each business/tenant to plan the construction work accordingly. Where listed, business hours included in this JSP are current as of the time of the project's advertisement for bidders. However, business hours are subject to change and actual business hours may vary slightly from those hours listed herein, and may be temporarily adjusted during different times of the year. It shall be the responsibility of the contractor to verify the accuracy of the noted business hours and provide as little disruption as possible during construction operations.

3.0 Locations.

3.1 Parcel 21 – Sunnen Products Company. The contractor shall notify the property owner five (5) business days prior to the beginning of any work that will block any portion of their entrance between the hours of 7:00 AM and 4:00 PM.

3.2 Parcel 37 – Billboard at NW corner of Hanley Road. The contractor and its sub-contractors, shall not implement or allow the construction, placement, or erection of any structures on the Temporary Construction Easement, or the storage of any objects, or the planting or growth of any landscaping on the TCE, that blocks, obstructs, hinders, or impairs the visibility of any portion of the Billboard, through or over said TCE. The contractor and its subcontractors may make use of the TCE area, including operation of construction equipment or use for working, so long as such use does not block, obstruct, hinder, or impair the visibility of any portion of the advertising surface of the Billboard from adjoining public streets or highways. There shall be no overnight placement or parking of any equipment permitted on the TCE.

3.3 Parcels 39 and 40 – Foss Swim School. The contractor shall notify the property owner in writing five (5) business days prior to the beginning of any work on the parcel, and shall cooperate with and regularly update the property owner on all progress and planned construction activities in proximity to the parcel. The contractor shall take care to not disrupt any utility services to the property the contractor's equipment, materials, and operations shall not block or interfere with access to the parcel.

3.4 Parcel 57 – LK2 Kaim Kisner Studio. The contractor shall give the property owner at least ten (10) business days' prior written notice of the commencement of any substantial work or repair in the area of the easements. Care shall be taken by the contractor to prevent stormwater runoff to areas outside of the easement. The contractor shall only be permitted to access the easement areas directly off of Manchester Road or adjacent easements on adjacent parcels. The contractor shall not block access to the parcel and all contractor equipment and materials shall be removed from the easement area as soon as practical upon completion of the construction work. All work on this parcel shall be completed prior to December 21, 2023.

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3.5 Parcel 65 – K. Hall Designs. All work within the easement needs to be completed during non-business hours. Business Hours for this business are 9:00 AM to 6:00 PM Monday through Saturday and Sunday from 11:00 AM to 5:00 PM.

3.6 Parcel 67 – 8500 Manchester Road. The contractor shall not store or stage equipment on the property.

3.7 Parcel 73 – 8702 Manchester Road. The contractor will not park vehicles or equipment or store any materials on the asphalt parking lots within this property except for the vehicles, equipment and materials that are actively being used to construct the features directly adjacent to or within the parcel. These features include, but are not limited to, sidewalks, drainage features, utilities, and the reconstruction of entrances and parking lots as shown on the construction plans for Project J6S1718B.

The contractor will only obstruct the use of a maximum of four (4) of the eight (8) parking spaces located within the Temporary Construction Easement at any given time, leaving at least four (4) of the eight (8) parking spaces available at all times during construction.

3.8 Parcel 80 – 8611 Manchester Road. This property is adjacent to Parcel 81, which has a building that will be demolished as a part of this project. It shall be the contractor's responsibility to inform and notify the owner of Parcel 80, and the owners of all other properties adjacent to Parcel 81, two (2) weeks prior to starting any demolition activities. Notification shall be in written form and include the contractor's contact information, the engineer's contact information, and an estimated schedule of work and the associated impacts.

3.9 Parcel 90 – St. Mary Magdalen Church and School. Temporary fencing shall be provided at the parking and school yard enclosure at this parcel during all periods of active construction operations. Refer to Job Special Provision "72-Inch Temporary Chain Link Fence" for additional details.

3.10 Parcel 103 – Meineke. The contractor shall ensure that there is unobstructed access to at least 2 of the 3 bays at all times during business hours. Business hours for this business are defined as Monday through Friday from 7:30 AM to 6:00 PM and Saturday from 7:30 AM to 4:00 PM.

3.11 Parcel 111 – 9029 Manchester Road. Due to the narrow width of the entrance at this property, all work shall be performed at night.

3.12 Parcel 112 – Carl's Drive-In / High School Drive.

3.12.1 During construction, the contractor will maintain ingress and egress to the building (front and back) and parking lot (both driveways – Manchester and High School Drive will be completed in half sections, consisting of 4 phases). The contractor will also be required to maintain at least one (1) westbound lane of traffic open on Manchester Road (Route 100) and also one (1) lane open on High School Drive during construction.

3.12.2 The contractor will install the new parking stalls on the west side of the building on High School Drive prior to any work being done on the property, and the contractor will not be permitted to close the new parking stalls during construction.

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3.12.3 The temporary construction easement will only be used for active construction purposes. The contractor will not be permitted to stage or store items not directly related to construction on the property. The easements will be not be used for storm sewer construction purposes, and the property will not be used for the installation of the storm sewer line.

3.12.4 Work Hours. The contractor will only be allowed to work on the property during non-business hours on Tuesday through Saturday from 8 PM until 11 AM. The business is closed on Sundays and Mondays. During business hours, the contractor will not impede access into and out of the parking lot, front access in and out of the restaurant for customers, or rear access in and out of the building for employees and vendors. The contractor will also not impede access into and out of the parking lot and rear access in and out of the building for employees and vendors during non-business hours.

3.12.5 Notice Letters and Construction Timeline. The contractor will provide a written letter with at least 3 days' notice as to when work will begin on the property. Once work begins on the property, the contractor will only be allowed to work on the property for a maximum of 6 months, measured continuously from the start of construction at the property. The contractor will send a second letter to the owners upon completion of the work. All notification letters for Parcel 112 will need to be sent to:

Drive-In Realty, LLC and
Carl's III, LLC
Attn: Michael G. Franklin
4328 Bridgeton Industrial Dr.
Bridgeton, MO 63044

3.13 Parcels 121, 122, 123, and 133 – Millman Lumber Company.

3.13.1 General Information. No work shall be performed on this parcel during business hours. Normal business hours are 7:00 a.m. to 5:00 p.m. Monday through Friday and 8:00 a.m. to 12:00 p.m. on Saturday. Additionally, the contractor shall stage their construction operations in a manner that will keep access open at all times during business hours for employees, patrons, and others.

3.13.2 Property Owner Notification. The contractor shall provide written notification to the property owner no less than thirty (30) days prior to the start of the project. Additionally, the contractor shall provide written notice to the property owner no less than seven (7) days prior to commencement of work on each of the four parcels.

3.13.3 Railway (Parcel 121). The contractor shall not encumber, block, or inhibit the use and service of the railway near the east end of the property, and shall not access or disturb any part of the property to the east of the fence at any time.

3.13.4 Entrance for Parcel 122. Work on this entrance shall be completed at one time, and while under construction, the entrance for Parcel 123 shall remain open and free of construction. If at any time the contractor's operations blocks access to Parcel 122, the entrance for Parcel 123 shall be made easily accessible for truck and motor vehicle traffic.

3.13.5 Parcel 123 Requirements.

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3.13.5.1 Entrance for Parcel 123. Work on this entrance shall be completed at one time, and while under construction, the entrance for Parcel 122 shall remain open and free of construction. If at any time the contractor's operations blocks access to Parcel 123, the entrance for Parcel 122 shall be made easily accessible for truck and motor vehicle traffic.

3.13.5.2 Parking spots on Parcel 123. Work operations that disturb parking spots shall be performed outside of business hours nights or on weekends. No parking spots will be affected for more than two (2) days. All parking spots affected for more than this amount of time shall be subject to Liquidated Damages as defined in the "Liquidated Damages Specified" JSP.

3.13.6 Parcel 133 Requirements.

3.13.6.1 Entrances for Parcel 133. Work on the eastern entrance to Manchester Road shall be completed at one time, and while under construction, the entrance to the parcel from Rock Hill Industrial Court shall remain open and free of construction. Work on the western entrance to Manchester Road shall be performed half at a time to permit constant access to the parcel. When working on the western entrance to Manchester Road, the eastern entrance to shall remain fully open and free of construction.

3.13.6.2 The split rail fence on Parcel 133 is to be removed and shall be replaced upon completion for the construction work on the parcel.

3.13.7 Timing and Damages. The work on these four parcels shall be timed such that once work begins on each of the parcels, all construction work shall be completed within fourteen (14) days. Failure to complete the work on time for these parcels shall be subject to Liquidated Damages as specified in the "Liquidated Damages Specified" JSP.

3.14 Parcels 131 and 132 – Trainwreck Saloon. No work shall be performed on this parcel during business hours. Normal business hours are 11:00 a.m. to 10:00 p.m. Monday through Thursday, 11:00 a.m. to 11:30 p.m. Friday, 11:00 a.m. to 1:00 a.m. Saturday, and 11:00 a.m. to 12:00 a.m. Sunday. Additionally, the contractor shall stage their construction operations in a manner that will keep access to the business's front door (faces Manchester Road) at all times during business hours.

3.15 Parcel 147 – Stanford Place Apartment Homes. The contractor will only be permitted to obstruct the use of a maximum of 10 of the 19 parking spaces located within the TCE at any given time, leaving at least 9 of the 19 parking spaces available at all times.

3.15.1 The existing, privately owned, lights and light poles will be removed by the contractor, in order to complete drainage work. The contractor shall replace the lights and light poles, using the same ones removed, in the same grassy area at the completion of the drainage work. The contractor shall be responsible for safe care, storage and handling of these privately owned lights and light poles during execution of the drainage work. The contractor shall replace any lost or damaged lights and light poles in kind at the contractor's expense.

3.16 Parcel 151 – CVS Pharmacy.

3.16.1 Notice Letters and Construction Timeline. The contractor will provide a written letter with at least 5 days' notice as to when work will begin on the property. Once work begins on the property, the contractor work must be completed within one (1) calendar year, measured

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continuously from the start of construction at the property. All notification letters for Parcel 151 will need to be sent to:

MISSOURI CVS PHARMACY, L.L.C.
c/o CVS Health Corporation
One CVS Drive
Woonsocket, RI 02896
Attention: Property Administration, CVS Store No. 8248

3.16.2 No parking of trucks or equipment will be permitted within the easement area.

3.17 Parcel 158 – RSI Kitchen & Bath. The contractor shall construct all entrances on this parcel ½ at a time.

3.18 Parcel 168 – Signature Kitchen & Bath. The contractor shall reinstall the parking curb in the first parking stall after work is completed on the property. The contractor shall not disturb the sign or curbing around the sign on the property. Should either the curb or sign be disturbed by the contractor's operations, it shall be repaired at the contractor's expense. The contractor shall construct the entrance for this parcel ½ at a time, with the western half to be constructed first; access is to be maintained for ease of trash collection pickup.

3.19 Parcel 177 – 9804 Manchester Road. The contractor shall keep ADA access to the business open at all times during business hours.

3.20 Parcel 187 – 9842 Manchester Road. All work must to be completed during non-business hours. Business Hours for this business are 9:00 a.m. to 6:00 p.m. Monday, Tuesday, Wednesday, Friday, and Saturday. The business is closed on Thursday and Sunday.

3.21 Parcel 192 – 7-Eleven. The business owner, 7-Eleven, is intending to remove and replace their underground fuel storage tanks. The contractor shall coordinate and cooperate with said business owner, and their representatives, contractor and subcontractors for the removal and replacement of the underground fuel storage tanks.

3.22 Parcel 197 – Berry Road Crossing. The contractor shall perform all construction work in proximity to this parcel at night and after business hours so that all parking spaces can remain open.

3.23 Parcel 199 – El Indio Restaurant. The must reconstruct the eastern entrance prior to removing the western entrance.

3.24 Parcel 209 – Residence at 91 Frederick Lane. The contractor and its subcontractors shall take care to not disturb or otherwise damage the fence. In the event the contractor or its subcontractors damage the fence during the course of constructing the project, the damaged portion of the fence shall remain under direct personal supervision of a designated person at all times until the fence is restored. Any damage to the fence shall be fully repaired and restored in substantially the same condition within 24 hours.

3.25 Parcel 214 – Dierbergs. Entrances shall be constructed in such a way so that only one (1) entrance to the property is closed at any time with the following exception. The easternmost entrance must be completed ½ at a time, allowing access at all times. Work on the easternmost

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entrance may be done at the same time as one of the other entrances. None of the entrances may be closed and no work performed on any of the entrances between November 15 and December 31.

3.26 Parcel 223 – 10042-50 Manchester Road. The contractor shall avoid the new monument sign that has been built on the property.

3.27 Parcel 224 – Ameren Missouri Substation. The contractor will maintain at least 10-foot-wide, 24-hour access to Ameren’s facilities. The contractor will also use extra precaution what conducting any activity adjacent to, over, under or near Ameren’s underground or overhead electrical facilities and will take care to maintain proper support and stabilization for Ameren’s underground electrical facilities to prevent damage of collapse due to undermining. The contractor will provide no less than twenty (20) feet radial clearance from all of Ameren’s facilities, including towers, poles and overhead lines.

Except in the case of an emergency, the contractor will provide Ameren with written notification at least forty-eight (48) hours in advance of any digging or trenching adjacent to Ameren’s property. An Ameren field supervisor will be present during any digging or trenching operations. In the case of an emergency, the contractor will notify Ameren of any digging or trenching by phone as soon as possible.

3.28 Parcel 231 – Marketplace at the Abbey. There are landscaped beds between the parking lot and Manchester Road. During construction, contractor will grade the landscaping rock back from within these beds and store it within the temporary construction easement. Upon completion of the work along the parcel frontage, the contractor shall install new weed barrier geotextile fabric and re-install the landscaping rock that had been previously graded back. During execution of this work, the contractor shall take care to not disturb the landscaping bushes located with the easement areas.

3.29 Parcel 245 – Dean Team Service Center. No work shall be performed on this parcel during business hours. Normal business hours are 9:00 a.m. to 8:00 p.m. Monday, Wednesday, and Friday and 9:00 AM to 6:00 PM Tuesday, Thursday, and Saturday. The business is closed on Sundays.

3.30 Parcel 246 – 10202-20 Manchester Road. The contractor shall remove and discard the existing light pole that is located at approximately Sta. 249+00. During execution of their work, the contractor shall take care to not disturb the existing business sign and pole located in between the two entrances. The contractor shall also be responsible for re-stripping all parking lot striping lines that are disturbed during construction.

3.31 Parcel 256 – St. Agnes Home. Temporary fencing shall be provided along the frontage of the St. Agnes Home during all periods of active construction operations. Refer to Job Special Provision “72-Inch Temporary Chain Link Fence” for additional details.

3.32 Parcel 258 – 10400-14 Manchester Road. No work shall be performed on this parcel during business hours. Normal business hours are 9:00 a.m. to 7:00 p.m. Monday through Saturday. Additionally, the contractor shall stage their construction operations in a manner that will keep at least 10 of the 13 parking spaces open at all times during business hours.

3.33 Parcel 267 – Bopp Chapel. The contractor will keep the drive lane between the front building sidewalk and the temporary construction easement open and accessible at all times. The area will also be maintained free of construction traffic, equipment, and personnel, except for construction of the entrance driveway approach and sidewalk/ADA curb ramp tie-ins. Construction on the driveway approach will be performed half-at-a-time in order to maintain the drive lane open through the duration of the project.

3.34 Parcels 274 and 275 – Lou Fusz Toyota. Work within the easements on these parcels must be performed during non-business hours. Business hours for these parcels are defined as Monday through Saturday 10:00 a.m. to 7:00 p.m. and Sunday from 12:00 noon to 6:00 p.m. Additionally, at least one driveway entrance shall remain open at all times.

4.0 Basis of Payment. No direct payment will be made to the contractor for the labor, equipment, material, or time required to comply with this provision.

R-R. Delayed Access to Parcels Pending Acquisition

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

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

3.0 Parcels. The following is the list of the parcels where acquisition is pending. All dates are 2021 unless otherwise noted.

- Parcel 32 (WEI'S INVESTMENT, LLC) – Anticipated Possession on or before July 31
- Parcel 33 (SHAM TEKWANI & NEETA TEKWANI) – Anticipated Possession on or before April 30
- Parcel 43 (FELICE PROPERTIES, LLC) – Anticipated Possession on or before August 31
- Parcel 44 (8106 MANCHESTER, LLC) – Anticipated Possession on or before August 31
- Parcel 44A (FELICE PROPERTIES, LLC) – Anticipated Possession on or before August 31
- Parcel 46 (BRENTCHESTER LLC) – Anticipated Possession on or before July 31
- Parcel 47 (DENNIS G. SCHARFF, TRUSTEE) – Anticipated Possession on or before April 30
- Parcel 53 (B E JAM, LLC) – Anticipated Possession on or before July 31
- Parcel 59 (RPM HOLDINGS, LLC) – Anticipated Possession on or before July 31
- Parcel 60 (MOIR R. STEVENS & ROSANNE S. HORAN TRUSTEES)– Anticipated Possession on or before August 31

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- Parcel 61 (8309 MANCHESTER RD. L.L.C.) – Anticipated Possession on or before May 31
- Parcel 64 (GWH, LLC) – Anticipated Possession on or before August 31
- Parcel 66 (SOVRAN ACQUISITION LIMITED PARTNERSHIP) – Anticipated Possession on or before April 30
- Parcel 67 (8500 MANCHESTER L.L.C. & LS INVESTMENTS, L.L.C.) – Anticipated Possession on or before April 30
- Parcel 73 (MORICE ENTERPRISES LLC) – Anticipated Possession on or before September 30
- Parcel 77 (RUSSO’S DEVELOPMENT LLC) – Anticipated Possession on or before August 31
- Parcel 79 (MANCHESTER ROAD PROPERTIES LLC) – Anticipated Possession on or before August 31
- Parcel 80 (NORMAN J. KNIGHT) – Anticipated Possession on or before April 30
- Parcel 84 (SUBURBAN PARTNERS, L.P.) – Anticipated Possession on or before April 30
- Parcel 86 (FOUNTAINS AT 270 LLC) – Anticipated Possession on or before July 31
- Parcel 98 (ASTI PROPERTIES, LLC) – Anticipated Possession on or before July 31
- Parcel 99 (H.M. BOEGEMAN REALTY CO. AND CREST DEVELOPMENT CO.) – Anticipated Possession on or before May 31
- Parcel 102 (BRENTWOOD CONDOMINIUM ASSOCIATION) – Anticipated Possession on or before April 30
- Parcel 103 (ASHICCA AUTO SERVICES, INC.) – Anticipated Possession on or before May 31
- Parcel 111 (ONT HOLDINGS 9029 LLC) – Anticipated Possession on or before July 31
- Parcel 121 (MISSOURI PACIFIC RAILROAD) – Anticipated Possession on or before June 30
- Parcel 122 (R & R INVESTMENT HOLDING, LLC) – Anticipated Possession on or before June 30
- Parcel 123 (MILLMAN LUMBER COMPANY) – Anticipated Possession on or before June 30
- Parcel 130 (RUSSO’S DEVELOPMENT LLC) – Anticipated Possession on or before April 30
- Parcel 131 (TRAINWRECK, LLC) – Anticipated Possession on or before July 31
- Parcel 133 (MILLMAN LUMBER COMPANY) – Anticipated Possession on or before June 30
- Parcel 137 (STRATFORD COURT APARTMENTS, LLC) – Anticipated Possession on or before May 31
- Parcel 140 (THE MANCHESTER PROFESSIONAL BUILDING, LLC) – Anticipated Possession on or before July 31

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- Parcel 170 (9910 LLC) – Anticipated Possession on or before April 30
- Parcel 175 (NR INVESTMENTS) – Anticipated Possession on or before July 31
- Parcel 180 (FHBC, LLC) – Anticipated Possession on or before April 30
- Parcel 181 (CS3 BP ASSOCIATES, LLC) – Anticipated Possession on or before April 30
- Parcel 185 (HOWE PROPERTIES, INC.) – Anticipated Possession on or before July 31
- Parcel 186 (9840 MANCHESTER ROAD L.L.C.) – Anticipated Possession on or before July 31
- Parcel 192 (THE SOUTHLAND CORPORATION) – Anticipated Possession on or before July 31
- Parcel 193 (MANCHESTER PROPERTY INVESTORS, LLC) – Anticipated Possession on or before April 30
- Parcel 194 (9910 LLC) – Anticipated Possession on or before May 31
- Parcel 199 (M B VENTURES, LLC) – Anticipated Possession on or before April 30
- Parcel 213 (ENTERPRISE BY YASOU, LLC) – Anticipated Possession on or before July 31
- Parcel 214 (CAPLACO TWENTY-FIVE, INC. & WARSON WOOD, INC) – Anticipated Possession on or before July 31
- Parcel 222 (WAYCLIFFE DEVELOPMENT CORP) – Anticipated Possession on or before April 30
- Parcel 227 (GENERAL GRANT REALTY CO.) – Anticipated Possession on or before August 31
- Parcel 229 (CROWN DIVERSIFIED INDUSTRIES CORP.) – Anticipated Possession on or before September 30
- Parcel 239 (CROWN DIVERSIFIED INDUSTRIES CORP.) – Anticipated Possession on or before August 31
- Parcel 249 (10260 MANCHESTER, LLC) – Anticipated Possession on or before July 31
- Parcel 252 (JOHN B. HEGEMAN LIVING TRUST) – Anticipated Possession on or before July 31
- Parcel 257 (SUNTRUP) – Anticipated Possession on or before July 31
- Parcel 259 (C&B PROPERTIES LLC) – Anticipated Possession on or before July 31
- Parcel 260 (SAINT LOUIS DENT COMPANY, LLC) – Anticipated Possession on or before July 31
- Parcel 261 (INVESTMENTS LLC 10502) – Anticipated Possession on or before July 31

4.0 Basis of Payment. No direct payment will be made to the contractor for the labor, equipment, material, or time required to comply with this provision.

R-S. Protection of Metrolink Facilities and Traffic

METRO RAILWAY REQUIREMENTS STANDARD OPERATING PROCEDURES

1.0 PURPOSE AND SCOPE. The purpose of the following requirements is to maintain a safe environment and efficient transit system for MetroLink customers, employees and Contractors when work is being performed on the MetroLink Right-of-Way (ROW). The following procedures must be followed and all requirements fulfilled before permission will be granted to any individual or group requesting access to the MetroLink Right-of-Way (ROW) to perform work. This includes all work on, under, above, or adjacent to the MetroLink Right-of-Way that has the potential to impact train operations. MetroLink Right-of-Way is defined as Metro owned property along MetroLink's Light Rail System, including main line tracks, yard track, shop tracks, and stations. Work performed on the Right-Of -Way outside of the alignment or area where trains operate that **will not** impact train operations, e.g. park and ride lots etc., is excluded from the scope detailed in the following procedures.

This procedure is applicable to Contractors and Metro Employees.

MetroLink Land Maps defining Metro property lines and a MetroLink Alignment Schematic are available from the Maintenance of Way (MOW) Department upon request.

Contractor must request a St. Louis Metrolink Track Access Permit Package from Metrolink. This package will contain all the latest exhibits and Standard Operating Procedures (SOPs) necessary for this project as well as any fees associated with working within Metrolink limits.

Metro employees will not be used for flagging. All flagging work will need to be self-performed.

2.0 ATTACHMENTS/EXHIBITS

EXHIBIT A: MetroLink - Contractor Right-of-Way Temporary Work Permit

EXHIBIT B: Metro Permit Fee Schedule

EXHIBIT C: MetroLink Alignment Schematic (available upon request)

EXHIBIT D: Indemnification Agreement and Required Insurance Coverage

EXHIBIT E: Metro Personnel Right of Way Work Permit (For Metro Employees Only)

EXHIBIT F: MetroLink Rail Systems Department Employee Safety Standards (available upon request)

EXHIBIT G: Operations Rule Book (available upon request)

Note: See paragraph 7.0 for information on how to obtain Exhibits above.

3.0 DEFINITIONS

Flag Person is a Tier 2 qualified Contractor or Metro Employee that is assigned as a dedicated flagger to protect work crews, personnel, and equipment working on or near the tracks to ensure safe passage of trains as described in SOP 103.04. Contractor will be responsible for providing Tier 2 qualified flaggers.

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Fouling a Track means placement of an individual, material or equipment in such proximity to the track that the individual, material or equipment could be struck by a moving train or on-track equipment, or in any case is within 8' 6" from the centerline of nearest track.

Lookout is a Tier 2 qualified Metro employee who is qualified to provide warning to ROW workers of approaching trains or on-track equipment. Lookout should be equipped with the necessary equipment to warn ROW workers of approaching trains, as well as flagging equipment to be used if it is necessary to warn approaching trains. The Lookout's sole duty is to look for approaching trains or on-track equipment and provide advanced warning to employees before arrival of the trains or on-track equipment. ***Contractor will be responsible for providing Tier 2 qualified flaggers.***

No Clearance Zone areas along the MetroLink Right of Way where there **is not** 8' 6" clearance from centerline of nearest track to nearest fixed object, e.g. wall, fence, bridge, steep embankment. Within these areas it **is not** possible for personnel to safely clear from fouling train movement. These areas are designated with reflective **No Clearance** signs on the right-of-way and by markings on the MetroLink Alignment Schematic.

Operating Right-of-Way (ROW) is the area within twenty (20) feet of the centerline of any track on the main line or yard.

Pilot is a Tier 3 qualified Metro employee assigned to facilitate track car or on-track equipment movement when the operator or driver is not qualified on the physical characteristics or rules of the portion of the alignment over which movement is to be made. The pilot will be responsible for the safe movement of on-track equipment for the work crew to which they are assigned.

Right-of-Way (ROW) is land, property and interests therein, acquired by the Agency.

Train Detection is a procedure by which a worker acquires ROW access safely by seeing approaching trains and leaving the track before the train arrives at the location at which they are working and which may be used only under certain conditions authorized by OCC.

4.0 GENERAL REQUIREMENTS FOR ACCESS TO METROLINK RIGHT-OF- WAY

All work within the "MetroLink ROW" is subject to the Metro approval. Work plans must be submitted for Metro Approval. MetroLink SOP 101.17 describes the work permit submittal requirements. Weekly track allocation meetings are held at the MetroLink Ewing Facility (Room M09) on Thursdays at 8:30am. A contractor representative must attend to discuss the following week's work. Metro SOP 101.23 describes the track allocation process.

4.1 To access the MetroLink ROW all Contractor and Metro Employees must have a minimum of Tier 1 Safety Training and each work group must be accompanied by at least one person that is Tier 2 qualified to serve as a flag person or lookout. For unforeseen work for short durations, MetroLink Operations may authorize unqualified persons access to the ROW if accompanied by a qualified Metro Lookout.

4.2 The work crew must have in their possession a copy of an approved work permit describing the work being performed. Contractor must also meet all additional requirements for ROW access described within this SOP and the referenced documents. Prior to the start of any proposed work the Contractor must submit a MetroLink - Contractor Right-of-Way Temporary Work Permit, and

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Metro Employees must submit a Metro Personnel Right of Way Work Permit. If Metro requires a detailed work plan, that plan must be approved prior to permit submittal. Once the work plan is approved, the permit can be submitted. For unforeseen work for short durations, MetroLink Operations can authorize access to the ROW without an approved work permit. Work permits are not required for LRV equipment maintenance performed on the mainline or in the yard & shops.

4.3 Operators of track cars or on-track equipment must be Tier 3 qualified, unless a qualified Metro Pilot accompanies them. In that situation, the Operator must be at a minimum, Tier 1 qualified.

4.4 A Metro Tier 3 qualified pilot must accompany Contractor track cars. The pilot is responsible to ensure the Contractor's track car and on-track equipment is operated in compliance with Metro operating and safety rules. The contractor requirement for the Metro pilot can be waived by Metro, if it has been determined that the Contractor's operator has sufficient experience with Metro operating and safety rules.

5.0 ROW SAFETY TRAINING QUALIFICATIONS

The following table summarizes the required ROW Safety Training necessary before any Contractor or Metro Employee will be allowed to perform any work on the ROW. Annual recertification is required for Tier 1, 2 &3 Training.

Work or Duties	Training Required
Any work within MetroLink Right-of-Way	Tier 1
Flagging to protect work crews, personnel and equipment in the Right-of-Way	Tier 1, and Tier 2
Operating a track car on MetroLink	Tier 1, Tier 2, and Tier 3

If Metro employees are not qualified at a minimum Tier 2 (Flagging and Radio Use), they must be escorted by another employee qualified to Tier 2.

The Safety Department will maintain a list of ROW Safety Trained qualified persons and their level of qualification (e.g. Tier 1, 2, or 3). An updated list will be kept on file in the Rail Dispatcher's Office. Dates, times and locations of Training class can be obtained by contacting Metro Safety Dept. or MetroLink Operations.

6.0 METRO REQUIREMENTS FOR CONTRACTOR

6.1 Contractor must, if requested by Metro, submit a detailed work plan to MetroLink Operations to be reviewed and approved by MetroLink Operations, Maintenance of Way, and Safety. After acceptance of the work plan, Contractor will obtain, through the procedure defined in this SOP, an approved **EXHIBIT A: MetroLink - Contractor Right-of-Way Temporary Work Permit** before any work can be performed and they must have their Metro approved Permit available at all times on the work site.

6.2 Contractor may be required to reimburse Metro for all expenses as defined in EXHIBIT B: Metro Permit Fee Schedule. **Metro reserves the right to waive fees at its sole discretion.**

6.3 Method of payment from Contractor to Metro will be determined by Metro. All Metro expenses for a particular Contractor shall then be accumulated under the associated permit number.

6.4 Contractor will complete annual required ROW Safety Training as described in **Section 5 – ROW SAFETY TRAINING QUALIFICATIONS**. Annual recertification is required for Tier 1,2 &3 Training.

6.5 Contractors will immediately stop any work that deviates from their approved Right-of-Way Temporary Work Permit or detailed work plan submitted. Metro should be contacted and must approve any alternate work procedures.

6.6 Contractor work activities can be terminated immediately by MetroLink Operations, Maintenance of Way or Safety, at any time without notice. Typical conditions under which this may occur include, but are not limited to:

- a) Failure to comply with any of the requirements identified in this SOP or other documents referred to within.
- b) Safety related reasons.
- c) Operations schedule-related reasons.
- d) If work in progress deviates from the written work proposal approved by the Metro.
- e) Flag person(s) not available.
- f) Contractors' work interferes with the constant, continuous use of the tracks, property and facilities of MetroLink system, its employees, its customers or other Contractors working within the right-of-way.
- g) Accidents, injuries, near misses, or vehicle damage.
- h) Metro rule violations

6.7 All on track equipment (including Hi-Rail Vehicles) must meet Federal Register 49 CFR, Part 214 standards, related to Roadway Maintenance Machine Safety. Contractor will be required to submit a list of qualified operators and which Roadway Maintenance Machines that they are qualified to operate on Metro. The Contractor will provide, for Metro approval, documentation of their training and qualification process.

6.8 Contractor must satisfy all safety requirements including, but not limited to, those found in Exhibit F: METROLINK RAIL SYSTEMS DEPARTMENT EMPLOYEE SAFETY STANDARDS dated January 1996 and Exhibit G: MetroLink Operations Rule Book. Copies are available upon request from the MOW Department.

6.9 Under no circumstances will Contractor access tracks with vehicles, equipment, or machinery, without explicit written permission of Metro. Each individual working on the ROW is responsible to supply their own personal protective equipment, including a reflective safety vest, hard hat, safety glasses, and work shoes with less than ½ inch heels (open toe or heel shoes are prohibited).

6.10 These requirements should be followed for excavations:

- Excavations to either side of tracks must be at least **twenty feet** from the centerline of track.
- Excavation under, between or within the track structure or the removal of ballast is prohibited unless approved by Metro.
- Under-track cable installations must be directionally bored using the following procedures.

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- A minimum depth of 8 feet below top of ties shall be maintained at all times or 8 feet below flow line of ditch, whichever is greater, must be maintained to top of conduit(s).
- Conduit schedule Fiberglass Reinforced Epoxy (FRE) or equivalent is required.
- Excavations within 5 feet of either side of buried MetroLink signal, power, and communication cables must be performed by hand digging and with MOW personnel present at the dig site.
- When cable work is being performed parallel to MetroLink right-of-way, cables shall be laid at the same depth as MetroLink cables. The location of the cables shall be between MetroLink cables and the property line, **not** towards the track.
- If cable locates are required the Missouri One Call System, Inc. locate procedure for Missouri and Julie, Inc. procedures for Illinois must be followed.

Note: Any deviation from these requirements will only be allowed with written consent from Metro.

6.11 Over-track crossings will be considered on a case-by-case basis. All over-track crossings must comply with both National Electric Safety Code (NESC) clearances and any MetroLink requirements imposed.

6.12 Contractor shall only enter MetroLink Right-of-Way with an approved Work Permit, unless otherwise approved by MetroLink Operations.

6.13 Work performed by a Contractor on MetroLink Right-of-Way within 20 feet of the centerline of a main line or yard track will require a Temporary Restriction to be issued on the Daily Operating Clearance.

6.14 If the Contractor is performing work outside of 20 feet of the center line of any main line or yard, and it is possible for equipment e.g. boom, or hoisted equipment etc, to foul the operating ROW or has potential of making contact with the catenary, a temporary restriction will be required.

6.15 The temporary restriction will require a dedicated flag person to provide flag protection for the work crew(s). Speed Restriction Signs will need to be posted to identify the work zone to approaching trains. Refer to SOP 103.04 for more information on flagging requirements.

6.16 In the event that the Contractor disturbs, or modifies Metro's property in any manner, the Contractor must restore the property to the same condition it was in before the Contractor performed work. Such restoration must be to the satisfaction of the Superintendent of Operations and the Superintendent of Rail ROW Maintenance. Contractor will be billed for all work required to restore property to original condition.

6.17 Contractor must comply with all applicable federal, state, and local laws, regulations, and standards affecting their work.

6.18 As a limitation to any rights or licenses that may be granted to the Contractor, Metro reserves the right to use and maintain its entire property. This includes Metro's right to construct, maintain, repair, renew, use, operate, change, modify, or relocate railroad tracks, roadways, station platforms, signal, communication, fiber optics, power, or other wire lines, pipelines and other facilities upon, along or across any or all parts of its property. All or any of the above mentioned use and maintenance may be done at any time or times by Metro without liability to the Contractor or to any other party for compensation or damages.

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6.19 The Contractor is required to comply with Metro's Exhibit D "Insurance Specifications for MetroLink Contractors"

6.20 Metro reserves the right to fully investigate all Contractor accidents, injuries, near misses, or vehicle damage and the Contractor and its employees agree to comply and assist Metro in all aspects of these investigations. This includes, but is not limited to, drug and alcohol testing, employee interviews, written reports, and requests for documentation.

Contractor employees who work on the MetroLink ROW will be required to comply with the Metro Drug and Alcohol Policy

7.0 CONTRACTORS PROCEDURE TO ACCESS METROLINK R.O.W.

7.1 Contractor will request a Right-of-Way Work Permit packet of information from:

Control Center Manager
MetroLink Operations
700 South Ewing
St. Louis, MO 63103
314-982-1400 X2851
rowworkpermits@metrostlouis.org
Fax 314-335-3429

7.2 MetroLink Operations will distribute SOP 101.17 with Exhibits A, B, and D to the Contractor. Contractor may request Exhibits C, F, and G. Exhibit E is for Metro employee use only.

7.3 Contractor then submits their Permit Application Fee and MetroLink Contractor Right-of-Way Temporary Work Permit (Exhibit A). All other required documents should be submitted a minimum of 14 days prior to their proposed start date. This may include a detailed work plan and project drawings, indemnification agreement and required insurance coverage as described in the Description of Insurance Specifications (Exhibit D).

7.4 MetroLink Operations distributes Permit and detailed work plan if required, to Real Estate, Risk Management and Safety Departments for approval and facilitates a pre-project planning meeting with Contractor(s).

7.5 MetroLink Operations contacts Contractor with approval, permit number and necessary requirements for Tier 1-3 safety training. Permit numbers are assigned by MetroLink Operations as described in SOP 101.23.

7.6 Contractor completes required safety training:

- Tier 1 Training: Persons working on or next to the MetroLink Right-of-Way.
- Tier 2 Training: Flagging and Radio Use.
- Tier 3 Training: Track Car Operation and Operating Rules

Notes:

1. Contractors are required to be trained at a minimum of Tier 1 to enter ROW. All work performed by the Contractor on the operating ROW must be protected by a qualified flagperson. An

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unqualified Contractor may be authorized to enter the alignment by Operations if escorted by a Metro Lookout.

2. Operators of track cars or on-track equipment on the MetroLink light rail system must be qualified to Tier 3, unless they are to be piloted by a qualified Metro Pilot (in this case, the Operator will be Tier 1 qualified at a minimum). A Metro Tier 3 qualified Pilot is required to direct the operation of Contractor's track cars and on-track equipment, unless otherwise approved by Metro.

*3. Flaggers must be Metro Safety trained to a minimum of Tier 2. Work within the Metrolink Operating ROW (within 20ft of the centerline of an in service track) will require a restriction and flag protection per Metrolink SOP 101.17. **Contractor will be responsible for providing Tier 2 qualified flaggers.***

4. Work within 10 feet of the overhead lines (catenary) or that otherwise could come in contact with the overhead lines requires de-energization of the lines. Exceptions must be approved by Metro. Refer to paragraph 8.0 below for Allowed Work Windows.

7.7 Contractor track cars must be piloted by a Metro Pilot qualified to Tier 3 of safety training. The pilot will communicate with OCC and control the movement of track cars or group of track cars assigned to a single work crew. The Metro Pilot will be responsible for the safe movement of the on track equipment or track cars. The Metro Pilot requirement may be waived by Metro if it is determined that the operator has sufficient training and experience on the MetroLink alignment to safely operate track cars and on-track equipment, and the Operator is Tier 3 qualified.

7.8 Contractor submits Right-of-Way Temporary Work Permit (Exhibit A) with permit number no later than **Wednesday 12 Noon, prior to the week the work will be accomplished. Permit must be resubmitted every week during the length of the proposed project.**

Note: *If there is a Metro recognized holiday on Thursday, the work permits are due on Tuesday 12 Noon.*

Note: *If the project proposal changes significantly, a new MetroLink Right-of-Way Temporary Work Permit (Exhibit A) must be submitted. A new Permit Number will be assigned after the Permit is approved.*

7.9 Contractor or a Metro Designee is required to attend weekly Track Allocation meetings held at the Metrolink Ewing Facility (Room MO9) on Thursdays at 8:30 am with MetroLink Operations and Maintenance of Way to respond to questions regarding proposed work. The Contractor's Metro Designee may represent the Contractor at this meeting if previously arranged. Metro SOP 101.23 describes the track allocation process.

All work requests are subject to Metro Approval

Note: *Scheduling of work activities is subject to availability of Maintenance of Way, Operations and Safety personnel, as well as the effect it will have on customer service based on the impact the proposed work has on service quality and train schedules.*

7.10 Metro Project Manager or MetroLink Operations will provide the Contractor with a copy of their approved temporary permit (Exhibit A), which must be available on the project site at all times during work activities to confirm permission to occupy MetroLink Right-of-Way.

7.11 Contractor must contact OCC and request permission prior to accessing the ROW. OCC has authority over all activity along the ROW at all times.

7.12 Once work is complete, and the work area is cleared of materials, equipment, tools, and personnel, the Contractor must contact OCC to confirm that they are clear of the ROW.

7.13 Metro provides Contractor an invoice for appropriate fees upon completion of the work or on a monthly basis as necessary.

7.14 Contractor submits payments to the Metro Accounts Receivable.

8.0 Allowed Work Windows

8.1 Work under a Restriction (Work performed within 20 feet of the track, but not requiring de-energization of overhead wire, without risk of falling debris onto track way)

- Work under a restriction is allowed from 7:30AM to 3:30PM. Other times may be approved by Metro
- Headway: Peak 6 minutes (M-F 5AM-10AM and 2PM-8PM)/ Off-Peak 10 minutes on each track.
- Work over Metro with potential of falling debris or other construction runoff will need to be performed after revenue service when trains are not operating. Additionally, it may be necessary to put track or overhead wire protection in place, to eliminate risk of damage or fouling by debris.

8.2 Work with Both Tracks Out of Service Nightly (After Revenue Service)

- Work with both tracks out of service is allowed nightly after revenue service 1:45 a.m.-4:15 a.m. nightly.
- If work is within 10 feet of the overhead power line or that has the potential to come in contact with the line, a power down of the overhead lines will be required. Allow twenty (20) minutes each for a power down and a power up. Power UP/Power Down fee is \$500 (for each power down/quantity as required).
- If there is potential of falling debris or runoff, it will be necessary to put track or overhead wire protection in place, to eliminate risk of damage or fouling by debris.

8.3 Work with One Track Out of Service (Single Track)

- With two (2) weeks' notice, Metro may remove one track from service and operate a single track beginning at 8:00 p.m. nightly on non-special event night.
- With two (2) weeks' notice, Metro may remove one track from service and operate on a single track all day Saturday and Sunday on non-special event days.
- Limits of single track will be Ewing Yard Interlocking (MP12.8) to Tucker Interlocking (MP14.3)
- Operations of this single track requires MetroLink to operate a special schedule that ends Blue Line service at Forest Park-DeBaliviere Station. Delays of 10 minutes are expected during this operation.

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- Operations of single track will need to be coordinated with other Metro maintenance and construction work. Operations is only able to support one single track daily.
- Special events include, but are not limited to: Cardinal Games, Mardi Gras, Race for the Cure, and Fair of St. Louis.
- Allow twenty (20) minutes each for a power down and power up.
- If there is potential of falling debris or runoff, it will be necessary to put track or overhead wire protection in place to eliminate risk of damage or fouling by debris.
- Allow one (1) hour at end of the outage for Metro test train, if required.

R-T. Coordination with Metro Transit

1.0 Description. The contractor shall be required to coordinate with Metro Transit where construction operations will involve work on or around existing transit stops. It is requested that the coordination begin prior to the project Preconstruction Conference to ensure minimal disruption in service on Metro's system.

2.0 Construction Requirements. All Metro Transit stops within the project limits shall remain open and operational throughout the duration of the project. In locations where the contractor's operations will involve work in proximity to a transit stop location, the contractor shall notify Metro Transit through the contacts listed below, not later than 72 hours prior to beginning work at that location. The contractor shall also take care to minimize exposure of transit users to construction hazards in proximity to all transit stops that are in service during work operations.

2.1 Project Contacts. The contractor shall notify the following contacts at Metro Transit coordinate scheduling throughout the project with them or their designated representative(s).

Ms. Natalie Siebert, Senior Planner Transit Operations
Office: (314) 982-1400 x1816
Cell: (314) 497-4916
Email: nmsiebert@MetroStLouis.org

Mr. Lance Peterson, Director of Service Planning
Office: (314) 982-1520
Cell: (314) 220-6756
Email: llpeterson@MetroStLouis.org

3.0 Temporary Facilities. In locations where the contractor's operations may affect a transit stop location, a temporary stop may be required. Signage of the temporary stop shall be in accordance with Specification Section 104.10.2, and placement shall be coordinated with Metro Transit. All temporary transit stops shall be located in proximity to the existing stop it is representing, accessible, clear and conspicuous to both the transit rider and facility operator, and be located where it is safe from hazards within the work area.

4.0 Permanent Facilities.

4.1 Bus Stops. Locations for proposed bus stops are identified in the contract plans. The contractor shall furnish a flush-mount anchor that is to be drilled into the concrete pad per manufacturer's recommendations. Metro Transit will install the new bus stop sign and post.

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4.2 Bus Shelters. Locations for proposed bus shelters are identified in the contract plans. The contractor shall construct the concrete pad for the shelters. Shelters will be furnished and installed by Metro upon completion of the pads.

5.0 Basis of Payment. No direct payment will be made for any labor, equipment, materials, and time required to comply with this provision.

R-U. Pedestrian Underpass Construction Requirements (Roadway) – Job J6S1718B Only

1.0 Description. Work is to be performed in the location of the pedestrian underpass and adjoining segment of Rogers Parkway as depicted in the contract plans and in accordance with these special provisions.

2.0 Construction Requirements.

2.1 Compacting in Cut. The 12-inch over-excavation necessary for placement of the Rogers Parkway Trail shall be paid for as Compacting in Cut. All materials and work performed for this item shall be in accordance with Sec 203.5.8. Measurement for Compacting in Cut will be made in accordance with Sec 203.8.

2.1.1 Basis of Payment. Payment for the accepted quantity for compacting in cut will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
203-70.75	Station	Compacting in Cut

2.2 Soft Soil Remediation. Based on the geotechnical data, soft soils may be present in the area of the pedestrian underpass above an elevation of 433 feet. The contractor shall completely excavate soft soils within the limits depicted in the contract plans. The remediation shall extend to the bottom of the soft soils or to the depth required to satisfy global stability requirements as shown on the plans, whichever is greater. The contractor shall retain the services of a geotechnical engineer to verify soft soil has been removed. This excavated material shall be replaced with compacted Type 5 Aggregate Base material placed in no more than 6-inch thick lifts. The Type 5 Aggregate Base material shall be reinforced with Tensar BX 1200 or similar geogrid approved by the engineer at 2-foot vertical spacings, with the first layer placed at the bottom of the over-excavation. Geogrid shall be installed and overlapped in accordance with the manufacturer's recommendations.

2.2.1 Excavation shall be in accordance with Sec 203, and placement of the aggregate base material shall be in accordance with Sec 304. Geogrid material shall be non-metallic type in accordance with Sec 1052.20.

2.2.2 Method of Measurement. Final measurement for soft soil remediation will be made to the nearest cubic yard.

2.2.3 Basis of Payment. Payment for the accepted quantity for soft soil remediation will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

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Item No.	Unit	Description
203-99.07	CUYD	Soft Soil Remediation

2.3 Class 3 Excavation. Where proposed drainage structures are to be constructed within zones of other excavation types (e.g. Class A or excavation for modular block wall structures) and the bottom of structure elevation falls above the final elevation of excavation, no measurement or payment will be made for Class 3 Excavation. In these locations, appropriate fill material shall be placed up to the lower elevation of the bedding material required for placement of the drainage structure, and the Embankment Installation method depicted in Standard Plan 726.30. All materials and work performed for this item shall be in accordance with Sec 206.

2.3.1 Basis of Payment. Payment for Class 3 Excavation, in the locations accepted for payment, will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
206-30.00	CUYD	Class 3 Excavation

3.0 Basis of Payment. With the exception of the pay items listed above, no direct payment will be made for any labor, equipment, materials, and time required to comply with this provision.

R-V. Rogers Parkway Pavement – Job J6S1718B Only

1.0 Description. Concrete headers shall be provided along the perimeter of the Rogers Parkway Trail as shown in the contract plans. These headers shall be 12 inches wide at the surface and shall be constructed to the depth and dimensions as depicted in the contract plans.

2.0 Construction Requirements.

2.1 Type 5 Aggregate for Base (5 In. Thick). A 5-inch thick layer of Type 5 Aggregate Base shall be placed underneath the Rogers Parkway trail pavement as depicted in the contract plans. All materials and work performed for this item shall be in accordance with Sec 304.

2.1.1 Method of Measurement. Final measurement for the aggregate base will be made in accordance with Sec 304.5.

2.1.2 Basis of Payment. Payment for 5-Inch thick Type 5 Aggregate Base, in the locations accepted for payment, will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
304-99.05	SQYD	Type 5 Aggregate for Base (5 In. Thick)

2.3 12-Inch Concrete Header. Concrete headers shall be provided along the perimeter of the Rogers Parkway Trail. These headers shall be 12 inches wide at the surface and shall be constructed to the depth and dimensions as depicted in the contract plans.

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2.3.1 All materials and work performed for this item shall be in accordance with Sec 502 and Great Rivers Greenway Trail Surfacing Standards. Concrete material shall be Class B with air entrainment.

2.3.2 Method of Measurement. Measurement will be made in accordance with Sec 502. All base rock and sub-base material below the concrete header shall be quantified and paid for as separate pay items associated with those items.

2.3.3 Basis of Payment. Payment for the accepted quantity for concrete headers will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
502-99.03	Linear Foot	12-Inch Concrete Header

3.0 Basis of Payment. With the exception of the pay items listed above, no direct payment will be made for any labor, equipment, materials, and time required to comply with this provision.

R-W. Permeable Interlocking Concrete Pavement – Job J6S1718B Only

1.0 Description. The pedestrian connection between Rogers Parkway/South Mary Avenue and Manchester Road shall consist of permeable interlocking concrete pavement (PICP) as depicted in the contract plans.

2.0 Construction Requirements. All materials and work performed for this item shall be in accordance with Metropolitan St. Louis Sewer District Standard Specifications for Sewers and Drainage Facilities (2009 edition).

2.1 Additional information on PICP may be found on MSD’s website at the following location:
<https://msdprojectclear.org/what-we-do/stormwater-management/bmp-toolbox/stormwater-quality/permeable-pavement/permeable-interlocking-concrete-pavement/>

3.0 Method of Measurement. Final measurement for the permeable interlocking concrete pavement will be made in accordance with Sec 608. No direct payment will be made for the PICP informational signs, posts, or mounting hardware that are to be furnished and installed in conjunction with the PICP installation.

4.0 Basis of Payment. Payment permeable interlocking concrete pavement, in the locations accepted for payment, will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
304-99.05	SQYD	ASTM No. 2 Aggregate, 12 In. Thick
304-99.05	SQYD	ASTM No. 57 Aggregate, 4 In. Thick
304-99.05	SQYD	ASTM No. 8 Bedding Course, 2 In. Thick
604-99.02	Each	Observation Well
605-99.03	LF	Perforated Underdrain Pipe, 4 In. Rigid, Schedule 40 PVC

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605-99.03	LF	4 In. Rigid Pipe, Schedule 40 PVC
610-99.05	SQYD	Permeable Interlocking Concrete Pavement (3-1/8" Thick)
624-99.05	SQYD	MSD Type 4 Filter Fabric

R-X. Pedestrian Underpass Storm Sewer Pipe and Structures – Job J6S1718B Only

1.0 Description. The contractor shall furnish and install storm sewer pipes and structures at all locations depicted in the contract plans.

2.0 Construction Requirements. The material furnished and installed by the contractor shall be in accordance with Sec 726 and Sec 731, and all applicable Metropolitan St. Louis Sewer District Standard Specifications for Sewers and Drainage Facilities (2009 edition), where required.

3.0 Pipe Culverts. Pipe culvert materials are identified in the contract plans. Exceptions for substitution of pipe culvert materials other than those identified shall not be permitted without approval of the engineer. Should the contractor propose a material type change for the pipe, the contractor shall be responsible for furnishing drainage calculations that have been approved, signed, and sealed by a Professional Engineer who is licensed in the State of Missouri in accordance with the laws relating to architects and professional engineers (Chapter 327, RSMo).

3.1 Method of Measurement. Measurement for the storm sewer pipe culverts will be made in accordance with Sec 724.4.

3.2 Basis of Payment. The storm sewer pipe culverts shall be paid for at the contract unit price for the items listed below and shall include all necessary equipment, materials, pipe collars, concrete headwalls, concrete toe walls and labor necessary for compliance with these provisions.

Item No.	Unit	Description
725-99.03	Linear Foot	6 In. Pipe Group B
726-99.03	Linear Foot	12 In. Class V Reinforced Concrete Pipe Culvert
726-99.03	Linear Foot	15 In. Class V Reinforced Concrete Pipe Culvert
726-99.03	Linear Foot	18 In. Class V Reinforced Concrete Pipe Culvert
726-99.03	Linear Foot	24 In. Class V Reinforced Concrete Pipe Culvert
726-99.03	Linear Foot	42 In. Class V Reinforced Concrete Pipe Culvert
726-99.03	Linear Foot	48 In. Class V Reinforced Concrete Pipe Culvert

4.0 Storm Sewer Drainage Structures. Storm sewer drainage structures, types, and locations are identified in the contract plans. Structures shall be in accordance with applicable Metropolitan St. Louis Sewer District Standard Specifications for Sewers and Drainage Facilities (2009 edition).

4.1 Method of Measurement. Measurement for the storm sewer drainage structures will be made in accordance with Sec 731.4.

4.2 Basis of Payment. The storm sewer drainage structures shall be paid for at the contract unit price for the items listed below and shall include all necessary equipment, materials, pipe collars, concrete headwalls, concrete toe walls and labor necessary for compliance with these provisions.

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Item No.	Unit	Description
731-99.02	Each	72 In. Manhole with 42 In. Reducer
731-99.02	Each	96 In. Manhole with 42 In. Reducer
731-99.02	Each	42 In. Area Inlet
731-99.02	Each	42 In. Grate Inlet with Side Intake
731-99.02	Each	42 In. Curb Inlet
731-99.02	Each	Double Curb Inlet

5.0 Basis of Payment. With the exception of the pay items listed above, no direct payment will be made for any labor, equipment, materials, and time required to comply with this provision.

R-Y. Pedestrian Underpass Sanitary Sewer Pipe and Structures – Job J6S1718B Only

1.0 Description. The contractor shall furnish and install sanitary sewer pipes and structures at all locations depicted in the contract plans.

2.0 Construction Requirements. The material furnished and installed by the contractor shall be in accordance with Sec 726 and Sec 731, and the Metropolitan St. Louis Sewer District Standard Specifications for Sewers and Drainage Facilities (2009 edition) where required.

2.1 Sanitary sewer pipe and drainage structure materials are identified in the contract plans. Exceptions for substitution of pipe and drainage structure materials other than those identified shall not be permitted without approval of the engineer. Should the contractor propose a material type change for these items, the contractor shall be responsible for furnishing drainage calculations that have been approved, signed, and sealed by a Professional Engineer who is licensed in the State of Missouri in accordance with the laws relating to architects and professional engineers (Chapter 327, RSMo).

2.2 Manhole frames and covers shall be lock type, sealing, watertight frames and covers, and shall be included in the cost of the manhole assembly.

3.0 Method of Measurement. Measurement for the sanitary sewer pipe and structures will be made in accordance with Sec 724.4 and Sec 731.4.

4.0 Basis of Payment. The sanitary sewer pipe and structures shall be paid for at the contract unit price for the items listed below and shall include all necessary equipment, materials, pipe collars, concrete headwalls, concrete toe walls and labor necessary for compliance with these provisions.

Item No.	Unit	Description
502-99.07	CUYD	Class B Concrete (Concrete Encasement)
725-99.03	Linear Foot	8 In. C-900 Pipe
725-99.03	Linear Foot	10 In. C-900 Pipe
731-99.02	Each	48 In. Manhole with External Foulwater Drop

4.1 With the exception of the pay items listed above, no direct payment will be made for any labor, equipment, materials, and time required to comply with this provision.

R-Z. Hydrodynamic Separator – Job J6S1718B Only

1.0 Description. The hydrodynamic Separator shall consist of all work and materials required to furnish and install a hydrodynamic separator for treating stormwater.

2.0 Materials. The contractor shall furnish a hydrodynamic separating system that will meet or exceed the hydraulic and performance parameters set forth in the contract plans. The system shall be an off-line configuration and shall be a system approved by the Metropolitan St. Louis Sewer District (MSD).

2.1 The contractor shall submit shop drawings of the proposed hydrodynamic separator system, prepared that have been prepared, signed, and sealed by a Professional Engineer who is licensed in the State of Missouri in accordance with the laws relating to architects and professional engineers (Chapter 327, RSMo), to MSD for approval prior to ordering or receiving the system components. The system shall include all materials required to install the hydrodynamic separating system, as shown in the contract plans.

3.0 Construction Requirements. The system shall be constructed and installed per the manufacturers recommendations. Connections to any existing infrastructure shall be in accordance with Sec 605.40.

4.0 Technical Assistance. The contractor shall obtain the services of a technical representative from the manufacturer to advise the engineer, if necessary. This advisor shall be a qualified representative, acceptable to the engineer. It will not be necessary for this representative to be present during the construction of the hydrodynamic separator, unless specifically requested by the engineer.

5.0 Method of Measurement. Measurement will be made per each.

6.0 Basis of Payment. The hydrodynamic separator shall be paid for at the contract unit price for the item listed below, and such payment shall include all construction, excavation, equipment, and materials necessary for the complete installation of the hydrodynamic separator system. Unless otherwise noted, no direct payment will be made for incidental items necessary to complete the work, including but not limited to, manholes, frame and covers, inlet and outlet pipes, excavation, subbase preparation, bedding, backfill, tools, or labor. The contract unit price and payment will be full compensation for providing a technical advisor as needed. Costs for any modifications to any existing infrastructure for the implementation of the proposed hydrodynamic separator system shall be borne by the contractor and considered incidental to the hydrodynamic separator system proposed.

Item No.	Unit	Description
731-99.02	Each	Hydrodynamic Separator, 48 in. Diameter

R-AA. Saw Cutting for Removal of Improvements

1.0 Description. Saw cutting will be necessary for removal of improvements in certain locations as depicted in the contract plans. A number of the locations and estimated saw cut lengths have been identified and quantified in the table for Removal of Improvements that has been included in the Schedule of Quantities. The list included within the Schedule of Quantities may not be all

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inclusive and the contractor's means and methods may require an alternate removal method be employed.

2.0 Construction Requirements. All materials and work performed for this item shall be in accordance with Sec 202.

2.1 Exception for Full Depth Pavement Repair Saw Cutting. This JSP does not apply to the perimeter and internal saw cutting required for full depth pavement repairs, which shall be governed by the requirements of Sec 613.

3.0 Method of Measurement. With the exception of full depth pavement repairs, no measurement shall be made for saw cutting.

4.0 Basis of Payment. With the exception of full depth pavement repairs, all saw cutting shall be considered incidental to and completely covered by the contract unit price for Item No. 202-20.10, "Removal of Improvements", per lump sum. No direct payment will be made for any labor, equipment, materials, and time required to comply with this provision.

R-BB. Demolition and Removal of Buildings – Job J6S1718B Only

1.0 Description. Three buildings within the City limits of Brentwood, MO shall be demolished, as indicated on the plans. All work shall be performed in accordance with Section 202, except as noted below.

1.1 Possession of Buildings. The Commission has possession of the buildings for Parcel 70 (8614 Manchester Rd), Parcel 71 (2702 Mary Ave.), and Parcel 81 (8615 Manchester Rd) as indicated on the plans.

1.2 The contractor's attention is directed to the fact that an asbestos survey was completed for each parcel. Asbestos Containing Materials (ACM) are identified and catalogued in an Inspection and Survey report for each property. The contractor shall be required to remove them in accordance with Sec 202.40.

2.0 Early Notice To Proceed. The Commission will issue an early notice to proceed for the demolition work. See "Early Notice to Proceed (Demo Work)" JSP. The Commission reserves the right to designate the order of demolition work. Parcel 71 shall be demolished first in order to allow MSD to construct their improvements on that parcel. The contractor is further advised that removal of hazardous substances from the buildings may delay the issuance of the notice to remove and that the contractor is not to enter any properties nor conduct any demolition of any building until the hazardous material is removed.

2.1 The Commission does not warrant that the listings or depictions of hazardous materials in the bidding documents are complete or accurately reflect either all hazardous materials or their precise locations within or adjacent to the project limits.

2.2 The contractor shall complete the proper notification procedures in accordance with the appropriate federal, state, and local laws and regulations for demolition of structures. The notification procedures and forms are available electronically at <https://dnr.mo.gov/forms/780-1923-f.pdf> or you may contact the MDNR's Air Pollution Control Program at 1-800-361-4827.

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Notification is necessary at least 10 working days in advance of the start date for removal of asbestos or for the demolition of a building with or without reportable quantities of asbestos present. The contractor shall provide copies of all completed and approved forms to the engineer prior to any demolition work.

3.0 Demolition Permit from City of Brentwood, MO.

3.1 No building shall be demolished unless Lisa Koerkenmeier, Director of Planning and Development for the City of Brentwood, MO, has issued a demolition permit. Application shall be made for a demolition permit before work is started. The Director of Planning and Development shall issue the permit only upon a finding that the work will conform to all of the applicable ordinances of the City.

3.2 The City has determined there shall be no demolition permit fee since it is a City project.

3.3 Upon issuance of a demolition permit by the City, the applicant shall provide the following items to the Department of Planning and Development at least seven (7) business days prior to the anticipated date of demolition of all principal structures:

3.3.1 Letters, in sufficient quantity as required by the Director of Planning and Development, typed on the demolition contractor's letterhead detailing the probable dates of demolition as stated on a weekly basis, i.e., demolition of this house will occur the week of January twelfth (12th) through sixteenth (16th).

3.3.2 Envelopes, in sufficient quantity as required by the Director of Planning and Development, containing the demolition contractor's return address, the address of the property owner receiving the demolition notice and sufficient postage to mail the demolition notice.

3.3.3 The Director of Planning and Development shall provide the demolition contractor a list of all properties within three hundred (300) feet of the principal structure to be demolished so that the demolition contractor can provide the items required.

4.0 Construction Requirements. Demolition of the buildings designated on the plans shall include complete removal and disposal of the existing building and foundation, landscaping, trees, curbs, parking stops, guardrail, drainage structures, inlets and pipes, and all existing pavement.

4.1 All utility service connections to these buildings, including but not limited to, drainage pipes, gas, water, sewer, telephone, cable and electric, shall be completely removed.

4.2 Parcel 70. Once demolition is complete, clean dirt fill capable of growing vegetation shall be placed throughout the property limits. The finished grade shall have a continuous, gentle slope that directs storm water away from adjacent occupied properties. Large areas of ponding that allow mosquitos to flourish are not allowed. The property shall be cleaned up and restored with seeding and mulching and to a condition that is both acceptable to the engineer and to the City of Brentwood.

4.3 Parcel 71. It is anticipated that MSD will begin construction improvements on this parcel for their CSO Mary Ave Project on August 23, 2021. The contractor shall coordinate with Brian Kunz at 618-780-2015 (mobile) once demolition is substantially complete on this parcel. The contractor

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shall demobilize all equipment and any stored materials from the parcel once demolition activities cease.

4.4 Parcel 81. Once demolition is complete, clean dirt fill capable of growing vegetation shall be placed on the property limits. The finished grade shall have a continuous, gentle slope that directs storm water away from adjacent occupied properties. Large areas of ponding that allow mosquitos to flourish are not allowed. The property shall be cleaned up and restored with seeding and mulching and left in a condition that is both acceptable to the engineer and to the City of Brentwood.

5.0 Demolition Completion Date. Unless specified elsewhere, all buildings shall be completely demolished and removed, and site restoration completed, no later than November 30, 2021.

6.0 Basis of Payment. Payment for compliance with this specification will be made in accordance with the contract unit bid price for the item 202-99.50 Demolition and Removal of Buildings and includes all labor, equipment, materials, and time required to comply with this provision.

R-CC. Optional Pavements JSP-06-06G (J6S1718B Only)

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

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

2.1 No additional payment will be made for asphaltic concrete mix quantities to construct the required 1:1 slope along the edge of the pavement, or for tack applied between lifts of asphalt.

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

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

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

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

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

4.0 Basis of Payment. The accepted quantity of the chosen option will be paid for by the contract unit bid price for Item 401-99.05, Optional Pavement, per square yard.

R-DD. Relocating Water Service Leads

1.0 Description. Where indicated on the plans or directed by the engineer, existing water service leads, including privately-owned water valves, meters, and service leads which are connected to water mains, shall be adjusted to clear the proposed new improvement.

2.0 Construction Requirements. All adjustments shall be made in accordance with the prevailing plumbing code, rules, and regulations governing such work as prescribed by the Utility Company, County, or Municipality having jurisdiction over plumbing work.

2.1 All adjustments requiring the crossing of the state route shall be performed by boring or by another suitable method. No cutting of the pavement shall be allowed.

2.2 The adjustments are classified into ten (10) classes as follows:

- Class 1 - The contractor shall adjust the existing water valves to the new grade.
- Class 2 - The contractor shall relocate the existing water valve to near the right of way line.
- Class 3 - The contractor shall adjust the existing water meter to the new grade.
- Class 3A - The contractor shall adjust the existing water meter vault to the new grade.
- Class 4 - The contractor shall relocate the existing water meter to privately owned property.
- Class 5 - The contractor shall adjust the existing water service line to avoid interference with the storm sewer pipes.
- Class 6 - The contractor shall adjust the existing water service line to avoid interference with grading operations.
- Class 7 - The contractor shall reconnect the existing water service line to the relocated water main.
- Class 8 - The contractor shall extend the existing service line to the relocated water main.
- Class 9 - The contractor shall provide and install a new water valve and valve box near the right of way line.
- Class 10 - The contractor shall adjust existing water service line to avoid future grading/storm sewer interference.

2.3 The service leads will be further broken down into four (4) categories: under 25mm dia. (1 in. dia.); 25mm dia. to less than 50mm dia. (1 in. dia. to less than 2 in. dia.); 50mm dia. to less than 75mm dia. (2 in. dia. to less than 3 in. dia.); and 75mm dia. (3 in. dia.) and above.

The contractor's attention is directed to the fact that the adjustments of some of the water service leads on this project may be carried out by the respective owner(s), and that it may be necessary to underrun this item.

2.4 No additional payment shall be allowed for any claim for damages by the contractor due to the necessity for underrunning the Items of Relocating Service Connections.

3.0 Method of Measurement.

4.0 Basis of Payment. Payment for adjusting water service leads will be made at the contract unit bid price each, which price shall constitute full payment for all necessary excavation, backfilling, boring, furnishing all materials, including all necessary pipe and pipe fittings and all equipment, tools, labor, and work incidental thereto.

Item No.	Unit	Description
603-99.02	Each	Relocating Service Connections (Class 5) (3 In. or Less)

R-EE. 72-Inch Temporary Chain Link Fence

1.0 Description. The contractor shall provide temporary 72-inch chain link fence during construction at select parcels as denoted in the contract plans.

2.0 Construction Requirements. All materials and work performed for this item shall be in accordance with Sec 607. All temporary fencing shall be placed within the limits of the existing Right of Way or any Permanent or Temporary Construction Easements obtained for the project.

3.0 Locations.

3.1 Parcel 90 – St. Mary Magdalen Church and School. Temporary 6 foot tall fencing shall be provided at the parking and school yard enclosure at this parcel during all periods of active construction operations. The temporary fencing shall not be driven into the parking lot surfacing, but shall instead be placed on skids. The skids shall be anchored such that they are resistant to movement. Temporary fencing panels shall have a bottom bar. There shall be a gap of no greater than 2 inches below the bottom bar and the ground, and a gap of no greater than 2 inches between panels.

3.1.1 Drive gates. Existing fence drive gates located on this parcel along Manchester Road shall be used in place as part of this project. The gates shall be able to be latched and secured by means of a dual lock system. The contractor shall furnish two separately keyed lock and key sets. One lock and key set being for the contractor and the second lock and key set shall be provided to the owner / manager of the church and school property. The gates shall be kept locked except when needed for property owner access or by the contractor with prior approval from the property owner. All hardware and locks shall be considered incidental to the cost of the gate and no direct payment will be made.

3.1.2 Removal of Temporary Fence. Upon completion of the work on Parcel 90, the contractor will provide the property owner with a 90-day notice letter stating that owner can now install new fence at owner’s expense. The contractor will return 90 days after date on the letter to remove the temporary fence.

3.2 Parcel 256 – St. Agnes Home. Temporary fencing shall be provided along the frontage of the St. Agnes Home during all periods of active construction operations. Fence posts shall be driven into the ground. The temporary fence shall be tied into the existing fence at the ends of all fencing runs, and there shall be a gap of no greater than 2 inches at any tie-in location. Chain link fence around the parcel is to be replaced with new 48-inch chain link fence that is green powder-coated.

4.0 Method of Measurement. Measurement will be made in accordance with Sec 607. The temporary 72-inch chain link fence shall be paid for only one time per parcel and no payment will be made for any relocation of the fencing within the parcel.

5.0 Basis of Payment. Payment for the accepted quantity for temporary 72-inch chain link fencing and gates will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
607-99.02	Each	Temporary Drive Gate
607-99.03	Linear Foot	Green Powder Coated Chain Link Fence (48 IN.)
607-99.03	Linear Foot	72-Inch Temporary Chain Link Fence

R-FF. Stairs, Handrails, and Appurtenances at Curb Ramp 72

1.0 Description. This curb ramp location involves the removal and replacement of the existing stairs, handrails, and other appurtenances to match the grades of the ADA curb ramp that will be replaced at the Stairs, handrails, and appurtenances shall be installed at the Curb Ramp 72 location as depicted in the contract plans.

2.0 Construction Requirements. The location of the stairs and handrail to be removed and replace has been identified in the plans for the contractor’s information for estimating purposes. No additional payment will be made for any design work or additional labor, equipment, materials, and time associated with a contractor-proposed modification to the stairs. Removal of the existing stairs, handrail and concrete shall be considered incidental to and included in the work for this pay item.

2.1 Thickness. The thickness of the concrete placed for the stairs, ramps, and sidewalk tie-ins shall be no less than 7 inches deep.

2.2 Handrails. Handrails shall be replaced in kind, with both balusters and shall have a black decorative coating that matches the existing building theme, and shall comply with PROWAG standards. A minimum of 6 inches of concrete shall be provided around all handrail posts and an appropriate watertight seal shall be placed at the joint between the handrail posts and concrete.

2.3 Stairs. The new stairs shall consist of three evenly spaced stairs with risers that are 7 inches tall. Tread depths shall comply with PROWAG standards.

2.4 All work performed for this item shall be in accordance with Sec 304, 608, and 609; all materials shall be in accordance with Sec 1000. All concrete shall include 4 inches of Type 5 Aggregate Base underneath and any necessary integral curbing required for construction of the stairs.

3.0 Method of Measurement. No measurement will be made for this item.

4.0 Basis of Payment. Payment for the accepted quantity for the removal and replacement of the stairs at Curb Ramp 72 will be made in accordance with the contract unit bid price for the item

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listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
608-99.01	Lump Sum	Stairs and Handrails at Curb Ramp 72

R-GG. 7-Inch Concrete Curb Ramps (J6S1718 Only)

1.0 Description. ADA curb ramps shall be installed at the locations depicted in the contract plans.

2.0 Construction Requirements. Proposed curb ramp types have been identified in the plans for the contractor’s information for estimating purposes. The contractor may be permitted to deviate from the curb ramp type shown at a given location, provided that the contractor-proposed change has been approved by the engineer, stays within the constraints of all Right of Way and easements, and the final product is compliant with current ADA standards. No additional payment will be made for any design work or additional labor, equipment, materials, and time associated with a contractor-proposed modification to the ADA curb ramps.

2.1 Thickness. The thickness of the concrete placed for the ADA curb ramps shall be no less than 7 inches.

2.2 All work performed for this item shall be in accordance with Sec 304, 608, and 609. All concrete curb ramps shall include 4 inches of Type 5 Aggregate Base underneath and any necessary integral curbing required for construction of an ADA-compliant ramp.

3.0 Method of Measurement. Measurement will be made per each ADA-compliant curb ramp installed by the contractor and accepted by the engineer. Base rock and integral curbing required for construction of the curb camps shall be considered incidental to the construction of the curb ramps and no measurement will be made for these items.

4.0 Basis of Payment. Payment for the accepted quantity for the ADA curb ramps will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
608-99.02	Each	7" Concrete Curb Ramp

R-HH. 10-Foot-Wide Concrete Sidewalk and Curb Ramps – Job J6S1718B Only

1.0 Description. Sidewalk and ADA curb ramps placed on the J6S1718B project shall consist of a 10-foot wide concrete sidewalk that will be designated as a shared-use path. Additional construction requirements are necessary for installation of this sidewalk and ADA curb ramps as noted below.

2.0 Construction Requirements. Proposed curb ramp types have been identified in the plans for the contractor’s information for estimating purposes. The contractor may be permitted to deviate from the curb ramp type shown at a given location, provided that the contractor proposed

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change has been approved by the engineer, stays within the constraints of all Right of Way and easements, and the final product is compliant with current ADA standards. No additional payment will be made for any design work or additional labor, equipment, materials, and time associated with a contractor-proposed modification to the ADA curb ramps.

2.1 Control Joints. Lateral joints are to be constructed in accordance with Sec 608. No additional longitudinal joint in the center of the sidewalk is required.

2.2 Thicknesses. The thickness of the concrete sidewalk shall be no less than 4 inches and the thickness of the curb ramps shall be no less than 7 inches of concrete.

2.3 All work performed for this item shall be in accordance with Sec 304, 608, and 609. All 10-foot-wide concrete curb ramps shall include 4 inches of Type 5 Aggregate Base underneath and any necessary integral curbing required for construction of an ADA-compliant ramp.

3.0 Method of Measurement. Measurement of concrete sidewalk will be made in accordance with Sec 608. For curb ramps, measurement will be made per each ADA-compliant curb ramp installed by the contractor and accepted by the engineer. Base rock and integral curbing required for construction of the curb camps shall be considered incidental to the construction of the curb ramps and no measurement will be made for these items.

4.0 Basis of Payment. Payment for the accepted quantity for the 10-foot wide sidewalk and ADA curb ramps will be made in accordance with the contract unit bid price for the items listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
608-99.02	Each	7" Concrete Curb Ramp (10 FT)
608-99.05	SQYD	4-In. Concrete Sidewalk (10 FT)

R-II. Thickened Sidewalk Slab Over Box Culvert – Job J6S1718B Only

1.0 Description. The 10-foot wide shared use path along the south side of Manchester Road is to fit within the footprint of the existing box culvert located at Route 100 Station 62+25. A thickened concrete sidewalk slab shall be constructed above this existing box culvert at the location depicted in the contract plans.

2.0 Construction Requirements. All materials and work performed for this item shall be in accordance with Sec 608.

2.1 Excavation. The existing material above the top slab of the existing box culvert, including, but not limited to, slope protection, sidewalk, aggregate base, and earthen material shall be removed to the elevation of the top of the existing box culvert slab. The contractor shall take care to not disturb or damage the existing box culvert. Any damage to the existing box culvert that is a result of the contractor's operations shall be repaired at the contractor's expense.

2.2 Backfill. Upon removal of the existing material, the contractor shall backfill any remaining voids between the outside walls of existing the box culvert with 1-inch clean rock up to the elevation of the top of the existing box culvert slab. Two layers of roofing felt shall be used as a

bond breaker between the top of the existing box culvert and the bottom of the thickened sidewalk slab. No direct payment will be made for backfill material or bond breaker.

2.3 Sidewalk and Curb Concrete. Concrete material shall be the same material as specified for the shared use path and is to be placed during the same concrete pour as adjacent sections of the shared use path. Placement shall also include the 6-inch integral curb for the shared use path.

2.3.1 A transverse ½-inch preformed fiber joint shall be placed between the thickened sidewalk slab and the normal-depth segments of sidewalk and shall be considered incidental. The thickened sidewalk slab is approximately 12 inches thick. Variations in this thickness may occur, but no payment adjustment shall be made if a variation in the depth is found.

2.5 Fencing. A segment of fence will be placed along the shared use path in the vicinity of the existing box culvert. This fence shall be constructed as a continuous run of fencing at the limits depicted in the contract plans, however the contractor shall lay out the fence post locations such that they do not fall within the limits of the thickened sidewalk slab. Payment for the fence shall be paid for with the fencing pay item included in the contract and will not be included in the payment for the thickened sidewalk slab.

3.0 Method of Measurement. No measurement will be made for this item.

4.0 Basis of Payment. Payment for the accepted quantity for the thickened sidewalk slab to be placed over the existing box culvert will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
608-99.01	Lump Sum	Thickened Sidewalk Slab Over Box Culvert

R-JJ. Modified Curb

1.0 Description. There are a number of locations on the project where grade differentials require concrete curbs or retaining walls. In locations where this height is between 8 inches and 12 inches, a Modified Curb shall be used.

2.0 Construction Requirements. All materials and work performed for this item shall be in accordance with Sec 609.

2.1 Curb. The Modified Curb shall be embedded into the ground a minimum of 18 inches below the lowest exposed elevation of the face of the Modified Curb and shall be 6 inches wide. Forming will not be required for any underground portion of the Modified Curb. The face of the Modified Curb shall be tapered from the 6-inch width at the lowest exposed elevation to 5 inches wide at the top as depicted in the contract plans.

2.2 Reinforcement. Tie bars shall be #4 epoxy coated steel bars placed at 30 inch spacing (on center) longitudinally along the length of the Modified Curb. The tie bars shall be “L” shaped (MoDOT Standard Bar Bill Shape 19). Lengths of the vertical and horizontal legs shall vary

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depending on curb height and will be determined by the contractor. The minimum cover around the bar shall be no less than 2 inches.

3.0 Method of Measurement. Measurement will be made in accordance with Sec 609.

4.0 Basis of Payment. Payment for the accepted quantity for the Modified Curb will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
609-99.03	Linear Foot	Modified Curb

R-KK. Slurry and Residue Produced During Surface Treatment of PCCP and Bridge Decks – J6S1718B Only

1.0 Description. This work covers the requirements for controlling residue or slurry produced by milling, grinding, planing, grooving or other methods of surface treatments on new or existing PCCP and bridge decks in addition to Section 622.

2.0 Construction Requirements. The following shall be considered the minimum requirements for performing this work within the project limits.

2.1 The contractor shall submit to the engineer for approval in writing prior to the pre-construction meeting, the best management practices (BMP's) to be used to protect the environment, including the method of disposal of the residue whether on right of way or off-site.

2.2 When slurry is dispersed on the right of way, BMP's shall be installed to keep slurry or residue from entering paved ditches or structures discharging within the areas restricted by Section 622.303.8.6, from entering any waterways or from leaving the right of way.

2.3 Upon approval of the contractor's BMP and residue disposal plan and prior to the contractor beginning surface treatment operations, the engineer will identify slurry or residue "no discharge zones".

2.4 Operations may be suspended by the engineer during periods of rainfall or during freezing temperatures.

3.0 Basis of Payment. No direct payment for slurry or residue control requirements for BMP's will be made. Compliance with this specification along with the cost of all materials, labor and equipment necessary for the surface treatment work shall be included in and completely covered by the unit price bid for each of the items of work for surface treatment included in contract.

R-LL. Parking Blocks (J6S1718 Only)

1.0 Description. The contractor shall provide precast concrete parking blocks/wheel stops for the parking spaces adjacent to the right of way as indicated in the contract plans. Rubberized or plastic composite parking blocks will not be acceptable.

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2.0 Construction Requirements. All materials and work performed for this item shall be in accordance with Sec 703 and 1036. Parking blocks shall be precast concrete with longitudinal reinforcement. The parking blocks must fit within the parking space and shall be a minimum of 6 feet in length, no shorter than 6 inches in height, and a minimum of 8 inches wide at the base. The sides shall be tapered such that the base of the parking block is wider than the top. Water relief slots are to be provided at the base of the block to allow for water to pass underneath.

Parking blocks should fit flush to the ground and be placed near the nose of the parking space, centered between the painted stripes, and oriented perpendicular to the width of the parking space. One parking block shall be provided for each identified parking space requiring a parking block. The parking blocks shall be secured to the parking surface by means of no less than two vertical pins or rebars that pass through the middle block, one located neat each end. The tops of these pins or rebars are to be flush with the top surface of the parking block once installed.

3.0 Method of Measurement. Measurement will be made per each installed parking block.

4.0 Basis of Payment. Payment for the accepted quantity for parking blocks will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
620-99.02	Each	Parking Block

R-MM. Precast Concrete Modular Block Wall – Job J6S1718B Only

1.0 Description. This work shall consist of furnishing and constructing precast concrete modular block walls with or without soil reinforcement in accordance with these specifications, as shown on the plans or as directed by the engineer.

2.0 Materials. All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

<u>Item</u>	<u>Section</u>
Concrete	501
Select Granular Backfill for Structural Systems	1010
Geotextile	1011
Miscellaneous Drainage Material	1013
Reinforcing Steel for Concrete	1036
Resin Anchor Systems	1039
Mechanically Stabilized Earth Wall System Components	1052

2.1 Concrete used in the production of the precast modular block units shall be first-purpose, fresh concrete. It shall not consist of returned, reconstituted, surplus or waste concrete.

2.2 The unit fill shall consist of a granular backfill in accordance with Gradation D or E of Sec 1005.

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2.3 Class B or B-1 concrete shall be used for cast-in-place concrete leveling pads used for the wall system.

2.4 Reinforcement shall be either Grade 60 deformed bars or an equivalent steel welded wire reinforcement.

2.5 Joint material shall be used in accordance with the wall manufacturer's recommendations.

3.0 Design Requirements.

3.1 The precast concrete modular block wall shall be designed and constructed to have a vertical face (zero batter). All units shall be wet-cast precast modular retaining wall units conforming to ASTM C1776. All units for the project shall be obtained from the same manufacturer, system patent holder/licensor and shall document compliance with the published quality control standards of the proprietary precast modular block system licensor for the previous three (3) years or the total time the manufacturer has been licensed, whichever is less. The manufacturer shall be licensed and authorized to produce the retaining wall units by the precast modular block and shall be from one of the pre-approved wall systems:

- Redi-Rock Wall, Redi-Rock International, LLC
- Stone Strong, Stone Strong, LLC
- Recon Retaining Walls, Recon Wall Systems, Inc.
- or approved alternate

3.2 The contractor shall submit six complete sets of the manufacturer's design plans, details, and computations for each individual wall structure to the engineer. All submitted information shall be clear and complete, and thoroughly checked before the information is submitted. All submitted information shall be legible and of sufficient contrast to be suitable for archiving in accordance with MoDOT's current practice for archiving. Submitted information determined to be unsuitable for archiving purposes will be returned for corrective action.

3.3 The contractor will be solely responsible for the content of the design plans, details, and computations that are submitted, and for the performance of the wall system. The contractor shall be solely responsible for ensuring that the information submitted by the manufacturer is in accordance with all contract plans and specifications and with the wall system used. Completed design plans shall contain all material, fabrication and construction requirements for erecting the wall system complete in place. The completed design plans shall show the longitudinal and lateral layout of the drainage systems used for the wall system. The contractor shall be responsible for the internal and external stability of the structure including compound stability. Overall global stability has been evaluated by the geotechnical engineer as described in the contract plans. The contractor shall be responsible for overall global stability for any wall sections that deviate from the overall global stability cases that vary from those described in the contract plans.

3.4 All design plans, details, and computations submitted for distribution shall be signed, sealed, and stamped in accordance with the laws relating to architects and professional engineers (Chapter 327, RSMo).

3.5 Precast concrete modular block walls shall be designed in accordance with the AASHTO specifications shown on the plans and in accordance with additional publications or specifications referenced within the AASHTO specifications. The seismic performance category, angle of internal friction for the selected granular backfill for structural systems and other design requirements shown on the plans shall be incorporated into the design of the wall system.

3.6 Design shall also include specialized placement of the wall reinforcement, blocks, control joints, and all other necessary design elements to accommodate sanitary sewer and stormwater drainage structures, pipes and other utility appurtenances that are to be placed within the reinforcement and excavation limits of the retaining walls.

4.0 Construction Requirements.

4.1 Unit Fill. The contractor shall use a unit fill to fill the voids of the blocks for the wall system. This unit fill shall extend a minimum distance of 12 inches beyond the extreme back face of the wall system. Each course of the wall system shall have the unit fill in place before the next course of the wall system is placed.

4.2 Drainage Requirements. A drainage system shall be provided at the base of the wall as shown on the contract plans. The drainage system shall consist of a perforated pipe wrapped in a Class 2 geotextile to prevent clogging of the perforations. The pipe shall be placed in such a manner that water drains freely from the pipe. When the wall length is such that the slope of the pipe becomes excessive in the engineer's judgment, lateral drainpipes shall be installed underneath the concrete leveling pad.

4.3 Foundation Preparation. The foundation for the wall system shall be graded level for a width equal to or exceeding the length of the reinforcing strips, or as shown on the plans. Prior to wall construction, the foundation, if not on rock, shall be compacted as directed by the engineer. Any foundation soils found to be unsuitable shall be removed and replaced, as directed by the engineer.

4.4 Geotechnical Engineer. The contractor shall retain a geotechnical engineer to observe excavations to determine if unsuitable existing fill has been removed. This work will be considered completely covered by the contract unit price for Precast Concrete Modular Block Wall.

4.5 Leveling Pad. An unreinforced cast-in-place concrete leveling pad shall be provided at the foundation level for each base unit of the wall system. The leveling pad shall be built to the elevations shown on the plans and shall not be raised in elevation to allow for the use of a particular wall system. The leveling pad shall be built a minimum width of 12 inches and a minimum depth of 6 inches. The concrete on the leveling pad shall be cured a minimum of 12 hours before any of the wall system blocks are placed.

4.6 Select Granular Backfill for Structural Systems Placement.

4.6.1 Select granular backfill for structural systems shall be placed concurrently with the placement of the retained backfill. The placement of the select granular backfill for structural systems shall closely follow the erection of each course of the wall system and shall be placed in such a manner to avoid any damage or disturbance to the wall material or any misalignment of the facing elements of the wall system. Any wall system material that becomes damaged or disturbed during the installation of the wall system shall be removed, replaced, or corrected at the

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contractor's expense, as directed by the engineer. Whenever placement of the select granular backfill for structural systems results in the wall facing system being misaligned or distorted outside the limits of this specification, the contractor shall correct the misalignment or distortion as directed by the engineer.

4.6.2 The select granular backfill for structural systems shall be compacted in accordance with Sec 203, with the following exceptions:

- a) The minimum density shall be no less than 95 percent of maximum density, determined in accordance with AASHTO T 99.
- b) When the material used contains more than 30 percent retained on the $\frac{3}{4}$ inch sieve, a method of compaction consisting of at least four passes by a heavy roller shall be used.
- c) The moisture content of the material prior to and during compaction shall be uniformly distributed throughout each layer. The placement moisture content shall be no lower than three percentage points less than the optimum moisture content and shall be no more than the optimum moisture content.
- d) Compaction within 3 feet of the back face of the wall system shall be achieved by at least three passes of a lightweight mechanical tamper, roller, or vibratory system.
- e) The contractor shall ensure that runoff within the wall system construction site is directed away from the wall facing during construction, and that runoff from adjacent areas of the general construction site is directed such that runoff does not enter the wall system construction site.
- f) Class 1 geotextile material shall be placed between the select granular backfill for structural systems, and the retained backfill and over the top of the select granular backfill for structural systems to prevent piping of in-situ soil into the wall system.
- g) Tamping-type (sheep's foot) rollers shall not be used for compaction of the select granular backfill for structural systems.

4.6.3 The select granular backfill for structural systems shall be initially placed parallel to the wall system, and at the rear and middle of the soil reinforcement strips, and then moved toward the facing elements of the wall system. Construction equipment shall at no time come in direct contact with the soil reinforcement strips. Each course or layer shall be compacted up to or slightly above the location of the next connection for the reinforcement strips prior to placing the next layer of reinforcement strips as designated in the erection sequence provided by the manufacturer of the wall system.

4.7 Construction Tolerances.

4.7.1 Wall systems shall be built in accordance with the dimensions and elevations specified on the plans and in accordance with the requirements of the system manufacturer. Alignments shall be maintained within the following dimensional tolerances:

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Dimensional Item	Dimensional Tolerance
Adjacent Face Panel / Block Joint Gaps	± 1/4 inch
Vertical and Horizontal Alignment of Facing Elements	± 1/16 inch per foot
Soil Reinforcement Strip Elevations	± 1 inch

4.7.2 Vertical alignments shall be measured along a theoretical vertical line established from the top of the wall system to the base of the wall system.

4.8 Pipe Encasement for Utility Appurtenances. Any encasement required for the utility appurtenances in proximity to the Rogers Parkway and precast concrete modular block walls as identified in this JSP or in the contract plans, in particular the sanitary sewer line crossing at Walls 1 and 2, shall be considered incidental to and included in the cost of the precast concrete modular block wall.

4.9 Technical Assistance. The contractor shall be responsible for having a technical advisor from the wall system manufacturer available for assistance during the installation of the wall system.

5.0 Method of Measurement.

5.1 Measurement of precast concrete modular block walls will be made to the nearest square foot. The quantity to be paid will be measured from the “Top of Wall” line to the “Theoretical Top of Leveling Pad” line shown on the plans. No adjustments in the measured quantity will be permitted for additional wall area required to meet the minimum wall elevations shown on the plans for any particular wall system.

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

5.3 No measurement will be made for required excavation for placement of the leveling pad for the wall system. All other excavation required for the construction of the wall system will be included in roadway items.

6.0 Basis of Payment. Payment for the accepted quantity for precast concrete modular block walls will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time as required to comply with this provision.

Item No.	Unit	Description
720-99.04	SQFT	Precast Concrete Modular Block Wall

R-NN. Re-construct Wall in Place (J6S1718 Only)

1.0 Description. This work shall consist of the removal of portions of existing retaining walls and reconstructing in kind as shown on the plans. Existing retaining walls consist of mortared stone walls, brick walls and small block retaining walls. The contractor shall evaluate each wall to be reconstructed in place and shall make a determination as to whether any existing wall materials are suitable for re-use for reconstruction. As required, this item shall also include temporary

storage of salvaged material. The contractor shall exercise extreme care to protect the portions of the retaining walls that are to remain and components which will be reconstructed. Should the contractor deem wall materials as unsuitable for re-use, they shall be properly disposed of off-site.

2.0 Construction Requirements. This work shall consist of reconstructing portions of the retaining wall with stone, brick, or masonry units laid in mortar, or block and in conformity with the lines and grades shown on the plans or established by the engineer. Removal and reconstruction of underground portions of the walls as well as any excavation, footings, bedding, backfill, reinforcement, mortars/adhesives, and other necessary components shall be considered incidental to the cost of this item.

2.1 In general, the wall shall be laid with face joints to match the existing joint thickness. Exposed faces of the existing wall stones and bricks shall be exposed faces on the rebuilt or relocated wall stones or bricks. All stone or bricks shall be thoroughly wetted and laid upon their natural beds with joints approximately horizontal and vertical. Each stone or brick shall be settled into place in a full bed of mortar where required. Mortar for joints shall meet the requirements of Sec 1066.

2.2 Materials. Materials shall consist of existing sound and durable stones, bricks or blocks salvaged from removal operations for existing retaining walls. Material that is to be salvaged from existing structures shall be removed without damage, in sections which may be readily handled or transported, and shall be palletized at an accessible point. Walls shall be constructed in kind and reconstructed walls shall match the look and color of the undisturbed section of the walls.

3.0 Method of Measurement. Measurement for reconstructing retaining walls will be made to the nearest square foot. The quantity to be paid will be measured along the vertical face of reconstructed wall in view.

4.0 Basis of Payment. Payment for the accepted quantity for reconstructing walls in place will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time as required to comply with this provision.

Item No.	Unit	Description
720-99.04	SQFT	Re-construct Wall in Place

R-OO. Small Block Wall

1.0 Description. This work shall consist of furnishing and constructing precast small block gravity retaining walls without soil reinforcement in accordance with these specifications, as shown on the plans or as directed by the engineer.

2.0 Materials. All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

<u>Item</u>	<u>Section</u>
Concrete	501
Select Granular Backfill for Structural Systems	1010
Geotextile	1011

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Miscellaneous Drainage Material 1013
Resin Anchor Systems.....1039
Small Block Wall Systems – Concrete Blocks.....1052.40

2.1 The unit fill shall consist of a granular backfill in accordance with Gradation D or E of Sec 1005.

2.2 Class B or B-1 concrete shall be used for cast-in-place concrete leveling pads used for the wall system.

3.0 Design Requirements.

3.1 Only the small block wall systems shown in the bridge prequalified products listing will be allowed for use by the contractor. The bridge prequalified products list may be obtained through Bridge or MoDOT’s web site. Any deviations from the prequalified wall system details previously submitted to Bridge shall be specifically outlined in the cover letter submitted with the design plans, details and computations.

3.2 The contractor shall submit six complete sets of the manufacturer’s design plans, details, and computations for each individual wall structure to the engineer. All submitted information shall be clear and complete, and thoroughly checked before the information is submitted. All submitted information shall be legible and of sufficient contrast to be suitable for archiving in accordance with MoDOT’s current practice for archiving. Submitted information determined to be unsuitable for archiving purposes will be returned for corrective action.

3.3 The contractor will be solely responsible for the content of the design plans, details, and computations that are submitted, and for the performance of the wall system. The contractor shall be solely responsible for ensuring that the information submitted by the manufacturer is in accordance with all contract plans and specifications and with the wall system used. Completed design plans shall contain all material, fabrication and construction requirements for erecting the wall system complete in place. The completed design plans shall show the longitudinal and lateral layout of the drainage systems used for the wall system. The contractor shall be responsible for the internal and external stability of the structure including compound stability and overall global stability.

3.4 All design plans, details, and computations submitted for distribution shall be signed, sealed, and stamped in accordance with the laws relating to architects and professional engineers (Chapter 327, RSMo).

3.5 Small block walls shall be designed in accordance with the AASHTO specifications shown on the plans and in accordance with additional publications or specifications referenced within the AASHTO specifications. The seismic performance category, angle of internal friction for the selected granular backfill for structural systems and other design requirements shown on the plans shall be incorporated into the design of the wall system.

4.0 Construction Requirements.

4.1 Unit Fill. The contractor shall use a unit fill to fill the voids of the blocks for the wall system. This unit fill shall extend a minimum distance of 12 inches beyond the extreme back face of the

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wall system. Each course of the wall system shall have the unit fill in place before the next course of the wall system is placed.

4.2 Precast Top Cap. Precast top cap units shall be used. The top cap units shall be permanently attached utilizing either a resin anchor system or an equivalent detail approved by the engineer.

4.3 Drainage Requirements. A drainage system shall be provided at the base of the wall. The drainage system shall consist of a perforated pipe wrapped in a Class 2 geotextile to prevent clogging of the perforations. The pipe shall be placed in such a manner that water drains freely from the pipe. When the wall length is such that the slope of the pipe becomes excessive in the engineer's judgment, lateral drainpipes shall be installed underneath the concrete leveling pad.

4.4 Foundation Preparation. The foundation for the wall system shall be graded level as shown on the plans. Prior to wall construction, the foundation, if not on rock, shall be compacted as directed by the engineer. Any foundation soils found to be unsuitable shall be removed and replaced, as directed by the engineer.

4.5 Geotechnical Engineer. The contractor shall retain a geotechnical engineer to observe excavations to determine if unsuitable existing fill must be removed. This work will be considered completely covered by the contract unit price for Small Block Wall.

4.6 Leveling Pad. An unreinforced cast-in-place concrete leveling pad shall be provided at the foundation level for each base unit of the wall system. The leveling pad shall be built to the elevations shown on the plans and shall not be raised in elevation to allow for the use of a particular wall system. The leveling pad shall be built a minimum width of 12 inches and a minimum depth of 6 inches. The concrete on the leveling pad shall be cured a minimum of 12 hours before any of the wall system modules are placed.

4.7 Select Granular Backfill for Structural Systems Placement.

4.7.1 Select granular backfill for structural systems shall be placed concurrently with the placement of the retained backfill. The placement of the select granular backfill for structural systems shall closely follow the erection of each course of the wall system and shall be placed in such a manner to avoid any damage or disturbance to the wall material or any misalignment of the facing elements of the wall system. Any wall system material that becomes damaged or disturbed during the installation of the wall system shall be removed, replaced, or corrected at the contractor's expense, as directed by the engineer. Whenever placement of the select granular backfill for structural systems results in the wall facing system being misaligned or distorted outside the limits of this specification, the contractor shall correct the misalignment or distortion as directed by the engineer.

4.7.2 The select granular backfill for structural systems shall be compacted in accordance with Sec 203, with the following exceptions:

- a) The minimum density shall be no less than 95 percent of maximum density, determined in accordance with AASHTO T 99.
- b) When the material used contains more than 30 percent retained on the ¾ inch sieve, a method of compaction consisting of at least four passes by a heavy roller shall be used.

- c) The moisture content of the material prior to and during compaction shall be uniformly distributed throughout each layer. The placement moisture content shall be no lower than three percentage points less than the optimum moisture content and shall be no more than the optimum moisture content.
- d) Compaction within 3 feet of the back face of the wall system shall be achieved by at least three passes of a lightweight mechanical tamper, roller, or vibratory system.
- e) The contractor shall ensure that runoff within the wall system construction site is directed away from the wall facing during construction, and that runoff from adjacent areas of the general construction site is directed such that runoff does not enter the wall system construction site.
- f) Class 1 geotextile material shall be placed between the select granular backfill for structural systems, and the retained backfill and over the top of the select granular backfill for structural systems to prevent piping of in-situ soil into the wall system.
- g) Tamping-type (sheep's foot) rollers shall not be used for compaction of the select granular backfill for structural systems.

4.8 Construction Tolerances.

4.8.1 Wall systems shall be built in accordance with the dimensions and elevations specified on the plans and in accordance with the requirements of the system manufacturer. Alignments shall be maintained within the following dimensional tolerances:

Dimensional Item	Dimensional Tolerance
Final Joint Gaps Between Adjacent Block Units	± 1/4 inch
Vertical and Horizontal Alignment of Facing Elements	± 1/16 inch per foot

4.8.2 Vertical alignments shall be measured along a theoretical vertical line established from the top of the wall system to the base of the wall system. For walls that have a built-in setback, the alignment shall be measured along the theoretical vertical line and the straight line that describes the horizontal setback.

4.9 Technical Assistance. The contractor shall be responsible for having a technical advisor from the wall system manufacturer available for assistance during the installation of the wall system.

5.0 Method of Measurement.

5.1 Measurement of small block walls will be made to the nearest square foot. The quantity to be paid will be measured from "Top of Wall Line" to the "Theoretical Top of Leveling Pad Line" shown on the plans. No adjustments in the measured quantity will be permitted for additional wall area required to meet the minimum wall elevations shown on the plans for any particular wall system.

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

5.3 No measurement will be made for required excavation for placement of the leveling pad for the wall system. All other excavation required for the construction of the wall system will be included in roadway items.

6.0 Basis of Payment. Payment for the accepted quantity for small block walls will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time as required to comply with this provision.

Item No.	Unit	Description
720-99.04	SQFT	Small Block Wall

R-PP. Kirkwood Vertical Gateway Monument – Job J6S1718C Only

1.0 Description. The contractor shall provide a City of Kirkwood Vertical Gateway Monument at the location depicted in the plans.

2.0 Construction Requirements. All work performed for these items shall be in accordance with Sec 608, and materials shall be in accordance with those outlined in the Landscaping Job Special Provisions.

3.0 No measurement will be made for the above-ground portions of the Gateway Monument. Measurement and payment for the footing shall be in accordance with Sec 701, 703, and 706.

4.0 Basis of Payment. Payment for the accepted quantity for the Kirkwood Vertical Gateway Monument will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time as required to comply with this provision. Payment for the items related to the footing shall be paid for using standard contract pay items.

Item No.	Unit	Description
808-99.01	Lump Sum	Vertical Gateway Monument

R-QQ. Guidance for Temporary and Permanent Seeding

1.0 Description. The contractor shall provide temporary seeding and permanent seeding at the locations as directed by the engineer.

2.0 Construction Requirements. All work performed for these items shall be in accordance with Sec 805 and 806 and materials shall be in accordance with those outlined in the “Seeding and Sodding” JSP.

3.0 Locations.

3.1 Temporary Seed and Mulch. This project is expected to be performed in more than one construction season. As such, there may be erodible areas that will require protection during off-

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season periods. Temporary seeding and mulching shall be provided in accordance with Sec 806.50.

3.2 Permanent Seed and Mulch. Due to the urban nature of this corridor, sodding is the preferred method for re-establishment of turf growth. There may, however, be locations where sodding is less practical, such as on the slopes near bridges. All areas where seed and mulch will be applied in lieu of sodding shall be approved by the engineer.

4.0 Method of Measurement. Measurement will be made in accordance with Sec 805 for permanent seeding and Sec 806 for temporary seeding.

5.0 Basis of Payment. Basis of payment information for permanent seeding can be found in the "Seeding and Sodding" JSP. Payment for the accepted quantity for temporary seed and mulch will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
806-10.17	Acre	Temporary Seeding and Mulching

R-RR. Remove and Relocate Privately-Owned Light Pole

1.0 Description. This work shall consist of removing existing light poles and luminaires and relocating them to locations within the project Permanent Easement or Temporary Construction Easement areas. Installation details shall be as required by the engineer.

2.0 Construction Requirements. This work shall be in accordance with Sec 901. Light poles and luminaires are to be carefully removed and relocated. Light pole bases or foundations may be removed and replaced with new foundations at the new pole locations as required. The contractor shall verify all materials with the engineer prior to ordering.

2.1 Care shall be taken by the contractor to not damage any of the existing lighting components that are to be relocated. Should any items be damaged by the contractor's handling or negligence, they shall be replaced in kind at the contractor's cost.

2.2 Lighting shall be maintained as operational during the normal hours of use throughout the duration of construction. Any disruption to lighting service within the normal lighting times shall be supplemented with temporary lighting at the contractor's cost, and shall remain in place until normal lighting operation period can be restored.

2.3 Light Pole Foundation. The pole foundation that is compatible with the relocated pole shall be provided by the contractor, with the design being the responsibility of the contractor. The contractor shall provide shop drawings as required by the engineer prior to installation.

2.4 Mounting Hardware and Wiring. The contractor shall be responsible for providing all mounting hardware and wiring required for installing each relocated light pole and luminaire to the new light pole footing. Payment for this hardware shall be considered incidental to and included in the pay item listed below.

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2.5 Test Period. Upon completion of the light pole relocation work, the relocated light pole assemblies shall be subject to the 15-day test period requirements as defined in Sec 901.

3.0 Method of Measurement. Measurement will be made for each fully installed relocated light pole assembly, which includes removal of the existing.

4.0 Basis of Payment. Payment for the accepted quantity for the relocated light poles will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
901-99.02	Each	Remove and Relocate Privately-Owned Light Pole

R-SS. Ornamental Lighting – Job J6S1718B Only

1.0 Description. This work shall consist of furnishing materials, labor, and equipment required to install ornamental pedestrian luminaires. Installation details shall be in accordance with the plans and the manufacturer’s recommendations. This work shall conform with applicable portions of Sec 901 of the Standard Specifications, as herein modified.

2.0 Materials.

2.1 Luminaire. The ornamental luminaire shall be a PAC series 63 watt LED Multi-Tap with GR3 Type 3 Glass Refractor, Post Top mounted, as manufactured by Pacific Lighting & Standards Co. or an approved equal. The fixture finish shall be black in color.

2.2 Mounting Adapter. Luminaires shall be provided with an adapter housing, if required, to ensure proper mating of luminaires with light poles. The adapter housing shall be attached to the poles and fit inside the luminaire to ensure a proper and tight installation. Adapter materials and coatings shall meet the requirements of section 2.1 above, except that only exposed adapter surfaces shall be black in color.

2.3 Photometrics. The luminaire shall be constructed to reduce the amount of veiling luminance. Prior to ordering luminaires, the contractor shall submit computer lighting calculations demonstrating a neutral effect on the veiling luminance conditions existing with the roadway luminaires already in place. These calculations shall indicate that the installation of the ornamental luminaires does not increase the maximum veiling luminance to average pavement luminance above existing conditions. The calculations shall indicate a graphical representation of each roadway configuration with all input values at the pavement elevation on a grid no larger than 10 feet along the roadway and 6 feet across the roadway in accordance with IES recommendations. The calculations shall indicate the overall statistics showing average, maximum, minimum, average to minimum ratio, veiling luminance ratio and any other pertinent information as may be required by the engineer.

3.0 Construction Requirements. Luminaires shall be installed in accordance with the manufacturer’s recommendations. The contractor shall verify all materials with the engineer prior to ordering.

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3.1 Light Pole Foundation. The pole foundation shall be provided per the manufacturer's recommendations, with the design being the responsibility of the contractor. The contractor shall provide shop drawings as required by the engineer prior to installation.

3.2 Light Pole. Light poles shall be 10-foot-tall durable corrosion resistant cast aluminum base with hand hole and cover, Pole Catalog Number DBCS-4F-10-BK-IUGFI, coated black in color, as manufactured by Pacific Lighting & Standards Co. or an approved equal.

3.3 Mounting Hardware. The contractor shall be responsible for providing all mounting hardware required for assembling each ornamental light pole, footing, and luminaire. Payment for this hardware shall be considered incidental to and included in the pay item listed below.

4.0 Method of Measurement. Luminaires, light poles, and foundations shall be installed in accordance with the manufacturer's recommendations. For the basis of this contract, the ornamental light pole and luminaire, including the footing and any hardware required for its assembly, shall be considered as a single unit at each installation location. Measurement will be made for each fully completed ornamental lighting assembly.

5.0 Basis of Payment. Payment for the accepted quantity for the ornamental lighting will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
901-99.02	Each	Ornamental Light Pole and Luminaire – Brentwood Streetscaping

R-TT. Ornamental Lighting – Job J6S1718C Only

1.0 Description. This work shall consist of furnishing and installing ornamental lighting for the Kirkwood streetscape enhancements. Installation details shall be in accordance with the plans and the manufacturer's recommendations.

2.0 Construction Requirements. This work shall be in accordance with Sec 901. Luminaires, poles, and foundations shall be installed in accordance with the manufacturer's recommendations. The contractor shall verify all materials with the engineer prior to ordering.

2.1 Luminaire. The ornamental luminaire shall be a GAR/GAT/GLC Generation Series LED Part Number GAR-080-LED-E1-5-CCA-BK as manufactured by McGraw-Edison or an approved equal, fitted with a LED Luminaire having a white light output of 4000K.

2.2 Light Pole. Light poles shall be 14'-0" Washington (Straight Non-tapered Fluted Aluminum) Part Number 5D01AS-E-140050504UW-PD-DBL as manufactured by Valmont or an approved equal.

2.3 Light Pole Foundation. The pole foundation shall be provided per the manufacturer's recommendations, with the design being the responsibility of the contractor. The contractor shall provide shop drawings as required by the engineer prior to installation.

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2.4 Mounting Hardware. The contractor shall be responsible for providing all mounting hardware required for assembling each ornamental light pole, footing, and luminaire. Payment for this hardware shall be considered incidental to and included in the pay item listed below.

3.0 Method of Measurement. Luminaires, light poles, and foundations shall be installed in accordance with the manufacturer’s recommendations. For the basis of this contract, the ornamental light pole and luminaire, including the footing and any hardware required for its assembly, shall be considered as a single unit at each installation location. Measurement will be made for each fully completed ornamental lighting assembly.

4.0 Basis of Payment. Payment for the accepted quantity for the ornamental lighting will be made in accordance with the contract unit bid price for the item listed below and includes all labor, equipment, materials, and time required to comply with this provision.

Item No.	Unit	Description
901-99.02	Each	Ornamental Light Pole and Luminaire – Kirkwood Streetscaping

R-UU. Pedestrian Underpass (Structural) Construction Requirements – Job J6S1718B Only

1.0 Description. This provision contains general construction requirements for this project.

2.0 Construction Requirements.

2.1 In order to assure the least traffic interference, the work shall be scheduled so that a lane closure is for the absolute minimum amount of time required to complete the work. A lane 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.

2.2 Provisions shall be made to prevent damage to any existing utilities. Any damage sustained to the utilities as a result of the contractor's operations shall be the responsibility of the contractor. All costs of repair and disruption of service shall be as determined by the utility owners and as approved by the engineer.

3.0 Method of Measurement. No measurement will be made.

4.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract unit price for other items included in the contract.

R-VV. Pre-Engineered Precast Concrete Structures – Job J6S1718B Only

1.0 Description. This work shall consist of, but not limited to, constructing structures using precast units, wing walls and headwalls. Wing walls and headwalls may be precast units or cast-in-place.

2.0 Material. Materials shall be in accordance with the Specifications and specifically as follows:

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Item	Section
Backfill	206
Class B-1 Concrete	501
Flowable Backfill	621
Hot or Cold Weather Concreting	703
Gradation E Coarse Aggregate	1005
Curing	1026
Reinforcing Steel	1036
Mortar and Non-Metallic Expansion Mortar	1066

2.1 Concrete and Reinforcing Steel. Concrete shall be Class B-1 with Gradation E coarse aggregate. Reinforcing steel in three-sided or arch units shall be welded steel wire fabric or Grade 60 (420) deformed bars. Reinforcing steel in the footings, pedestals, wing walls and headwalls shall be Grade 60 (420) deformed bars.

2.2 Steel. Bolts and threaded rods used in connections of wing walls to three-sided or arch units and hooked bolts used in connections of attached headwalls to three-sided or arch units shall be in accordance with ASTM A 307. Connection plates and plate washers used in connections of wing walls to three-sided or arch units shall be in accordance with AASHTO M 270 Grade 36 (250). Nuts used in connections of wing walls to three-sided or arch units shall be in accordance with AASHTO M 292 Grade 2H. Inserts for all connections and all steel used for connections of detached headwalls to three-sided or arch units shall be in accordance with ASTM A 240 Type 304. Except for Type 304, all steel shall be galvanized after fabrication in accordance with Sec 1080.

3.0 Manufacture.

3.1 Lifting devices or holes will be permitted in precast units. No more than four holes shall be cast in each unit. Drilled holes will not be allowed. Cast holes shall be tapered. Lifting devices used in lifting holes shall have sufficient bearing to avoid damage resulting from concentration of stresses around the lifting holes.

3.2 Ends of three-sided and arch units shall be of such design and shall be so formed that when erected, shall make a continuous line with a smooth interior free of irregularities. Ends of three-sided and arch units shall be normal to the walls and centerline, except where beveled ends are specified. Surfaces of three-sided and arch units shall be smooth form or troweled.

3.3 Precast units shall be stored in such a manner to prevent cracking or damage. Units shall not be moved until the concrete compressive strength has reached a minimum of 2500 psi (17 MPa). Units shall not be stored in an upright position until the concrete compressive strength has reached a minimum of 4000 psi (28 MPa).

3.4 Precast units shall be clearly marked with waterproof paint. The following information shall be shown fill face of the north headwall.

- (a) Unit clear span and rise.
- (b) Date of manufacture.
- (c) Name or trademark of the manufacturer.

(d) Design earth cover.

3.5 Permissible variations shall be in accordance with AASHTO M 259.

4.0 Testing.

4.1 Concrete compressive strength shall be determined from compression tests made on cylinders. When the cylinder test strengths are less than the design concrete strength, then the concrete compressive strength shall be determined from compression tests made on cores. For cylinder testing, a minimum of four cylinders shall be taken during each production run. For core testing, one core shall be cut from three-sided and arch units selected at random from each group of 15 units or less of a particular size and production run. One core shall be cut from each group of four or fewer wing wall units. For each continuous production run, each group of 15 three-sided or arch units of a single size, fraction thereof or four wing wall units shall be considered separately for the purpose of testing and acceptance. A production run shall be considered continuous if not interrupted for more than 3 days.

4.2 Cylinders shall be made and tested in accordance with ASTM C 39. Cores shall be obtained and tested for compressive strength in accordance with ASTM C 42. Requirements for lime curing will be waived.

4.2.1 The compressive strength of the concrete in each group of units, as defined above, will be acceptable when the core test strength is equal to or greater than the design concrete strength. The manufacturer shall perform random selection and testing of the cores as approved by the engineer.

4.2.2 If the compressive strength of the core tested is less than the design concrete strength, the unit from which that core was taken, may be recored. If the compressive strength of the recore is equal to or greater than the design concrete strength, the compressive strength of the concrete in that group of units will be acceptable.

4.2.3 If the compressive strength of a recore is less than the design concrete strength, the unit from which that core was taken will be rejected. Two units from the remainder of the group shall be selected at random. One core shall be taken from each. If the compressive strengths of both cores are equal to or greater than the design concrete strength, the remainder of the units in that group will be acceptable. If the compressive strength of either of the two cores tested is less than the design concrete strength, the remainder of the units in the group will be rejected. However, at the recommendation of the manufacturer, each remaining unit in the remainder of the group may be cored and accepted individually. The units will be rejected which have cores with less than the design concrete strength.

4.2.4 Core holes shall be plugged and cured by the manufacturer in such a manner that the units shall meet all the test requirements of these specifications.

4.3 The manufacturer shall furnish all facilities, equipment and personnel necessary to conduct the required testing.

5.0 Rejection.

5.1 Precast units will also be rejected due to the following conditions:

- (a) Fractures or cracks completely through the wall, except for a single end crack which does not exceed one-half the thickness of the wall.
- (b) Defects that indicates proportioning, mixing or molding which are not in accordance with this specification.
- (c) Honeycombed or open textured concrete.
- (d) Damaged unit ends, where such damage prevents making a satisfactory joint.

5.2 Units may be repaired due to imperfections in manufacture, handling damage or construction. Repair procedures shall be submitted to the engineer for approval. Repairs will be acceptable when determined that repairs are sound, properly finished and cured and repaired units are in accordance with the requirements herein.

6.0 Construction Requirements.

6.1 Footings. Footings shall be cast-in-place and constructed in accordance with grades shown on the structure plans. Footings shall be given a smooth float finish. A minimum 3-inch (75 mm) deep keyway shall be formed in the footings supporting three-sided and arch units. Keyways shall have 3 inches (75 mm) of clear between keyway edges and both faces of three-sided and arch units. Footing concrete shall reach an initial compressive strength of 2000 psi (14 MPa) before placement of units or before construction of cast in place wing walls. Surfaces shall not vary from the grades shown on the structure plans more than ¼ inch in 10 feet (6 mm in 3 m) when tested with a 10-foot (3 m) straightedge.

6.2 Special care shall be taken in setting units to the true line and grade. Three-sided, arch and wing wall units shall be set on 6 x 6 inches (150 x 150 mm) masonite or steel shims. A minimum gap of 1/2 inch (13 mm) shall be provided between footings and the base of units. Footing keyways shall be completely filled with an approved non-shrink grout.

6.3 Joints Between Precast Units.

6.3.1 Butt joints shall be covered with a plastic joint compound in accordance with Sec 733 and a Type III external sealing band in accordance with ASTM C 877. Surfaces shall be free of dirt before joint material is applied. The entire joint shall be continuously covered. Joints between three-sided or arch units and wing walls and joints between three-sided or arch units and headwalls, shall be covered with the same method used for butt joints.

6.3.2 Sealing bands shall be kept in the proper location over joints and care shall be taken to prevent damage during backfilling operations.

6.3.3 Keyway joints shall be fabricated with a minimum 4 x 1-1/2 inches (100 x 40 mm) keyway. Keyway joints shall be sealed with an approved plastic joint compound or a tubular joint seal in accordance with Sec 733.

6.4 Lift Holes. Lift holes shall be filled prior to backfilling in accordance with Sec 733.

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6.5 Backfilling.

6.5.1 Backfill shall be placed and compacted in accordance with Sec 206 and the manufacturer's recommendation.

6.5.2 Operation of equipment over the structure shall be in accordance with the manufacturer's recommendations.

7.0 Method of Measurement. No measurement will be made for precast concrete structures, but each will be considered a lump sum unit.

8.0 Basis of Payment. Payment for accepted precast concrete structures for the above described work, including all material, equipment, labor and any other incidental work necessary to complete this item in place, will be considered completely covered by the contract lump sum price for "PRECAST CONCRETE STRUCTURE".

R-WW. Design of Pre-Engineered Structures for Grade Separations – Job J6S1718B Only

1.0 Design Parameters. This provision contains general design parameters for pre-engineered precast concrete structures.

2.0 Location and Layout. The structure shall be designed in accordance with the details shown on the structure plans. Flat-topped three-sided units will not be allowed.

2.1 Horizontal and Vertical Alignments. Roadways above and below the structure shall be constructed to the profile grade and horizontal alignment shown on the roadway plans.

2.2 Typical Roadway Sections. Roadway sections above and below the structure shall provide, as applicable the same pavements, shoulders, curbs, medians and sidewalks shown on the roadway plans in the typical sections for these locations.

2.3 Traffic Barrier. Traffic barrier shall be installed as shown on the roadway plans.

3.0 Design.

3.1 The structure shall be designed in accordance with the design specifications and for the design loadings and additional parameters shown on the structure plans, except as modified herein.

3.2 Minimum design concrete compressive strength shall be 4,000 psi (28 MPa).

3.3 Hydrostatic pressure shall be considered when using flowable backfill.

3.4 Horizontal pressures shall be increased for sloping backfill and live load surcharge.

3.5 Minimum reinforcing steel cover shall be 2 inches (50 mm) for pedestals, collars, wingwalls and headwalls.

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3.6 Reinforcing steel splicing and spacing requirements shall be in accordance with the design specifications shown on the structure plans and the manufacturer's recommendation.

3.7 Minimum fill over the structure shall be the greater of 12 inches (300 mm) or total depth of the pavement and pavement bases shown on the roadway plans.

3.8 Top of headwalls shall be 6 inches (150 mm) above the roadway fill.

3.9 The structure shall be designed for a 75-year design life.

3.10 Anchors and anchoring methods shall take into account the weight and seismic requirements of "Pedestrian Underpass Cast Stone Masonry" and "Pedestrian Underpass Phenolic Panel System". Refer to the Job Special Provisions for these items.

4.0 Submittals.

4.1 The contractor shall submit to the engineer for approval the following items signed and sealed by a Professional Engineer who is licensed in the State of Missouri in accordance with the laws relating to architects and professional engineers (Chapter 327, RSMo), and in accordance with Authentication of Certain Documents in Sec 107:

4.1.1 Three copies of design computations. Design computations that are computer-generated shall be accompanied by longhand examples of the design methodology that completely addresses all components of the structure.

4.1.2 Five sets of shop drawings. Shop drawings shall be of sufficient detail and clarity to provide a permanent record of the structure for future reference. Shop drawings shall include the county and structure number on each sheet. Shop drawings shall include all details, dimensions and quantities necessary to construct the structure and shall include, but not be limited to, the following information:

(a) Structure clear span and rise.

(b) Three-sided or arch unit details showing all concrete dimensions and reinforcing steel requirements. The details shall show the location of units tied to the centerline of the roadway.

(c) Wing wall and headwall details when required showing all concrete dimensions, reinforcing steel and anchorage details. Wing wall plan, elevation and section views shall be provided. Headwall elevation and section views shall be provided.

(d) Structure backfill type and limits.

(e) Manufacturer's instructions, construction drawings and assembly drawings.

(f) Anchors and anchoring methods for both the Pedestrian Underpass Phenolic Panel System and the Pedestrian Underpass Cast Stone Masonry.

4.2 The contractor shall submit computations electronically in Adobe Acrobat format.

4.3 The contractor shall submit shop drawings electronically in Adobe Acrobat format.

4.4 Construction or manufacture of any component of the structure shall not begin until written approval of computations and shop drawings have been received from the engineer.

4.5 During construction, the contractor shall submit to the engineer construction change recommendations to resolve unexpected subsurface conditions or any other constructability issue. Construction of any required modification shall not begin until written approval of the construction change recommendations has been received from the engineer.

4.6 After construction, the contractor shall submit final shop drawings electronically in Adobe Acrobat format. Final shop drawings shall include construction changes made to shop drawings during construction.

4.7 Shop drawings shall be in accordance with Specifications of Computer Deliverable Contract Plans in the MoDOT Engineering Policy Guide.

5.0 Method of Measurement. No measurement will be made.

6.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract unit price for other items included in the contract.

R-XX. Vertical Drain for Three-Sided Structure – Job J6S1718B Only

1.0 Description. This work shall consist of furnishing and installing a vertical drain system consisting of drain core, geotextile fabric, perforated and unperforated drain pipe, couplers, porous backfill, as shown on the plans or as directed by the engineer.

2.0 Material. Materials shall be in accordance with the Specifications and specifically as follows:

Item	Section
Geotextile	1011 (Subsurface Drainage Geotextile)
Geocomposite Drainage Material	1012 (Vertical Drain at End Bents)
Miscellaneous Drainage Material	1013
Porous Backfill	1009 Grade 4

3.0 Construction Requirements.

3.1 The contractor shall install the vertical drain system in accordance with the manufacturer's recommendations.

3.2 If the core of the drain is not perforated, modifications shall be made to the core to provide adequate drainage into the drain pipe as approved by the engineer.

3.3 Vertical and horizontal joints shall be constructed to form an uninterrupted drain face after compaction is completed. All joints shall have an overlap of geotextile to prevent any intrusion of fill material into the drain. Horizontal joints shall be designed to drain downward. Any cracks or openings in the drain adjacent to the fill will be cause for rejection of the drain, and the drain shall be replaced by the contractor, at the contractor's expense.

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3.4 The backfill material shall be placed and compacted in accordance with Sec 206. The backfill shall be placed in such a manner as to prevent damage to the vertical drain system. The backfill material shall be as approved by the engineer.

4.0 Method of Measurement. The work provided herein will not be measured for payment, but will be considered completely paid for as a system, per each.

5.0 Basis of Payment. The accepted vertical drain system, complete in place, will be paid for at the contract price for “VERTICAL DRAIN FOR THREE-SIDED STRUCTURE”, Pay Item No. 715-99.02. No direct payment will be made for excavation, backfilling, compaction, drain pipe or other material and work.

R-YY. Waterproofing Membrane for Three-Sided Structure – Job J6S1718B Only

1.0 Description. This work shall consist of furnishing and placing a membrane waterproofing system on the top slab and sidewalls, or portions thereof, for three-sided structures as shown on the plans or as directed by the engineer.

2.0 Materials. The materials used in the waterproofing system shall consist of the following.

2.1 Cold-applied, self-adhering rubberized asphalt/polyethylene membrane sheet with the following properties:

Physical Properties	
Thickness ASTM D 1777 or D 3767	60 mils (1.500 mm) min.
Width	36 inches (914 mm) min.
Tensile Strength, Film ASTM D 882	500 lb./in ² (34.5 MPa) min.
Pliability [180° bend over 1 inch (25 mm) mandrel @ -20°F (-29°C)] ASTM S 146 (Modified) or D1970	No Effect
Puncture Resistance-Membrane ASTM E 154	40 lb. (178 N) min.
Permeability (Perms) ASTM E 96, Method B	0.1 max.
Water Absorption (% by Weight) ASTM D 570	0.2 max.
Peel Strength ASTM D 903	9 lb./in (1576 N/m) min.

2.2 Ancillary Materials: Adhesives, Conditioners, Primers, Mastic, Two-Part Liquid Membranes, and Sealing Tapes as required by the manufacturer of the membrane and film for use with the respective membrane waterproofing system.

3.0 Construction.

3.1 The areas requiring waterproofing shall be prepared and the waterproofing shall be installed in accordance with the manufacturer’s instructions. The Contractor shall not install any part of a membrane waterproofing system in wet conditions, or if the ambient or concrete surface temperature is below 40° (4° C), unless allowed by the Engineer.

3.2 Surfaces to be waterproofed shall be smooth and free from projections which might damage the membrane sheet. Projections or depressions on the surface that may cause damage to the membrane shall be removed or filled as directed by the Engineer. The surface shall be power

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washed and cleaned of dust, dirt, grease, and loose particles, and shall be dry before the waterproofing is applied.

3.3 The Contractor shall uniformly apply primer to the entire area to be waterproofed, at the rate stated in the manufacturer's instructions, by brush, or roller. The Contractor shall brush out primer that tends to puddle in low spots to allow complete drying. The primer shall be cured according to the manufacturer's instructions. Primed areas shall not stand uncovered overnight. If membrane sheets are not placed over primer within the time recommended by the manufacturer, the Contractor shall recoat the surfaces at no additional cost.

3.4 The installation of the membrane sheet to primed surfaces shall be such that all joints are shingled to shed water by commencing from the lowest elevation of the buried structure's top slab and progress towards the highest elevation. The membrane sheets shall be overlapped as required by the manufacturer. The Contractor shall seal with mastic any laps that were not thoroughly sealed. The membrane shall be smooth and free of wrinkles and there shall be no depressions in horizontal surfaces of the finished waterproofing. After placement, exposed edges of membrane sheets shall be sealed with a troweled bead of a manufacturer's recommended mastic, or two-part liquid membrane, or with sealing tape.

3.5 Sealing bands at joints between precast segments shall be installed prior to the waterproofing system being applied. Where the waterproofing system and sealing band overlap, the installation shall be planned such that water will not be trapped or directed underneath the membrane or sealing band.

3.6 Care shall be taken to protect and to prevent damage to the waterproofing system prior to and during backfilling operations. The waterproofing system shall be removed as required for the installation of slab mounted guardrails and other appurtenances. After the installation is complete, the system shall be repaired and sealed against water intrusion according to the manufacturer's instructions and to the satisfaction of the Engineer.

3.7 Lift holes shall be filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation nor project above the outside surface to the extent that may cause damage to the membrane. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar compatible with the membrane.

4.0 Method of Measurement. The waterproofing system will not be measured for payment.

5.0 Basis of Payment. This work will be paid for at the contract lump sum price unit price for 731-9901, "WATERPROOFING MEMBRANE FOR THREE-SIDED STRUCTURE", per Lump Sum.

R-ZZ. Dewatering – Job J6S1718B Only

1.0 Description. This provision covers dewatering the site as necessary to provide a suitable condition for the construction of the structures, as approved by the engineer. This work shall include dewatering for the underpass and adjacent retaining walls for both stages of construction. This work shall be done in accordance with Sec 206 and this specification.

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2.0 Construction Requirements. Dewatering shall provide a dry work area suitable to construct the structures within specifications, as approved by the engineer. Typical dewatering methods consist of, but are not limited to, construction of cofferdams, seal courses, over excavation, well point systems, dewatering and drainage diversion. Any dewatering method utilized shall conform to all environmental laws and regulations.

3.0 Method of Measurement. No measurement will be made.

4.0 Basis of Payment. Payment for dewatering will be made regardless of which dewatering means is utilized. No payment will be made if the work area is not maintained in a dewatered state, as approved by the engineer. The lump sum payment for dewatering will be full compensation and no time extensions will be made regardless of which means and methods are utilized by the contractor.

R-AAA. Temporary Shoring – Job J6S1718B Only

1.0 Description. This work shall consist of installing temporary shoring as required in accordance with Sec 206, the underpass plans and this special provision to retain the fill during stage construction.

2.0 Construction Requirements. The responsibility for the design and construction of the temporary shoring shall rest solely with the contractor. The design and plans for the temporary shoring shall be signed and sealed by a Professional Engineer who is licensed in the State of Missouri in accordance with the laws relating to architects and professional engineers (Chapter 327, RSMo). The design shall insure that the temporary shoring is braced or substantially secured to prevent soil movement during construction of the underpass. Temporary shoring shall not be removed until it is no longer needed for staged construction. The temporary shoring shall become the property of the contractor.

3.0 Method of Measurement. No measurement will be made.

4.0 Basis of Payment. Payment for the above described work, including all material, equipment, labor and any other incidental work necessary to complete this item, will be considered completely covered by the contract price for 206-55.00, “Temporary Shoring”, per lump sum.

R-BBB. Supplemental Revisions JSP-18-01Q

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;

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- (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

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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.

COVID-19 Safety

1.0 Description. The coronavirus disease 2019 or COVID-19 has reached a pandemic stage across the United States, including the State of Missouri. To reduce the impact of COVID-19 outbreak conditions on businesses, workers, customers and the public, the contractor shall be aware of all COVID-19 guidance from the Center for Disease Control (CDC) and other government health mandates. The contractor shall conduct all operations in conformance with these safety directives. The guidance may change during the project construction and the contractor shall change and adapt their operation and safety protocols accordingly.

2.0 Safety Plan. The contractor shall include these procedures in the project safety plan as called for in the contract documents and revise the safety plan as needed.

3.0 Essential Work. In accordance with any state or local Stay at Home Order, care for the infrastructure has been deemed essential and MoDOT is moving forward with construction projects, this project is considered essential and the contractor and their employees, subcontractors and suppliers are considered essential business and performing essential functions.

4.0 Basis of Payment. Compliance with regulations and laws pertaining to COVID-19 is covered under Sec 107 of the Missouri Standard Specifications for Highway Construction. 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.

Delete Sec 413.10.5.5 and substitute with the following:

413.10.5.5 Weather Limitations and Calendar Restrictions. Micro-surfacing shall not be placed when the air or surface temperature is below 50 F; or when the forecasted low temperature for the next 48 hours, as reported by the National Weather Service, is below 40 F; or after October 1 of each calendar year. Temperatures shall be obtained in accordance with MoDOT Test Method TM 20. Micro-surfacing may be placed on a damp surface but shall not be placed on a wet surface with free standing water.

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Delete Sec 413.30.2.3 and substitute with the following:

413.30.2.3 Reclaimed Asphalt. No reclaimed asphalt pavement or reclaimed asphalt shingles are allowed.