

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

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ADDITIONAL INFORMATION

Nationwide Permit No. 14
 Asbestos Survey Report

<p>"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."</p>	<p>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636</p>
	<p>If a seal is present on this sheet, JSP's have been electronically sealed and dated.</p>
	<p>JOB NUMBER: J513132 COOPER COUNTY, MO DATE PREPARED: 01/08/15</p>
	<p>ADDENDUM DATE:</p>
<p>Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: ALL</p>	

JOB
SPECIAL PROVISION

A. GENERAL - FEDERAL JSP-09-02A

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 "Bidding". 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 "Business"; "Standards and Specifications". The effective version shall be determined by the letting date of the project.

General Provisions & Supplemental Specifications

Supplemental Plans to October 2009 Missouri Std. Plans
For Highway Construction

These supplemental bidding documents contain all current revisions to the bound printed versions and have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

B. CONTRACT LIQUIDATED DAMAGES

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

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

Notice to Proceed: June 6, 2016
Completion Date: October 1, 2016

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
J5I3132	55

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 the amount of **\$XXX** per calendar day for each full calendar day 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 4.1. These damages are in addition to the contract administrative damages and any other damages as specified elsewhere in this contract.

4.1 Road User Costs.

Job Number	Road User Cost
J5I3132	\$ XXXX

C. WORK ZONE TRAFFIC MANAGEMENT PLAN

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

2.0 Traffic Management Schedule.

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

2.2 The contractor shall notify the engineer one week prior to lane closures or shifting traffic onto detours.

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

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

2.5 Traffic Congestion. The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone.

2.5.1 Traffic Delay. The contractor shall be responsible for maintaining the existing traffic flow through the job site during construction. If disruption of the traffic flow occurs and traffic is backed up in queues of 15 minute delays or longer, then the contractor shall review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from occurring again.

2.5.2 Traffic Safety.

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

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

3.0 Work Hour Restrictions.

3.1 There are no work hour restrictions for these projects.

4.0 Detours and Lane Closures.

4.1 The contractor shall provide changeable message signs notifying motorists of future traffic disruption and possible traffic delays one week before traffic is shifted to a detour or prior to lane closures. The changeable message signs shall be installed at a location as approved or directed by the engineer.

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

D. UTILITIES

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

<u>Utility Name</u>	<u>Known Required Adjustment</u>
Lightcore 11111 Dorsett Road Maryland Heights, MO 63043 Contact: Jason Johns 916-296-8520	None – see 1.1.1

Jason.johns@centurylink.com

Ameren Missouri – Electric
200 N. Callahan Road
Wentzville, MO 63385
Contact: Terri Smith
(314) 554-4930
Tsmith2@ameren.com

None

Ameren Missouri – Gas
2001 McGuire Blvd.
Columbia, MO 65201
Contact: Chad Warren
(573) 876-3063
cwarren@ameren.com

None

AT&T Transmission
1425 Oak Street
Kansas City, MO 64106
Contact: Kevin Wingard
(580) 931-7688
kwingard@sdt-1.com

None

Cooper PWSD #1
P.O. Box 77
Woolridge, MO 65287
Contact: Fred Delius
(660) 882-7310 office
(660) 621-1310 cell

None

MoDOT – Central District
P.O. Box 718
Jefferson City, MO 65102
Contact: Kevin Eggemeyer
573-526-3207
Kevin.eggemeyer@modot.mo.gov

None

Otelco
215 Roe Street
Pilot Grove, MO 65276
Contact: Robert Brownfield
(660) 834-3311
bobby@otelcotel.com

None

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

1.1.1 Lightcore has a conduit attachment on the eastbound bridge. The contractor shall contact the utility prior to work around this conduit and brackets. The contractor shall use caution to not disturb the fiber optic line and conduit. The contractor shall be responsible for any damage to the fiber optic line, conduit, and attachment brackets. Lightcore also has an underground fiber optic line located in the median east and west of the bridges. The contractor shall use caution to not disturb the fiber optic line in this area while constructing the east and west cross-overs or accessing the bridge for contract work. The contractor shall be responsible for any damage to the fiber optic line in these areas.

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

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

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

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

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

E. PROJECT CONTACT FOR CONTRACTOR/BIDDER QUESTIONS

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

Michael Dusenberg, Project Contact
MoDOT - Central Missouri District
1511 Missouri Blvd., P.O. Box 718
Jefferson City, Missouri 65102
Telephone Number 573-751-7699
e-mail: michael.dusenberg@modot.mo.gov

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

F. EMERGENCY PROVISIONS AND INCIDENT MANAGEMENT

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 resident 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 for both projects.

Missouri Highway Patrol – Troop F – Jefferson City 573-751-1000
Cooper County Sheriff – (660) 882-2771
Cooper County Fire Protection District – (660) 882-6111

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.

G. CONTRACTOR QUALITY CONTROL NJSP-15-42

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

2.0 Quality Control Plan.

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

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

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

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

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

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

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

4.0 Work Planning and Scheduling.

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

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

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

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

4.4.1 A list of typical Hold Point events is available on the MoDOT website. Use of the Hold Point process will only be required for the project-specific list of Hold Points, if any, that the

engineer submits to the contractor in advance of the work. The engineer may make changes to the Hold Point list at any time.

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

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

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

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

H. SAFETY PLAN (Version – 10/2012)

1.0 Description. This contractor shall submit to the engineer a project Safety Plan (SP) for all work performed by the contractor and all subcontractors. The purpose of the SP is to encourage and enable all work to be performed in the safest possible manner and that all parties involved are aware of their individual responsibility for safety on the jobsite.

1.1 The SP shall be completed by the contractor and provided to the engineer prior to the beginning of any construction activity or phase on the project.

1.2 The contractor shall designate a person to serve as Project Safety Manager (PSM). The PSM shall be responsible for implementing and overseeing the SP. The PSM is not required to be present on the project at all times, but must be available to address safety issues and needs.

1.3 The PSM shall make revisions to the SP as necessary. Any new project activities or phases shall be included in the SP prior to work beginning on that activity or phase.

1.4 An example Safety Plan is available at:

http://www.modot.mo.gov/business/contractor_resources/bid_opening_info/bidGenInfo.shtml

2.0 Emergency Preparedness. The SP shall outline and detail for all workers, the specific procedures and actions necessary to respond to a jobsite emergency and the measures taken to communicate these requirements to all workers.

2.1 The SP shall include a list of local emergency contacts including phone numbers. A copy of the emergency contact list shall be accessible to workers.

2.2 In the case where there is no cellular or land line phone service at the jobsite, the SP shall identify how to reach the nearest available phone service.

3.0 Project Safety Analysis. The SP should contain a basic Project Safety Analysis (PSA) that outlines the actions necessary to complete each activity or phase of the project. The SP

shall include a general description of the primary activities or steps required to safely complete the project.

3.1 Each activity should also include a general description of the work involved along with the known risks associated with the activity. In addition the PSA should outline the controls for those risks, including any Personal Protection Equipment (PPE) requirements for that activity or phase, and whether or not the activity or phase requires a specific safety meeting prior to beginning the activity or phase.

3.2 Submittal of the PSA for all activities or phases is not required with the initial submittal of the SP; however, the PSA for each activity or phase shall be completed prior to the beginning of that activity or phase.

4.0 Safety Meetings. The SP shall include the types of safety meetings that will be required of and conducted by the contractor.

5.0 Safety Training. The SP shall identify the required safety training provided to the contractor's personnel. The contractor shall require that the appropriate safety training for the contractor's personnel is completed prior to the beginning of work on each activity or phase.

5.1 The SP shall identify the recommended safety training needs and PPE for MoDOT employees who will be exposed to the work activities. MoDOT will provide safety training and PPE to MoDOT employees based on MoDOT safety policies.

6.0 Payment. There will be no direct payment for compliance with this Safety Plan provision.

I. DISPOSITION/REMOVAL OF EXISTING MATERIALS

1.0 Description. All existing object markers, signs, posts, and bridge railings indicated for removal in the plans for both projects shall be removed by the Contractor, disassembled, and delivered to the Commission's Maintenance Facility located at HCR 60, Box 3B, 16803 Highway 5, Boonville, MO 65233. The Contractor shall contact James Williams at (573) 442-4718 (office) or (573) 690-1794 (mobile), 24 hours prior to delivery.

2.0 Basis of Payment. Payment for the removal and transportation of the existing materials will be considered completely covered by the contract unit price for Item No. 202-20.10 "Removal of Improvements", per lump sum.

J. FERTILIZING, SEEDING, AND MULCH

1.0 Soil Neutralization: In accordance with Sec 801.2.2, the rate of application of effective neutralizing material shall be 800 lbs. per acre.

1.1 Commercial Fertilizer: In accordance with Sec 801.2.3, the following fertilizer shall be applied at the rate specified:

	Pounds per Acre			
	Nitrogen (N)	Phosphorous (P205)	Potash (K2O)	Effective Neutralizing Material
Beyond 30'	40	40	80	0
Within 30'	80	120	40	800

2.0 The following seed mixture shall be applied at the rate specified:

Statewide – All settings – within the first 30 feet (mow area)

Cool Season Mixture Within the First 30 Feet Pounds Pure Live Seed (PLS) per Acre	
Tall fescue	80 lbs.
Annual ryegrass	10 lbs.
Perennial ryegrass	6 lbs.
White clover	6 lbs.
Oats	10 lbs.
TOTAL	112 PLS lbs./acre

Statewide – Rural setting – outside the first 30 feet and steeper than 3:1 slopes

Warm Season Mixture Beyond the First 30 Feet and Steeper Than 3:1 Slopes Pounds Pure Live Seed (PLS) per Acre	
Indiangrass	8 lbs.
Big bluestem	4 lbs.
Little bluestem	6 lbs.
Sideoats grama	4 lbs.
Switchgrass	2 lbs.
Virginia or Canada rye	2 lbs.
Tall dropseed	.5 lbs.
Purple prairie clover	.5 lbs.
Annual ryegrass	10 lbs.
Perennial ryegrass	6 lbs.
Red fescue	10 lbs.
Redtop	1.5 lbs.
Partridge pea	3 lbs.
White Clover	6 lbs.
Gray headed coneflower	.25 lbs.
Black-eyed Susan	.25 lbs.
Oats	20 lbs.
TOTAL	84 PLS lbs./acre

3.0 Bonded Fiber Matrix mulching shall be used on this project.

K. SUPPLEMENTAL REVISIONS JSP-09-01R

Insert Sec 109.15, Sec 109.16 and Sec 109.17, subsequent section renumbered accordingly:

109.15 Seal Coat Price Index. Adjustments will be made to the payments due the contractor for Seal Coat placed in accordance with Sec 409 of the Standard Specifications when the quantity exceeds 14,000 gallons for an individual project or any number of projects in the contract combination. Adjustments will be calculated in accordance with Asphalt Cement Price Index of the General Provisions, except as defined herein.

109.15.1 Basis of Payment. To determine the adjustment for any material specified in this provision the following formula will be used.

$$A = B \times (8.58/2000) \times (D - E)$$

Where: A = adjustment for Seal Coat placed during the index period
B = gallons of seal coat placed during the index period
D = average index price at the beginning of the period
E = average index price at the time of bid
(use average specific gravity of 1.03 for seal coat)

109.15.2 Optional. This provision is optional. If the bidder wishes to be bound by this provision, the bidder shall execute the acceptance form in the Bid for the Asphalt Cement Price Index. Acceptance of this provision will apply to both the Asphalt Cement Price Index and Seal Coat Price Index. Failure by the bidder to execute the acceptance form will be interpreted to mean election to not participate in the Asphalt Cement Price Index or Seal Coat Price Index.

109.16 Asphalt Underseal Price Index. Adjustments will be made to the payments due the contractor for Asphalt underseal placed in accordance with Sec 625 of the Standard Specifications when the quantity exceeds 10,000 gallons for an individual project or any number of projects in the contract combination. Adjustments will be calculated in accordance with Asphalt Cement Price Index of the General Provisions, except as defined herein.

109.16.1 Basis of Payment. To determine the adjustment for any material specified in this provision the following formula will be used.

$$A = B \times (8.66/2000) \times (D - E)$$

Where: A = adjustment for asphalt underseal placed during the index period
B = gallons of asphalt underseal placed during the index period
D = average index price at the beginning of the period
E = average index price at the time of bid
(use average specific gravity of 1.04 for underseal)

109.16.2 Optional. This provision is optional. If the bidder wishes to be bound by this provision, the bidder shall execute the acceptance form in the Bid for the Seal Coat Price Index. Failure by the bidder to execute the acceptance form will be interpreted to mean election to not participate in the Seal Coat Price Index.

109.17 Polymer Modified Emulsion Membrane Price Index. Adjustments will be made to the payments due the contractor for Polymer Modified Emulsion Membrane placed in accordance with Sec 413.30 when the quantity exceeds 5,000 square yards. Adjustment will be calculated in accordance with the Supplemental Asphalt Price Adjustment except as defined herein.

109.17.1 Basis of Payment. To determine the adjustment for any material specified in this provision the following formula will be used.

$$A = B \times (1.20/2000) \times (D - E)$$

Where: A = adjustment for membrane placed during the index period
B = square yards of membrane placed during the index period

D = average index price at the beginning of the period
 E = average index price at time of bid

109.17.2 Optional. This provision is optional. If the bidder wishes to be bound by the provision, the bidder shall execute the acceptance form in the Bid for Polymer Modified Emulsion Membrane Price Index. Failure by the bidder to execute the acceptance form will be interpreted to mean election not to participate in the Polymer Modified Emulsion Membrane Price Index.

Delete Section 401.2.2 and substitute the following:

401.2.2 Reclaimed Asphalt. Reclaimed Asphalt may be obtained from Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS). The asphalt binder content of recycled asphalt materials shall be determined in accordance with AASHTO T 164, ASTM D 2172 or other approved method of solvent extraction. A correction factor for use during production may be determined for binder ignition by burning a sample in accordance with AASHTO T 308 and subtracting from the binder content determined by extraction.

The use of reclaimed asphalt shall be limited to one of the following options with the exception of bituminous base. For bituminous base the limits specified may be increased according to the recycled materials used as follows; 10 % for RAP only, 5 % for RAS only and 10 % for the appropriate RAP and RAS combination.

Binder	Percent Effective Virgin Binder Replacement		
	RAP	RAS	RAP and RAS combination
Contract Grade Virgin Binder shall be used	0 – 20	0 -10	$RAP + (2 \cdot RAS) \leq 20$
Virgin Binder shall be Softened One Grade ^a	21 – 40	11 – 20	$20 < RAP + (2 \cdot RAS) \leq 40$
Blend Chart ^b	0 – 100	N/A	N/A
Extraction and Grading of Binder from final Mixture ^c	0 - 100		

^a The virgin binder shall have a low temperature grade 6 degrees lower than the binder grade specified in the contract. Lowering the high temperature of the virgin binder is not required; however, if lowered, the virgin binder shall have a high temperature grade no lower than 6 degrees below the binder grade specified in the contract. (Ex. Contract grade PG 64-22; virgin binder could be either PG 58-28 or PG 64-28). The Pressure Aging Vessel (PAV) test temperature (AASHTO M320) shall be tested at 19° C, regardless of the high temperature grade of the selected virgin binder

^b Testing in accordance with AASHTO M323 including raw data shall be included with the mix design which demonstrates that the grade of the combine mixture meets the contract requirements.

^c Testing in accordance with either AASHTO T319, or AASHTO T164 and R59 along with grading in accordance with AASHTO M320 including raw data shall be included with the mix design which demonstrates that the grade of the combine mixture and rejuvenator, if applicable, meets the contract requirements.

Amend Section 401.2.2 to include the following:

401.2.2.1 Reclaimed Asphalt Pavement. Reclaimed Asphalt Pavement (RAP) may be used in any Section 401, Plant Mix Bituminous Base and Pavement. All RAP material, except as noted below, shall be tested in accordance with AASHTO T 327, *Method of Resistance of*

Coarse Aggregate Degradation by Abrasion in the Micro-Deval Apparatus. Aggregate shall have the asphalt coating removed either by extraction or binder ignition during production. The material shall be tested in the Micro-Deval apparatus at a frequency of once per 1500 tons. The percent loss shall not exceed the Micro-Deval loss of the combined virgin material by more than five percent. Micro-Deval testing will be waived for RAP material obtained from MoDOT roadways. All RAP material shall be in accordance with [Sec 1002](#) for deleterious and other foreign material. The aggregate specific gravity shall be determined by performing AASHTO T 209 in accordance with [Sec 403.19.3.1.2](#) and calculating the G_{se} to which a 0.98 correction factor will be applied in order to determine G_{sb} as follows:

$$G_{se} = \frac{100 - P_b}{\frac{100}{G_{mm}} - \frac{P_b}{G_b}} \qquad \text{RAP } G_{sb} = \text{RAP } G_{se} \times 0.98$$

See Section 401.4.4.1 for mixes containing more than 40% effective binder replacement from reclaimed asphalt.

Amend Section 401.2.2 to include the following:

401.2.2.2 Reclaimed Asphalt Shingles. Reclaimed Asphalt Shingles (RAS) may be used in any mixture specified to use PG 64-22 in accordance with AASHTO PP 53. In addition, shingles shall be ground to 3/8-inch minus. Waste, manufacturer or new, shingles shall be essential free of deleterious materials. Post-consumer RAS shall not contain more than 1.5 percent wood by weight or more than 3.0 percent total deleterious by weight. Post-consumer RAS shall be certified to contain less than the maximum allowable amount of asbestos as defined by national or local standards. The bulk specific gravity of RAS used in the job mix formula shall be 2.600.

$$\text{RAS } G_{sb} = 2.600$$

See [Sec 401.4.4.1](#) for mixes containing more than 40% effective binder replacement from reclaimed asphalt.

The gradation of the aggregate may be determined by solvent extraction of the binder or using the following as a standard gradation:

Shingle Aggregate Gradation	
Sieve Size	Percent Passing by Weight
3/8 in.	100
No. 4	95
No. 8	85
No. 16	70
No. 30	50
No. 50	45
No. 100	35
No. 200	25

Amend Section 401.2.2 to include the following:

401.2.2.3 Rejuvenators. Rejuvenators may be used in any asphalt mixture containing recycled material. When a rejuvenator is used for the purpose of softening the binder grade, the

requirements for the Extraction and Grading of Binder from Final Mixture option in section 401.2.2 must be satisfied.

Delete Section 401.3 and substitute the following:

401.3 Composition of Mixtures. Aggregate sources shall be from the specific ledge or combination of ledges within a quarry, or processed aggregate from a particular product, as submitted in the mix design. The total aggregate prior to mixing with asphalt binder shall be in accordance with the following gradation requirements:

Sieve Size	Percent Passing by Weight			
	Base	BP-1	BP-2	BP-3
1 inch	100	100	100	100
3/4 inch	85-100	100	100	100
1/2 inch	60-90	85-100	95-100	100
3/8 inch	---	---	---	100
No. 4	35-65	50-70	60-90	90-100
No. 8	25-50	30-55	40-70	---
No. 16	---	---	---	30-60
No. 30	10-35	10-30	15-35	---
No. 200	4-12	5-12	5-12	7-12

Delete Section 401.4.4.1 and substitute the following:

401.4.4.1 Base, BP-1, BP-2 and BP-3 mixtures shall have the following properties, when tested in accordance with AASHTO T 245 or AASHTO T 312. The number of blows with the compaction hammer shall be 35 or the number of gyrations shall be 35 with the gyratory compactor. BP-1 and BP-2 mixtures shall have between 60 and 80 percent of the VMA filled with asphalt binder and dust to effective binder ratio of 0.8 to 1.6. BP-3 mixtures shall be compacted with the gyratory compactor to 35 gyrations and shall have a minimum 75 percent of the VMA filled with asphalt binder and dust to effective binder ratio of 0.9 to 2.0.

Mix Type	Percent Air Voids	AASHTO T 245 Stability lb	Voids in Mineral Aggregate (VMA) ^b
BB	3.5	750	13.0 ^a
BP-1	3.5	750	13.5
BP-2	3.5	750	14.0
BP-3	3.5	750	15.0

^a Bituminous base mixtures that would require 12.0 percent VMA following Asphalt Institute MS-2 will have a minimum 12.0 percent requirement.

^b If the effective virgin binder replacement from any combination of RAP and RAS is greater than 40 percent; then the minimum VMA required shall be increased by 0.5.

Delete Sec 402.3 and substitute the following:

402.3 Composition of Mixture. Aggregate sources shall be from the specific ledge combination of ledges within a quarry, or processed aggregate from a particular product, as

submitted in the mix design. The total aggregate prior to mixing with asphalt binder shall be in accordance with the following gradation requirements:

Plant Mix Bituminous Surface Leveling	
Sieve Size	Percent Passing by Weight
3/4" inch	100
1/2 inch	99-100
3/8 inch	90-100
No. 4	60-90
No. 8	40-70
No. 30	15-35
No. 200	5-12

BP-3 in accordance with Sec 401.3 is an allowable substitution.

Amend Sec 402.3.1 to include the following:

402.3.1 Mixture Characteristics. Bituminous surface leveling mixture shall have the following properties, when tested in accordance with AASHTO T 245 or AASHTO T 312. The number of blows with the compaction hammer shall be 35 or the number of gyrations shall be 35 with the gyratory compactor. The mixture shall have a minimum voids filled with asphalt (VFA) of 75 percent. The dust to effective binder ratio shall be 0.8 to 1.6.

Percent Air Voids	AASHTO T 245 Stability lb	Voids in Mineral Aggregate (VMA)
3.5	750	14.5

Delete Sec 402.2.3 and substitute the following:

402.2.3 Reclaimed Asphalt. The asphalt binder content of recycled asphalt materials shall be determined in accordance with AASHTO T 164, ASTM D 2172 or other approved method of solvent extraction. A correction factor for use during production may be determined for binder ignition by burning a sample in accordance with AASHTO T 308 and subtracting from the binder content determined by extraction.

Amend Sec 402.2.3.1 and Sec 402.2.3.2 to include the following:

402.2.3.1 Reclaimed Asphalt Pavement. Reclaimed Asphalt Pavement (RAP) may be used in any mixture, except SMA mixtures. Mixtures may be used with more than 30 percent virgin effective binder replacement provided testing according to AASHTO M 323 is included with the job mix formula that ensures the combined binder meets the grade specified in the contract. All RAP material, except as noted below, shall be tested in accordance with AASHTO T 327, *Method of Resistance of Coarse Aggregate Degradation by Abrasion in the Micro-Deval Apparatus*. Aggregate shall have the asphalt coating removed either by extraction or binder ignition during production. The material shall be tested in the Micro-Deval apparatus at a frequency of once per 1500 tons. The percent loss shall not exceed the Micro-Deval loss of the combined virgin material by more than five percent. Micro-Deval testing will be waived for RAP material obtained from MoDOT roadways. All RAP material shall be in accordance with [Sec](#)

1002 for deleterious and other foreign material. The aggregate specific gravity shall be determined by performing AASHTO T 209 in accordance with [Sec 403.19.3.1.2](#) and calculating the G_{se} to which a 0.98 correction factor will be applied in order to determine G_{sb} as follows:

$$G_{se} = \frac{100 - P_b}{\frac{100}{G_{mm}} - \frac{P_b}{G_b}} \qquad \text{RAP } G_{sb} = \text{RAP } G_{se} \times 0.98$$

As an option, the RAP G_{sb} may be calculated as follows: The bulk specific gravity of RAP used in the job mix formula shall be equivalent to the combined bulk specific gravity of the virgin aggregate materials:

$$\text{RAP } G_{sb} = \text{Virgin Aggregate } G_{sb}$$

Mixes designed using this calculation may not be transferred to projects let after June 2015.

402.2.3.2 Reclaimed Asphalt Shingles. Reclaimed Asphalt Shingles (RAS) may be used in any mixture specified to use PG 64-22 in accordance with AASHTO PP 53 except as follows:

For mixtures containing RAS or a combination of RAS and RAP, the RAS contribution shall not exceed 20 percent effective virgin binder replacement. Mixtures containing a combination of RAS and RAP may have a maximum 30 percent effective virgin binder replacement with no virgin binder grade change. Mixtures containing a combination of RAS and RAP may have a 30 to 40 percent effective virgin binder replacement under the following conditions: (1) with a virgin binder grade change from a PG64-22 to a PG 58-28 or (2) with a combination of a PG64-22 binder and a rejuvenator provided testing demonstrates that a PG58-28, meeting the requirements of AASHTO M320, is achieved. Shingles shall be ground to 100 percent passing the 3/8-inch sieve. Waste, manufacturer or new, shingles shall be essential free of deleterious materials. Post-consumer RAS shall not contain more than 1.5 percent wood by weight or more than 3.0 percent total deleterious by weight. Post-consumer RAS shall be certified to contain less than the maximum allowable amount of asbestos as defined by national or local standards. The bulk specific gravity of RAS used in the job mix formula shall be 2.600.

RAS $G_{sb} = 2.600$

The gradation of the aggregate may be determined by solvent extraction of the binder or using the following as a standard gradation:

Shingle Aggregate Gradation	
Sieve Size	Percent Passing by Weight
3/8 inch	100
No. 4	95
No. 8	85
No. 16	70
No. 30	50
No. 50	45
No. 100	35
No. 200	25

Delete Sec 403.2.5.2 and substitute the following:

403.2.5.2 Fibers. A fiber additive shall be used as a stabilizer in SMA Mixtures. Fibers shall be uniformly distributed by the end of the plant mixing process. The dosage rate for fibers shall be no less than 0.3 percent by weight of the total mixture for cellulose and no less than 0.4 percent by weight for mineral fibers.

Delete Sec 407 in its entirety and substitute the following:

407.1 Description. This work shall consist of preparing and treating an existing bituminous or concrete surface with bituminous material, in accordance with these specifications.

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

Item	Section
Emulsified Asphalt or PG Liquid Asphalt	1015

407.3 Equipment. The contractor shall provide a system for heating and applying the bituminous material. The system shall be designed, equipped, maintained and operated such that emulsified asphalt or liquid asphalt, at even heat, may be applied uniformly on variable widths of surface up to 15 feet with uniform pressure and an allowable variation from any specified rate of ± 0.01 gallon per square yard. The system shall include a calibrated tank and a thermometer for measuring temperature of tank contents. The system shall be equipped with instrumentation that continuously verifies application rates. The calibration of the system shall be approved by the engineer prior to use, and the contractor shall furnish all equipment, material and assistance if calibration is required.

407.4 Construction Requirements.

407.4.1 Preparation of Surface. The existing surface shall be free of all dust, loose material, grease or other foreign material at the time the tack is applied. Any excess bituminous surface mixture or bituminous joint material will be removed by MoDOT without cost to the contractor before the tack is applied.

407.4.2 Application. Asphalt emulsion or PG liquid asphalt shall be applied uniformly with a pressure distributor at the minimum rates indicated in the following table. No dilution of the emulsified asphalt material shall be allowed. The tack coat material shall be heated at the time of application to a temperature in accordance with Sec 1015. The tack coat shall be properly cured and the tacked surface shall be clean of all dirt before the next course is placed.

Tack Coat Application Rates	
Surface Type	Minimum Application Rate (gal/sq yd)
New Asphalt Pavement	0.05
Existing Asphalt or Concrete Pavement	0.08

407.4.3 Tack. The tack coat shall be applied in such a manner as to cause the least inconvenience to traffic and to permit one-way traffic without tracking of asphalt emulsion. All exposed tack coat shall be covered with bituminous mixture prior to opening to traffic.

407.5 Method of Measurement. Measurement of asphalt emulsion to the nearest 10 gallons will be made in accordance with Sec 1015.

407.6 Basis of Payment. The accepted quantity of tack coat will be paid for at the contract unit price.

Delete Sec 413.30.2.4 and substitute the following:

413.30.2.4 Asphalt Binder. The asphalt binder shall be in accordance with Sec 1015, including all subsections pertaining to PG 76-22.

Delete Sec 413.30.4.1 through 413.30.4.3 and substitute the following:

413.30.4.1 Asphalt Amount. The amount of asphalt binder in the mixture shall meet the following limits for the type of mixture specified in the contract.

Mix Design Criteria			
	Type A	Type B	Type C
Asphalt Content, %	5.3 – 5.8	5.1 – 5.6	4.9 – 5.6

413.30.4.2 Gradation. Prior to mixing with asphalt binder, the combine aggregate gradation, including filler if needed, shall meet the following gradation for the type of mixture specified in the contract.

Mix Design Criteria Composition by Weight Percentages			
Sieves	Type A % Passing	Type B % Passing	Type C % Passing
3/4 in.	-	100	100
1/2 in.	-	97-100	85 – 100
3/8 in.	100	75 – 100	50 – 80
No. 4	40 – 55	25 – 41	25 – 41
No. 8	22 – 32	17 – 27	17 – 27
No. 16	15 – 25	23 max.	23 max.
No. 30	18 max.	18 max.	18 max.
No. 50	13 max.	13 max.	13 max.
No. 100	10 max.	10 max.	10 max.
No. 200	4.0 – 6.0	4.0 – 6.0	4.0 – 6.0

413.30.4.3 Film Thickness. The film thickness shall be a minimum 10.0 microns when calculated using the effective asphalt content in conjunction with the surface area for the aggregate in the Job Mix Formula. The surface area factors can be found in Table 6.1 of the Asphalt Institute MS-2, *Mix Design for Asphalt Concrete and Other Hot Mix Types*, Sixth Edition.

Delete Sec 413.30.5.9 and substitute the following:

413.30.5.9 Wearing Course. The finished wearing course shall have a minimum thickness of 1/2 inch for Type A, 3/4 inch for Type B, and 3/4 inch for Type C.

Delete Sec 413.30.6.2 and substitute the following:

413.30.6.2 Gradation and Asphalt Binder Tolerances. The total aggregate and asphalt content shall be within the range specified in Sec 413.30.4.1, Sec 413.30.4.2 and the maximum variations from the approved job mix formula and shall be within the following tolerances:

Gradation and Asphalt Binder Tolerances			
Sieves	Percent Passing		
	Type A	Type B	Type C
3/4 in.	-	-	-
1/2 in.	-	-	± 5.0
3/8 in.	-	± 5.0	-
No. 4	± 5.0	± 4.0	± 4.0
No. 8	± 4.0	± 4.0	± 4.0
No. 16	± 4.0	-	-
No. 200	± 1.0	± 1.0	± 1.0
Asphalt Content, %	± 0.3	± 0.3	± 0.3

Amend Sections 620.10.3.1.1.1, and 620.10.3.1.1.2 to include the following:

620.10.3.1.1.1 Type 1 Preformed Marking Tape in Lieu of Type 2. Type 1 Preformed Pavement Marking Tape will be allowed in lieu of Type 2 Preformed Marking Tape (Grooved) at no additional cost to the Commission. This work shall be in accordance with Sec 620 and accompanying provisions except as modified herein.

620.10.3.1.1.2 Construction Requirements. Grooving will not be required when Type 1 Preformed Marking Tape is used.

Delete Sec 622.30.4.1.1 and substitute the following:

622.30.4.1.1 Each segment of the finished ground surface shall be reprofiled in the right wheel path and have a final IRI segment of 65 percent of the control IRI or 80 inches per mile, whichever is greater.

Delete Sec 622.30.4.1.4 and substitute the following:

622.30.4.1.4 The engineer shall use the ProVAL software program to compute IRIs in accordance with TM-59. The contractor shall provide the raw unfiltered profile data file in .pff format.

Delete Sec 1015.10.3.1 and substitute the following:

1015.10.3.1 In lieu of AASHTO M 320, AASHTO MP 19 may be substituted eliminating the elastic recovery requirement, except for use with Sec 413.30, Ultrathin Bonded Asphalt Wearing Surface. The equivalent grading will be PG 64-22, Grade S for PG 64-22, Grade H for PG 70-22 and Grade V for PG 76-22. Specialty grades will be tested at the grade temperature for the desired characteristics, i.e. PG 58-28 for RAS mixture.

Delete Sec 1048.10.1.1 and substitute the following:

1048.10.1.1 Application. Application shall be in accordance with the manufacturer's recommendations.

Delete Sec 1048.50.2 and substitute the following:

1048.50.2 Type I Temporary Raised Pavement Markers. Wide flexible pavement markers shall consist of an L-shaped or T-shaped marker with a minimum of 2 inches tall by 1 inch deep, with (min.) 0.060 inch thick walls, comprised of a base and an upright vertical reflector with a protective rib running the length of the top of the marker. The prismatic reflective faces shall be a minimum of 0.38 square inches for each face. All markers shall be self-adhesive, with a solid butyl rubber adhesive factor-applied to the entire length of the marker base. The butyl shall be a minimum of 0.125 inches thick and 0.75 inches on 1.0 inch wide release paper and of sufficient strength to secure the marker to the pavement and retain its position after vehicle impacts. The markers shall be flexible and durable, capable of sustaining numerous automobile wheel-over impacts at 60 MPH without loss of adhesion and without sustaining damage to the marker body, vertical reflector or the reflective tape applied to the marker. When specified in the plans, a protective sleeve that prevents contamination of the reflective faces during pavement surface treatment operations and sweeping shall be affixed to each marker. The protective sleeve shall be easily removable after the work is complete. All markers shall be constructed of UV-stabilized thermo-plastic polyurethane (TPU) for superior durability, conforming to the following material specifications:

Property	ASTM Test	Results
Specific Gravity (min.)	D 792	1.10
Hardness (min.)	D2240	80 A
Tear Strength @ yield, (min. PSI)	D 624, Die C	600
Tensile Strength @ yield, (min. PSI)	D 412	4,000
Tensile Elongation @ break (min. %)	D 412	600

L. E-CONSTRUCTION NJSP-15-36

1.0 Description. e-Construction is a paperless construction administration delivery process that includes electronic submission of construction documents, approval of documents with digital signatures, and communication between stakeholders by mobile devices. e-Construction saves both time and money for all stakeholders involved, simplifies document storage, and eliminates waste of paper and other resources. This provision does not apply to the contract or other contract execution documents.

2.0 Document Submittals.

2.1 The contractor shall submit all required documents to MoDOT electronically, except as described in section 2.2 of this provision. Documents to be submitted electronically include, but are not limited to, Change Orders, Request to Subcontract Work (C-220), Project Payrolls, Progress Schedules, Value Engineering proposals, Safety Plans, Quality Plans, Pre-Construction conference submittals, etc. All documents shall be submitted in standard pdf format, except when otherwise directed by the engineer.

2.2 The Affidavit for Compliance with the Prevailing Wage Law and the Contractor's Affidavit Regarding Settlement of Claims (Form C-242) require a notarization and therefore, by law, must be submitted on paper.

2.3 The engineer will submit project documents to the contractor via email or through other secure file sharing sites, except that the Contractor Performance Questionnaire will be submitted by certified mail.

2.4 Documents that require multiple signatures, such as change orders, must include all required signatures on the original electronic document, without scanning.

2.5 Project Payrolls from subcontractors shall be digitally signed by the subcontractor. Payrolls shall be submitted as separate files per contractor per pay period.

3.0 Digital Signature.

3.1 All electronic documents that require signature, such as those listed in section 2.1, must be signed electronically. Scanning an ink-signed document is not considered a valid digital signature.

3.2 All users who are authorized to sign documents for the contractor shall submit their Digital Signature Certificate (Public Key .fdf file) to the Division of Construction prior to signing any documents. This file is used to validate the user's signature on documents. An authorization letter is also required for each person authorized to sign documents. A Digital Signature for Contractors Quick Reference Guide (QRG) is available on MoDOT's Engineering Policy Guide at <http://epg.modot.mo.gov/> (click on QRG in the left hand column).

4.0 Communication. The contractor shall be able to communicate and exchange information with MoDOT staff by email and mobile phone.

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

M. ELECTRONIC INFORMATION FOR BIDDER'S AUTOMATION JSP-05-05A

1.0 Electronic Information. Electronic information, consisting of survey and design information including but not limited to 3-dimensional design models, cross-section models, alignment data, and plan view geometry, does not constitute part of the bid or contract documents. This electronic information will be distributed with the cross-sections or upon the contractor's request. This information, used for project design and quantity estimation purposes, is provided for the bidder's use in automation of bid estimating, contractor furnishing staking, automated machine guidance and other construction methods if provided in the contract. This information shall not be considered a representation of actual conditions to be encountered during construction. Furnishing this information does not relieve a bidder or contractor from the responsibility of making an investigation of conditions to be encountered including, but not limited to site visits, and basing the bid on information obtained from these investigations, and the professional interpretations and judgment of the bidder or contractor. The bidder or contractor shall assume the risk of error if the information is used for any purposes for which the information was not intended. The Commission makes no representation as to the accuracy or reliability of the information, since the information may not be representative of the sealed contract documents. Any assumption the bidder or contractor may make from this electronic information is at the bidder or contractor's risk; none are intended by the Missouri Highways and Transportation Commission. The bidder or contractor assumes the sole risk of liability or loss if the bidder or contractor does rely on this electronic information to its detriment, delay or loss.

N. STORMWATER COMPLIANCE REQUIREMENTS NJSP-15-38

1.0 The land disturbance necessary to complete this project is not anticipated to exceed one (1) acre. Should the contractor disturb more than one (1) acre to complete the work, or for any other reason, all terms of this Job Special Provision will apply.

1.1 Description. The Contractor shall comply with the terms of the United States of America v. Missouri Highways and Transportation Commission Consent Decree (Consent Decree) that are identified as the responsibility of the Contractor or subcontractor, and with the terms of this provision. Viewing of the Consent Decree is available on the MoDOT Land Disturbance webpage under Contractor Resources, or by going to the web address www.modot.org/LD.

1.2 Applicability. The Consent Decree and this provision apply to any project that includes land disturbance of areas totaling greater than one (1) acre on the project site. The project site consists of all areas designated on the plans, including temporary and permanent easements. The Consent Decree and this provision do not apply to Contractor staging, plant, or borrow areas that are not located on MoDOT right of way (Off-site). The Contractor is responsible for obtaining its own separate land disturbance permit for Off-site areas. This provision is in addition to any other stormwater, environmental, and land disturbance requirements specified elsewhere in the contract.

2.0 Stormwater Training for Contractor Employees. The Contractor's on-site project manager, designated Water Pollution Control Manager (WPCM), as defined in Section 3.0, and WPCM delegate, shall complete MoDOT Stormwater Training prior to serving in those roles. If someone other than the Contractor's project manager is given the authority to manage the grading or erosion control operations, the project manager(s) for those operations shall also complete MoDOT Stormwater Training. MoDOT Stormwater Training is also required for any other person who the Contractor gives authority to take measures to prevent or minimize the consequences of non-compliance with the Stormwater requirements, as defined in Section 3.1(a) of this provision.

2.1 The Commission will provide MoDOT Stormwater Training to the Contractor employees specified in Section 2.0 at a location and time determined by MoDOT. There will be no fee for attending the training; however, the Contractor shall be responsible for all other cost related to the training, such as travel expenses, if necessary, and wages for its employees. The time to complete the training is anticipated to be no more than 6 hours. As long as the Consent Decree is in effect, MoDOT will provide periodic trainings at various locations around the state, as needed, to ensure contractors and bidders have the opportunity to maintain the number of WPCMs they need to comply with this provision.

2.2 Those who require MoDOT Stormwater Training per Section 2.0 shall complete the training prior to beginning any land disturbance work. Thereafter, training shall occur at least once every two (2) years. The training is not project-specific. Any Contractor employee who receives the training will be qualified to perform the WPCM duties on any MoDOT project for a period of two (2) years.

2.3 MoDOT will document the names and dates that contractor employees attend MoDOT Stormwater Training and will retain those records for the period of time specified in the Consent Decree. Duplicate record keeping by the contractor is not required.

3.0 Water Pollution Control Manager (WPCM). Prior to the Pre-Activity meeting for Grading/Land Disturbance, the Contractor shall designate a Water Pollution Control Manager (WPCM) to fulfill the duties and responsibilities listed in Section 3.1 until final stabilization occurs. The

Contractor's on-site project manager may also serve as the WPCM or that role may be assigned to another manager employed by the contractor or a subcontractor. The Contractor shall also maintain a WPCM delegate to temporarily fulfill the WPCM duties in the absence of the primary WPCM (e.g. illness, vacation, other leave).

3.1 Duties of the WPCM:

- (a) Be familiar with Stormwater Requirements including the National Pollutant Discharge Elimination System (NPDES), the current MoDOT State Operating Permit for construction stormwater discharges/ land disturbance activities, the Project-specific Stormwater Pollution Prevention Plan (Project SWPPP), the Corps of Engineers Section 404 Permit, when applicable, the Consent Decree, and this provision. The Project SWPPP includes: a title page with project-specific information, the general SWPPP posted on the MoDOT land disturbance website, the Project Erosion & Sediment Control Plan, all applicable special provisions, and all applicable specifications and standard drawings;
- (b) Complete the stormwater training set forth in Section 2.0;
- (c) Attend the Pre-Activity for Grading/ Land Disturbance Meeting or, if hired after the meeting has occurred, be familiar with the conference decisions;
- (d) Review and sign the Project-specific SWPPP and all updates thereto within time periods set out in the Consent Decree;
- (e) Visit and review the project site for compliance with Stormwater Requirements at least once per week from the start of any grading operations until final stabilization is achieved and permit is closed;
- (f) Be authorized by the Contractor to supervise all work performed by the Contractor and subcontractors that involves compliance with Stormwater Requirements, including the authority to order work be stopped on a Project, implement MoDOT-directed changes in work related to Stormwater Requirements, and order the taking of, measures to cease, correct, prevent, or minimize the consequences of non-compliance with Stormwater Requirements;
- (g) Review and certify electronically each MoDOT inspection report for the Project within three (3) days of receiving each report to ensure it conforms with report requirements in the National Pollution Discharge Elimination System Stormwater (NPDES SW) Permit, Project SWPPP and the Consent Decree and ensure that all Stormwater Deficiencies noted on the report are corrected within the time required;
- (h) Recommend in writing within three (3) days of discovering any changes in site conditions and Best Management Practices (BMPs) that require an update to the Project-specific SWPPP; and
- (i) Be the point of contact relating to Stormwater Requirements and the Consent Decree between the Contractor, Subcontractors and MoDOT.

4.0 Pre-Activity Meeting for Grading/Land Disturbance and Required Hold Point. At each Project, a Pre-Activity Meeting for Grading/Land Disturbance shall be held prior to the start of any land disturbance and shall include a physical visit and review of the project site. 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.

4.1 Contractor employees who shall attend the Pre-Activity Meeting for Grading/Land Disturbance include the WPCM for the Project and the person(s) designated the authority to manage the grading and erosion control operations.

4.2 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.

5.0 Compliance with the NPDES SW Permit and Project SWPPP. On all projects, the Contractor shall comply with all applicable Stormwater Requirements which are defined as, but are not limited to:

- (a) Consulting with the engineer on recommended design revisions to the Project SWPPP to accommodate the Contractor's staging plan, implementation, managing, and maintaining BMPs or other control measures to prevent or minimize sediment and other pollutants in stormwater runoff in accordance with contract specifications or any relevant manufacturer specifications and good engineering practices, including but not limited to the manuals (*Note: two manuals cited in the MoDOT permit are "Developing your stormwater pollution prevention plan: A guide for construction activities" and "Protecting Water Quality: A Field Guide to erosion, sediment and stormwater best management practices for development sites in Missouri"*) and any other applicable standards for sedimentation basins, stabilization, rock dams, brush checks, construction entrances, and other BMPs;
- (b) Installing all BMPs at the locations and relative times specified in the Project SWPPP; and
- (c) Complying with the Missouri Water Quality Standards and with effluent limitations in Section E.1 of the NPDES SW Permit. Measurement of effluent is not required except as specified in E.2.

5.1 Stormwater Deficiency Corrections. Per terms of the Consent Decree, Stormwater Deficiencies identified on the MoDOT Land Disturbance Inspection Report shall be corrected within 7 days of the inspection date to avoid stipulated penalties, except that more time might be 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.

6.0 Inspection Protocol. The Contractor and all subcontractors shall review and adhere to MoDOT's written Stormwater Inspection Protocol, found on the MoDOT Land Disturbance

webpage (www.modot.org/LD). The Inspection Protocol is applicable to all Projects under the consent decree. The MoDOT Resident Engineer will serve the role of Stormwater Resident Engineer, or a delegate will be named in their absence.

6.1 Inspection Reports. MoDOT will provide one or more Environmental Construction Inspectors (ECI) to perform the weekly and post run-off inspections and other duties described in paragraph 17 of the Consent Decree. The ECI will enter the inspection reports into a web-based Stormwater Compliance database. The WPCM will have access to this database to view all report information, including any noted deficiencies, and to certify the report as required in Section 3.1 (g.). Automated email reminders of pending reports that need to be certified and for deficiencies that need to be corrected will be sent to the WPCM. The Contractor may designate other employees or subcontractor employees to have viewing access to this database and to receive the email reminders. Completion of MoDOT Stormwater Training is necessary in order to receive the email reminders. The WPCM and other users shall be equipped with an electronic device (desktop computer, laptop, tablet, smartphone, etc.) with a browser and internet access to connect to the database. The contractor shall be responsible for providing the electronic devices.

7.0 Stipulated Penalties. If the Contractor fails to comply fully and timely with the requirements of the Consent Decree, stipulated penalties will be assessed to the Commission. For matters under the Contractor’s responsibility and control the following stipulated penalties will be assessed to the Contractor and MoDOT will withhold payment pursuant to the following:

Violation	Stipulated Penalty Amount
Failure to Designate or Maintain WPCM at each Project in Accordance with Section 3.0.	\$750 for the initial violation (each person not designated) and then \$750 for each fourteen (14) day period that person is not designated.
Failure to complete MoDOT Stormwater Training by an Individual Required to be Trained in Accordance with Section 2.0, such as the WPCM or Project Manager.	\$750 per person for each missed training. This \$750.00 per person violation shall continue to accrue for each fourteen (14) day period that the person fails to timely receive the applicable training
Failure of WPCM to Review and Certify an Inspection Report in Accordance with Inspection Protocol as set forth in Section 6.	\$250 per inspection report not reviewed or signed.
Failure to Comply with Any NPDES SW Permit or SWPPP Requirement.	\$1000 per violation for the first ten (10) days of the violation; \$2500 per violation for days 11-20; \$3500 per violation for days 21 and beyond.
Failure to Correct a Stormwater Deficiency Identified in a MoDOT Inspection Report, or Otherwise Discovered by the WPCM, within the Time Required by the NPDES SW Permit or SWPPP.	\$1000 per deficiency for the first ten (10) days after correction was required; \$2500 per deficiency for days 11-20 after correction was required; \$3500 per deficiency for days 21 and beyond after correction was required.

8.0 Information Collection and Retention. The EPA, its representatives and its agents shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times, upon presentation of credential, to:

- (a) monitor the progress of activities required under the Consent Decree;

- (b) verify any data or information submitted to the United States in accordance with the terms of the Consent Decree;
- (c) obtain samples and, upon request, splits of any samples taken by MoDOT or its representatives, contractors, or consultants;
- (d) obtain documentary evidence, including photographs and similar data; and
- (e) assess MoDOT's compliance with the Consent Decree.

8.1 Until three (3) years after the termination of the Consent Decree, Contractors and the agents of the Contractors shall preserve all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its Contractors' or agents' possession or control, or that come into the Contractor's or agent's possession or control, and that relate to MoDOT's performance of its obligations under the Consent Decree or to the Contractor's performance of its obligations under the Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures.

9.0 Basis of Payment. Should the contractor disturb more than one (1) acre due to its method of operations, or for any other reason, no direct payment will be made for compliance with this provision, including the cost to provide a WPCM. Should the engineer direct the contractor to exceed one (1) acre of land disturbance, payment will be made only for the actual cost of the weekly duties of the WPCM. Separate payment will be made for erosion and sediment control devices, and for permanent and temporary seeding and mulching, when payment for those items are provided elsewhere in the contract.

O. POST-AWARD VALUE ENGINEERING CHANGE PROPOSAL WORKSHOP

1.0 Description. A post award Value Engineering workshop will be held, prior to the Notice to Proceed, and shall be attended by the Contractor. The workshop will consist of a facilitated discussion to identify potential Value Engineering Change Proposals (VECP) and Practical Design Value Engineering Change Proposals (PDVECP), as defined in Sec 104.6. The purpose of the workshop is to develop and discuss any ideas that may result in reducing the cost of the project, reducing construction activity duration, increasing the cost effectiveness of the project, or improving the quality of the project.

2.0 Description of Workshop.

2.1 Workshop logistics, including date, time and location, will be determined by the engineer.

2.2 A minimum of two contractor's workshop participants will be required to participate. These participants shall be familiar with the project and with the intended construction practices which will be used to complete the project and of suitable authority to make project decisions for the contractor. Within one week of being notified of the award of the project, the contractor shall provide a list of dates prior to the notice to proceed for which the representatives are available to participate.

2.3 The one-day workshop will be facilitated by MoDOT or an external facilitator contracted to MoDOT. The facilitator will lead the workshop participants through a process to identify potential alternatives and to consider the advantages and disadvantages of these identified alternatives. Additionally, the workshop participants will discuss applicable submittal dates and review periods associated with any alternatives which the workshop team chooses to propose.

2.4 The workshop is intended to identify potential alternatives and facilitate contractor submittal of acceptable alternatives. Submittal and approval of identified proposals will be in accordance with Sec 104.6.

2.5 A negotiated delay in the Notice to Proceed may be necessary to facilitate a proposal that requires further research or design modifications.

3.0 Payment. No direct payment will be made for the cost of attendance and participation in the workshop. Payment for approved VECP and PDVECP proposals will be made in accordance with Sec 104.6.

P. ACCELERATING THE COMPLETION OF CLOSURE WORK (Incentive/Disincentive Clause)

1.0 Description. This provision contains modifications to the standard specifications for accelerating the completion of the rehabilitation work for bridges A02015 and A02016 in order to minimize the head to head traffic operations for I-70.

1.1 Unless otherwise stated, specification section references are to the Missouri Standard Specifications for Highway Construction and its supplements in effect at the time of this contract.

2.0 Definition of Terms.

2.1 For this project the following terms are used as defined below:

(a) Closure Time

Closure time is defined as any day or other unit of time, including Saturdays, Sundays and legal holidays, when both lanes are closed to traffic in either direction due to the contractor's operations.

Under no circumstances will the closure time bid be allowed to extend actual closure of both lanes of I-70 in either direction beyond August 15 or 55 calendar days beyond the beginning of head to head traffic operations on I-70 East Bound.

(b) Average Daily Road-User Cost

The amount shown in the bid, determined by the Commission, that interference and inconvenience to highway traffic will cost the road-users for each unit of closure time that both lanes of I-70 are closed. The average daily road-user cost cannot be changed by the bidder. Bidder and its surety stipulate to the reasonableness and accuracy of that amount and expressly waive any right they may have to contest that amount in any claim, litigation or otherwise.

(c) Contract Amount

The total amount bid for all items of work to be performed by the contractor. This amount is the summation of the products of the approximate quantities shown in the bid schedule multiplied by the contract unit price. The contract amount does not include the amount produced by this acceleration of work clause.

3.0 Preparation of Bid.

3.1 In addition to the requirements of Sec 102.7, the bidder shall specify in the bid the closure time which it determines is required to complete the work. The bidder shall show the product of the closure time and the average daily road-user cost in the amount column provided for that purpose. This amount will be added to the contract amount. The sum will be read as the bid total.

3.2 A bidder may alter or correct the units of closure time entered in the bid, provided the bidder follows the same requirements set forth for altering or correcting bid prices in Sec 102.7.1.

4.0 Bid Guaranty. For this project the amount of guaranty required by Sec 102.9 shall be not less than five percent of the contract amount as defined above in 2.1 (c) of these provisions.

5.0 DBE Goal. The DBE contract goal percentage, if any, applies to the contract amount as defined in 2.1 (c) of these provisions.

6.0 Award and Execution of Contract. Delete Sec 103.1 and substitute the following:

6.1 Consideration of Bids. After the bids are opened and the bid totals read, they will be compared on the basis of the contract amount, to which has been added the product of the closure time submitted by the bidder and the average daily road-user cost shown in the bid. This total amount will be used to determine the lowest responsive and responsible bid for the project. The Commission reserves the right to reject any and all bids including those which, in the sole judgment of the Commission, contain too few or too many units of closure time.

7.0 Prosecution and Progress.

7.1 Subletting of Contract. For this project the total contract cost referred to in Sec 108.1.1 shall be considered as the summation of the products of the approximate quantities shown in the bid schedule multiplied by the contract unit price.

7.2 Prosecution of Work. Assessment of closure time will begin on the first day that both lanes of I-70 East Bound are closed.

7.2.1 Prior to beginning work causing lane closure, the engineer may require the contractor to submit a schedule and written narrative for the lane closure work. The schedule shall be provided in accordance with Sec 108.4, or by the Critical Path Method if that is the schedule method specified by the contract. This schedule is required to reflect the effect of all constraints on the lane closure work.

7.2.2 This schedule requirement is in addition to any other schedule requirement of the contract. The cost for this requirement will be considered fully covered by the contract prices for the lane closure work.

7.2.3 The contractor is advised of the following matters which may be constraints upon the lane closure work and effect the schedule, order of work and cost of lane closure work:

1. The rehabilitation work for the Eastbound bridge, must be completed first.
2. Flooding could occur along the Lamine River.
3. Nightly single lane closures will be allowed to complete work that does not require full closure of both lanes of I-70 in either direction.

7.3 Liquidated Damages for Failure or Delay in Completing Work on Time. Sec 108.8 is modified as follows:

7.3.1 If the contractor fails to complete all work requiring head to head traffic operations in the closure time specified by the bidder, the amount shown in the bid as average road-user cost per day will be deducted from the contractor's payment for each unit of closure time, including Saturdays, Sundays and legal holidays more than the closure time bid or after August 15 until such time as head to head traffic operations are finished.

7.3.2 This deduction will be made as liquidated damages from any money due or to become due to the contractor under the contract. The contractor and surety shall be liable for any liquidated damages assessed in excess of any amount due the contractor.

7.3.3 This deduction will continue until such time as head to head traffic operations on I-70 are complete. Liquidated damages as described elsewhere in the contract will be assessed on any work, excluding operations requiring head to head traffic, if not complete by November 15, 2016.

7.4 Credit for Completion of Work Ahead of Time. If the contractor completes all work requiring head to head traffic in less than the closure time specified by the bidder, the amount shown in the bid as average road-user cost per day will be added to the contractor's payment for each unit of closure time, including Saturdays, Sundays and legal holidays less than the closure time specified in the bid.

7.4.1 Computation of this payment will begin on the first full unit of closure time that the cross overs are no longer in service and all lanes of I-70 are opened to traffic. This credit will be added to the amount of money due or to become due the contractor under the contract. The total amount of this credit shall not exceed ten percent of the original contract amount (\$240,000).

7.4.2 An extension of the closure time may be granted for changes in the work as specified in Sec 104.3 or for excusable, noncompensable and compensable delays as specified in Sec 108.14 only to the extent, as determined by the engineer, they actually affect the then major item of work or the critical path of the work.

7.4.3 In the event of an excusable delay, an extension of the closure time specified by the bidder will not be made for determining any liquidated savings or incentive payment. Further, in the event of an excusable delay, if the contractor completes the work within the closure time specified by the bidder, that shall not constitute a basis to claim acceleration costs in addition to the liquidated savings or incentive that may be earned.

8.0 Measurement and Payment. Sec 109.2 is supplemented by the following:

8.1 Scope of Payment. The average daily road-user cost, shown in the bid, will be used only for bid comparisons and as a deduction from money due the contractor in accordance with section 6.3, "Liquidated Damages for Failure or Delay in Completing Work on Time", or as a credit for additional money due the contractor in accordance with section 6.4, "Credit for Completion of Work Ahead of Time", and for no other purpose.

Q. USE OF CROSSOVERS AND TRUCK ENTRANCES JSP-04-10

1.0 Description. The contractor is advised that at no time shall the contractor be allowed to use the existing median crossovers or install temporary crossovers to turn around during hauling

operations or for the moving of equipment. The contractor is also prohibited from constructing any temporary entrances to the mainline of the interstate.

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

Preliminary