

STATE OF MISSOURI
HIGHWAYS and TRANSPORTATION
COMMISSION

JEFFERSON CITY, MISSOURI

CONSTRUCTING OR IMPROVING
CONTRACT I.D. 150821-C01

THIS JOB SHALL BE CONSTRUCTED UNDER
FEDERAL PROJECT NUMBER(S) : I-435-1(310)
I-435-1(317)
I-435-1(318)

Job J4I3022B Route I-435 JACKSON County
Job J4I3028B Route I-435 JACKSON County
Job J4I3038C Route I-435 JACKSON County

BIDDER CHECKLIST
FINAL CHECKLIST BEFORE SUBMITTING BID

1. Submit completed Contractor Questionnaire and/or Contractor Prequalification Questionnaire with attachments not later than seven (7) days prior to the date and hour of the bid opening. See Secs 101-103 of the Missouri Standard Specifications for Highway Construction, and Rule 7 CSR 10-15.010, "Prequalifications to Bid of Certain Contractors". Questionnaire and Contact information are provided on MoDOT's website.
2. All bids shall be submitted electronically using "Bid Express Secure Internet Bidding" at www.bidx.com. Any paper bid submitted will be considered irregular per section 102.8 of the Missouri Standard Specifications for Highway Construction.
3. Please read all items in the bidding document carefully. The EBS files from MoDOT's website may be used for the itemized bid.
4. If submitted in the name of a firm or corporation, the legal name of the firm or corporation should appear in the space designated, and be signed for by one or more persons legally qualified to execute papers in the name of said firm or corporation.
5. The bidder shall submit a Bid Guaranty meeting the requirements of Sec 102 of the Missouri Standard Specifications for Highway Construction. If submitting a project specific or annual bid bond, bidders must use the MoDOT provided bid bond forms. The project specific bond form is included in the request for bid. The project specific and annual bid bond forms are also available on MoDOT's website. Annual bid bonds shall be executed by June 15th of each year.
6. Submit the Subcontractor Disclosure Form in accordance with the bidding documents. For bids of more than \$2,000,000, each bidder shall submit with each bid a disclosure of the subcontracts that have a subcontract value that is equal or greater than twenty percent of the total project bid or subcontracts that are greater than or equal to \$2,000,000. If that information is not available at the time of bid the bidder shall submit the "Subcontractor Disclosure Form" pages with MoDOT on or before 4:00 p.m. of the third business day after the bid opening date.
7. Submit the DBE Identification Submittal in accordance with the bidding documents for Federal Projects Only.
8. Alternate Pavements; to exercise this option, separate pay items, descriptions and quantities are included in the itemized proposal for each of the two alternates. The bidder shall bid only one of the two alternates and leave the contract unit price column blank for any pay item listed for the other alternate.

- 9. When submitting a bid, your bid will still come through with "red" folders. You should make sure that it is not the Schedule of Items folder or the Signature and Identity of Bidder folder. Click on the yellow checkmark at the top and it will tell you what the errors are.

Below is a list of common mistakes made by bidders leading to non-responsive bids. Please refer to the Standard Specifications for the appropriate procedures for completing and submitting a bid.

- a) Submitting a paper bid for a project
- b) Using a different bid bond form than the one provided
- c) Improper use of the Maximum Monetary Value Award Provision
-only used if bidding more than one project and should be in only one bid proposal
- d) Not obtaining a digital ID in advance of the letting
(obtaining a digital ID may take 5 business days)

All questions concerning the bid document preparation shall be directed to the Central Office - Design Division at (573) 751-2876. Project specific questions shall be directed to the project contact listed in the Job Special Provisions.

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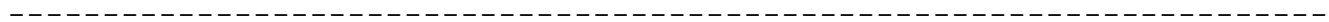
Itemized Bid..... item (15)

Bid Bond*

Subcontractor Disclosure Form*

DBE Identification Submittal (Applies to Federal Projects Only) *

*These forms are also available on MoDOT's Website, www.modot.org under General Information on the Bid Opening Info page of the Contractor Resources site.



NOTICE TO CONTRACTORS

Electronic bids submitted through the Bid Express website for the proposed work will be received by the Missouri Highways and Transportation Commission until 11:00 o'clock a.m. (prevailing local time) on 08-21-15.

Bid bonds will be received at the office of the Secretary to the Commission in the Missouri Department of Transportation Central Office Building, 105 West Capitol Avenue, Jefferson City, Missouri; delivered by US Mail should be mailed to: Missouri Highways and Transportation Commission, Attention: State Design Engineer/Bid Bond, P.O. Box 270, Jefferson City, MO 65102 or delivered by parcel delivery services, (such as UPS, Fed Ex, DHL, etc.) should be shipped to Missouri Highways and Transportation Commission, Attention: State Design Engineer/Bid Bond, 105 West Capitol Avenue, Jefferson City, MO 65102.

(1) PROPOSED WORK: The proposed work, hereinafter called the work, includes:

****(1): Job J4I3022B Route I-435 JACKSON County. 4 bridge rehabs & 2 redecks from Front street over I-435 to Hwy. 78 over I-435., the total length of improvement being 3.745 miles.****(2): Job J4I3028B Route I-435 JACKSON County. 4 bridge rehabs on various bridges between Blue River to Hwy 24., the total length of improvement being 0.537 miles.****(3): Job J4I3038C Route I-435 JACKSON County. resurface & pav't repair from south of the Missouri River to Hwy 24., the total length of improvement being 2.328 miles.

Combination bids will be Required on the Jobs listed above.

(2) COMPLIANCE WITH CONTRACT PROVISIONS: The bidder, having examined and being familiar with the local conditions affecting the work, and with the contract, contract documents, including the Missouri Highways and Transportation Commission's "Missouri Standard Specifications for Highway Construction, 2011," and "Missouri Standard Plans for Highway Construction, 2009", their revisions, and the request for bid, including appendices, the special provisions and plans, hereby proposes to furnish all labor, materials, equipment, services, etc., required for the performance and completion of the work. All references are to the Missouri Standard Specifications for Highway Construction, as revised, unless otherwise noted. All questions concerning the bid document preparation shall be directed to the Central Office - Design Division at (573) 751-2876.

(3) PERIOD OF PERFORMANCE: If the bid is accepted, the bidder shall continuously and dilligently prosecute the work in such order and manner as will ensure the completion of the work within the time specified in the Job Special Provisions in accordance with Sec 108.

(4) LIQUIDATED DAMAGES: The bidder agrees that, should the bidder fail to complete the work in the time specified or such additional time as may be allowed by the engineer under the contract, the amount of liquidated damages as specified in the Job Special Provisions to be recovered in accordance with Sec 108.

(5a) ACCEPTANCE OF PROVISION FOR PRICE ADJUSTMENT FOR FUEL: Bidders have the option to accept the provision for Price Adjustment for Fuel in accordance with Sec. 109.14. The bidder must select "Yes" for those items of work in which they choose to accept the provision. No price adjustments will be made, due to fuel price changes, for bidders who do not accept this provision. This provision does not apply to Seal Coat.

EXCAVATION PRODUCTION
ASPHALT PAVING PRODUCTION AND HAULING
CONCRETE PAVING PRODUCTION AND HAULING
AGGREGATE BASE HAULING

(5b) ACCEPTANCE FOR PROVISION FOR ASPHALT CEMENT PRICE INDEX, SEAL COAT PRICE INDEX, UNDERSEAL PRICE INDEX, OR UBAWS MEMBRANE PRICE INDEX: Bidders have the option to accept the provision for Asphalt Cement Price Index, Seal Coat Price Index, Underseal Price Index, and/or UBAWS Membrane Price Index in accordance with the General Provisions. The bidder must mark each box below if they choose to accept the provision. No price adjustments will be made, due to asphalt price changes, for bidders who do not accept this provision. The Asphalt Cement provision applies only to projects that have a quantity of asphalt wet ton mix pay items or converted square yard quantity over 1,000 tons, the Seal Coat provision applies only to projects that have a quantity that exceeds 14,000 gallons, the Underseal provision applies only to projects that have a quantity that exceeds 10,000 gallons, and the UBAWS Membrane provision applies only to projects that have a quantity exceeds 5,000 square yards. The above quantity limits apply to an individual project or any number of projects in the contract combination.

ASPHALT CEMENT
SEAL COAT
UNDERSEAL
UBAWS MEMBRANE

(6) MAXIMUM MONETARY VALUE OF AWARDS ACCEPTED THIS BID OPENING: Bidders have the option to specify the maximum monetary value of awards that they will accept for the total of all bids they have submitted in the bid opening, Sec 102.7.2. If the bidder is submitting only one bid, or if the bidder does not want to specify a maximum monetary value for submitted bids, this section should not be completed. If a submitted bid upon correction exceeds the indicated maximum monetary amount, the bid may be

declared non-responsive. If a bidder's submitted bids show different values for the maximum monetary value, the lowest value will govern.

MAXIMUM MONETARY VALUE OF AWARDS ACCEPTED THIS BID OPENING

(Note: this amount should be entered in only one of the bids for this bid opening)

(7) COMBINATION BIDS: (Applies only if combination bids are specified. See cover and/or notice to contractor(s).) Combination bids will be in accordance with Sec 102.12. By selecting "ALL OR NONE", the bidder desires to combine all projects in accordance with Sec 102.12.2.1.

(8) BID GUARANTY: The bidder shall submit a Bid Guaranty meeting the requirements of Section 102 of the Missouri Standard Specifications for Highway Construction. MoDOT's bid bond and annual bid bond forms are available on MoDOT's website.

(9a) CERTIFICATIONS FOR FEDERAL JOBS: (Applies to Federal Projects only.) By signing and submitting this bid, the bidder makes the certifications appearing in Sec. 102.18.1 (regarding affirmative action and equal opportunity), Sec. 102.18.2 (regarding disbarment, eligibility, indictments, convictions, or civil judgments), Sec.102.18.3 (regarding anti-collusion), and Sec.102.18.4 (regarding lobbying activities). Any necessary documentation is to accompany the bid submission, as required by these sections. As provided in Sec.108.13, the Commission may terminate the contract for acts of misconduct, which includes but is not limited to fraud, dishonesty, and material misrepresentation or omission of fact within the bid submission.

(9b) CERTIFICATIONS FOR STATE JOBS: (Applies to State Projects only.) By signing and submitting this bid, the bidder makes the certifications appearing in Sec. 102.18.2 (regarding diseligibility, indictments, convictions, or civil judgments), Sec. 102.18.3 (regarding anti-collusion), and Sec. 102.18.5 (regarding Missouri Domestic Products Procurement Act). Any necessary documentation is to accompany the bid submission, as required by these sections. As provided in Sec. 108.13, the Commission may terminate the contract for acts of misconduct, which includes but is not limited to fraud, dishonesty, and material misrepresentation or omission of fact within the bid submission.

(9c) CERTIFICATIONS FOR FEDERAL STATE COMBINATION: (Applies to Federal/State Projects combinations only.) By signing and submitting this bid, the bidder makes the certifications appearing in Sec. 102.18.1 (regarding affirmative action and equal opportunity), Sec. 102.18.2 (regarding disbarment, eligibility, indictments, convictions, or civil judgments), Sec. 102.18.3 (regarding anticollusion), Sec. 102.18.4 (regarding lobbying activities), and Sec. 102.18.5 (regarding Missouri Domestic Products Procurement Act).

Any necessary documentation is to accompany the bid submission, as required by these sections. As provided in Sec. 108.13, the Commission may terminate the contract for acts of misconduct, which includes but is not limited to fraud, dishonesty, and material misrepresentation or omission of fact within the bid submission.

By selecting "No" the bidder REFUSES to make one or more certifications for the above items 9a, 9b or 9c. The bidder shall provide a statement of explanation for the refusal in the space below or by fax to the Design Division @ Fax no. 573-522-2281.

(10) ANTIDISCRIMINATION: The Commission hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, businesses owned and controlled by socially and economically disadvantaged individuals will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, religion, creed, sex, age, ancestry, or national origin in consideration for an award.

(11) PREFERENCE TO MISSOURI FIRMS IN AWARDING OF CONTRACTS: (Applies to State Projects and Federal/State Project Combinations only.) The bidder's attention is directed to Section 34.355 RSMo Supp 2000, et seq, which requires that preference be given in awarding contracts to firms, corporations, or individuals doing business as Missouri firms, corporations, or individuals, or which maintain Missouri offices or places of business, when the quality of performance promised is equal, or better, and the price quoted is the same, or less.

The law also requires that a contractor or bidder domiciled outside the state of Missouri shall be required, in order to be the successful bidder, to submit a bid which is the same percent less than the lowest bid submitted by a responsible contractor or bidder domiciled in Missouri as would be required for the Missouri domiciled contractor or bidder to succeed over the bidding contractor or bidder domiciled outside Missouri in a like contract or bid being let in his state. A contractor or bidder domiciled outside Missouri domiciliary shall also be required to submit an audited financial statement as would

be required of a Missouri domiciled contractor or bidder on a like contract or bid being let in the domiciliary state of that contractor or bidder.

For firms, corporations or individuals domiciled outside the state of Missouri, it is requested they submit the following information:

List the state of domicile

List address of all Missouri offices or places of business

I acknowledge that I have read, understand and completed the above Contract Provisions.

(12) Signature and Identity of Bidder

BY SUBMITTING THIS BID ELECTRONICALLY, I HEREBY ACKNOWLEDGE THAT ALL REQUIREMENTS INCLUDED IN THE HARD COPY REQUEST FOR BID, AND AMENDMENTS ARE A PART OF THIS BID AND CONTRACT.

*** AN ELECTRONIC PROPOSAL SUBMITTED AND SIGNED WITH A DIGITAL ID, UNDER THE PROVISION OF THE MISSOURI DEPARTMENT OF TRANSPORTATION, WILL BE CONSIDERED VALID AND BINDING. ***

THE BIDDER CERTIFIES THAT THE BIDDER AND ITS OFFICIALS, AGENTS, AND EMPLOYEES HAVE NEITHER DIRECTLY NOR INDIRECTLY ENTERED INTO ANY AGREEMENT, PARTICIPATED IN ANY COLLUSION, OR OTHERWISE TAKEN ANY ACTION IN RESTRAINT OF FREE COMPETITIVE BIDDING IN CONNECTION WITH THIS BID, AND THAT THE BIDDER INTENDS TO PERFORM THE WORK WITH ITS OWN BONAFIDE EMPLOYEES AND SUBCONTRACTORS, AND DID NOT BID FOR THE BENEFIT OF ANOTHER CONTRACTOR.

THE BIDDER CERTIFIES THAT THE BIDDER'S COMPANY KNOWINGLY EMPLOYS ONLY INDIVIDUALS WHO ARE AUTHORIZED TO WORK IN THE UNITED STATES IN ACCORDANCE WITH THE APPLICABLE FEDERAL AND STATE LAWS AND ALL PROVISIONS OF MISSOURI EXECUTIVE ORDER NO. 07-13 FOR CONTRACTS WITH THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION, ACTING THROUGH THE MISSOURI DEPARTMENT OF TRANSPORTATION.

THE BIDDER ACKNOWLEDGES THAT THIS IS AN UNSWORN DECLARATION, EXECUTED UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES AND/OR FALSE DECLARATION UNDER THE LAWS OF MISSOURI, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS. THE FAILURE TO PROVIDE THIS CERTIFICATION IN THIS BID MAY MAKE THIS BID NON-RESPONSIVE, AND CAUSE IT TO BE REJECTED.

Select "No" ONLY if the bidder REFUSES to make this certification. The bidder may provide an explanation for the refusal with this submittal in the space below or by fax to the Design Division @ fax no. 573-522-2281.

USE OF ANOTHER PERSON'S DIGITAL ID IN THIS BIDDING PROCESS VIOLATES THE LAWS OF MISSOURI.

I acknowledge that I have read, understand and completed the above Electronic Bid Submission Certification.

DBE CERTIFICATION

(13) Trainees: (Applies to Federal Projects only) The number of trainee hours provided under this contract will be 1 slots at 1000 hours per slot or 1000 hours.

(14) Bidder's Certification for DBE Program and Contract Goal
(Applies to Federal Projects Only.)

(A) DBE Contract Goal: By submitting this bid, the bidder certifies that the bidder is familiar with the DBE Program Requirements in the General Provisions. The contract goal for the amount of work to be awarded is 11.00% of the total federal project price. The bidder shall also complete the DBE Identification Submittal form in accordance with the General Provisions. This form is available on MoDOT's Website, www.modot.org under General Information on the Bid Opening Info page of the Contractor Resources site.

(B) DBE Participation: The bidder certifies that it will utilize DBE's as follows: % OF TOTAL
FEDERAL CONTRACT

NOTE: Bidder must fill in the above box. If no percentage is specified, the bidder certifies that it agrees to and will comply with the contract goal. If a percentage below the contract goal is specified, then the bidder must submit complete documentation of good faith efforts to meet the DBE contract goal, immediately below.

The DBE Identification Submittal form will be submitted via


(C) Certification of Good Faith Efforts to Obtain DBE Participation: By submitting its signed bid, the bidder certifies under penalty of perjury and other provisions of law, that the bidder took each of the following steps to try to obtain sufficient DBE participation to achieve the Commission's proposed DBE Contract Goal:

(15) ITEMIZED BID: The bidder should complete the following section in accordance with Sec 102.7. The bidder proposes to furnish all labor, materials, equipment, services, etc. required for the performance and completion of the work, as follows:

State of MISSOURI
 Dept of Transportation
 Schedule of Items

Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
Section 0001 Roadway				
Alt Group				
0010	2022010 REMOVAL OF IMPROVEMENTS	LUMP	LUMP	
 0020	4019905 MISC. OPTIONAL PAVEMENT	13,711.100 SQYD		
0030	5041000 CONCRETE APPROACH PAVEMENT	386.700 SQYD		
0040	6061010 GUARDRAIL TYPE A	1,538.000 LF		
0050	6061011A GUARDRAIL TYPE A, 7 FT. POST, 3 FT. - 1.5 IN SPACING	588.000 LF		
0060	6062200A BRIDGE ANCHOR SECTION, 6.5 FT. POSTS (SAFETY BARRIER CURB) (ROADWAY AND REHABILITATION WORK ONLY)	8.000 EA		

State of MISSOURI
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Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0070	6062303 ASYMETRICAL TRANSITION SECTION, 6.5 FT. POSTS	8.000 EA		
0080	6062304 ASYMETRICAL TRANSITION SECTION, 7.5 FT. POSTS	1.000 EA		
0090	6063015 TYPE A CRASHWORTHY END TERMINAL	7.000 EA		
0100	6091010 CONCRETE CURB (6 IN. HEIGHT AND UNDER) TYPE S	30.000 LF		
0110	6116010A SLOPE PROTECTION	83.000 SQYD		
0120	6122017 IMPACT ATTENUATOR (17 SAND BARRELS)	10.000 EA		
0130	6122020 REPLACEMENT SAND BARREL	17.000 EA		
0140	6122030 IMPACT ATTENUATOR (RELOCATION)	10.000 EA		

State of MISSOURI
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 Schedule of Items

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Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0150	6123000A TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)	2.000 EA		
0160	6161005 CONSTRUCTION SIGNS	2,524.000 SQFT		
0170	6161009 FLAG ASSEMBLY	42.000 EA		
0180	6161025 CHANNELIZER (TRIM LINE)	580.000 EA		
0190	6161031 TYPE III MOVEABLE BARRICADE WITH LIGHT	6.000 EA		
0200	6161034 DIRECTIONAL INDICATOR BARRICADE WITH LIGHT	36.000 EA		
0210	6161040 FLASHING ARROW PANEL	6.000 EA		
0220	6161055 SEQUENTIAL FLASHING WARNING LIGHT	40.000 EA		

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Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0230	6161098 CHANGEABLE MESSAGE SIGN, CONTRACTOR FURNISHED, CONTRACTOR RETAINED	5.000 EA		
0240	6173600D TEMPORARY TRAFFIC BARRIER, CONTRACTOR FURNISHED / RETAINED	6,718.000 LF		
0250	6173800A TEMPORARY TRAFFIC BARRIER WITH TIE-DOWN STRAP SYSTEM, CONTRACTOR FURNISHED / RETAINED	1,042.000 LF		
0260	6175010A RELOCATING TEMPORARY TRAFFIC BARRIER	6,718.000 LF		
0270	6175012A RELOCATING TEMPORARY TRAFFIC BARRIER WITH TIE-DOWN STRAP SYSTEM	1,042.000 LF		
0280	6181000 MOBILIZATION	LUMP	LUMP	

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Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0290	6206000C 4 IN. WHITE WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS	77,460.000 LF		
0300	6206001C 4 IN. YELLOW WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS	39,930.000 LF		
0310	6207001 PAVEMENT MARKING REMOVAL	234,780.000 LF		
	Section 0001 Total			0.00

Section 0002 Signing

Alt Group

0320	9039902 MISC. RELOCATION OF EXISTING SIGN ASSEMBLIES	2.000 EA		
	Section 0002 Total			0.00

Section 0003 Br. No. A16824

Alt Group

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Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0330	2161502 REMOVAL OF CONCRETE WEARING SURFACE	8,030.000 SQFT		
0340	5051000 LOW SLUMP CONCRETE WEARING SURFACE	892.000 SQYD		
0350	7040104 REPAIRING CONCRETE DECK (HALF-SOLING)	900.000 SQFT		
0360	7040106 FULL DEPTH REPAIR	100.000 SQFT		
0370	7040113 CLEAN AND EPOXY SEAL	830.000 SQFT		
	Section 0003 Total			0.00

Section 0004 Br. No. A16825

Alt Group

0380	2161502 REMOVAL OF CONCRETE WEARING SURFACE	8,025.000 SQFT		
0390	5051000 LOW SLUMP CONCRETE WEARING SURFACE	892.000 SQYD		

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Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0400	7040104 REPAIRING CONCRETE DECK (HALF-SOLING)	1,100.000 SQFT		
0410	7040106 FULL DEPTH REPAIR	200.000 SQFT		
0420	7040113 CLEAN AND EPOXY SEAL	830.000 SQFT		
Section 0004 Total				0.00

Section 0005 Br. No. A16984

Alt Group

0430	2161502 REMOVAL OF CONCRETE WEARING SURFACE	8,935.000 SQFT		
0440	2165500 REMOVAL OF CATHODIC PROTECTION SYSTEM	LUMP	LUMP	
0450	5051000 LOW SLUMP CONCRETE WEARING SURFACE	993.000 SQYD		

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Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0460	7040104 REPAIRING CONCRETE DECK (HALF-SOLING)	1,000.000 SQFT		
0470	7040106 FULL DEPTH REPAIR	100.000 SQFT		
0480	7040113 CLEAN AND EPOXY SEAL	835.000 SQFT		
Section 0005 Total				0.00

Section 0006 Br. No. A16985

Alt Group

0490	2161502 REMOVAL OF CONCRETE WEARING SURFACE	8,935.000 SQFT		
0500	2165500 REMOVAL OF CATHODIC PROTECTION SYSTEM	LUMP	LUMP	
0510	5051000 LOW SLUMP CONCRETE WEARING SURFACE	993.000 SQYD		

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Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0520	7040104 REPAIRING CONCRETE DECK (HALF-SOLING)	1,300.000 SQFT		
0530	7040106 FULL DEPTH REPAIR	200.000 SQFT		
0540	7040113 CLEAN AND EPOXY SEAL	835.000 SQFT		
Section 0006 Total				0.00

Section 0007 Br. No. A17504

Alt Group

0550	2065500 TEMPORARY SHORING	LUMP	LUMP	
0560	2162500 REMOVAL OF EXISTING BRIDGE DECKS	10,732.000 SQFT		
0570	2163502 PARTIAL REMOVAL OF SUBSTRUCTURE CONCRETE	LUMP	LUMP	

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Contract ID: 150821-C01
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 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
0580	2165500 REMOVAL OF CATHODIC PROTECTION SYSTEM	LUMP	LUMP			
0590	5039905 MISC. BRIDGE APPROACH SLAB (MAJOR ROAD)	327.000 SQYD				
0600	7034212 SLAB ON STEEL	1,188.000 SQYD				
0610	7034215 SAFETY BARRIER CURB	393.000 LF				
0620	7061070 MECHANICAL BAR SPLICE	624.000 EA				
0630	7123610 SLAB DRAIN	14.000 EA				
0640	7125200 SURFACE PREPARATION FOR RECOATING STRUCTURAL STEEL	3,200.000 SQFT				

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Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0650	7125210 FIELD APPLICATION OF INORGANIC ZINC PRIMER	3,200.000 SQFT		
0660	7125365A INTERMEDIATE FIELD COAT (SYSTEM G)	3,200.000 SQFT		
0670	7125370A FINISH FIELD COAT (SYSTEM G)	1,200.000 SQFT		
0680	7126000 NON-DESTRUCTIVE TESTING	124.000 LF		
0690	7151001 VERTICAL DRAIN AT END BENTS	1.000 EA		
	Section 0007 Total			0.00

Section 0008 Br. No. A17505

Alt Group

0700	2065500 TEMPORARY SHORING	LUMP	LUMP	
0710	2162500 REMOVAL OF EXISTING BRIDGE DECKS	10,732.000 SQFT		

State of MISSOURI
 Dept of Transportation
 Schedule of Items

Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
0720	2163502 PARTIAL REMOVAL OF SUBSTRUCTURE CONCRETE	LUMP	LUMP			
0730	2165500 REMOVAL OF CATHODIC PROTECTION SYSTEM	LUMP	LUMP			
0740	5039905 MISC. BRIDGE APPROACH SLAB (MAJOR ROAD)	327.000 SQYD				
0750	7034212 SLAB ON STEEL	1,188.000 SQYD				
0760	7034215 SAFETY BARRIER CURB	393.000 LF				
0770	7061070 MECHANICAL BAR SPLICE	624.000 EA				
0780	7123610 SLAB DRAIN	14.000 EA				

State of MISSOURI
 Dept of Transportation
 Schedule of Items

Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0790	7125200 SURFACE PREPARATION FOR RECOATING STRUCTURAL STEEL	3,200.000 SQFT		
0800	7125210 FIELD APPLICATION OF INORGANIC ZINC PRIMER	3,200.000 SQFT		
0810	7125365A INTERMEDIATE FIELD COAT (SYSTEM G)	3,200.000 SQFT		
0820	7125370A FINISH FIELD COAT (SYSTEM G)	1,200.000 SQFT		
0830	7126000 NON-DESTRUCTIVE TESTING	124.000 LF		
0840	7151001 VERTICAL DRAIN AT END BENTS	1.000 EA		
	Section 0008 Total			0.00

Section 0009 ROADWAY ITEMS

Alt Group

State of MISSOURI
 Dept of Transportation
 Schedule of Items

Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0850	6181000 MOBILIZATION	LUMP	LUMP	
	Section 0009 Total			0.00

Section 0010 BR. NO. A16834

Alt Group

0860	2164500 REMOVAL OF EXISTING EXPANSION JOINTS & ADJACENT CONCRETE	LF	116.000	
0870	2169903 MISC. REMOVE AND REPLACE BARRIER CURB	LF	14.000	
0880	7034001 CLASS B-1 CONCRETE	CUYD	27.000	
0890	7101000 REINFORCING STEEL (EPOXY COATED)	LB	3,090.000	
	Section 0010 Total			0.00

Section 0011 BR. NO. A16856

Alt Group

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State of MISSOURI
Dept of Transportation
Schedule of Items

Contract ID: 150821-C01
Letting Date: 08-21-15
Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0900	2069903 MISC. remove and replace barrier curb	13.000 LF		
0910	2164500 REMOVAL OF EXISTING EXPANSION JOINTS & ADJACENT CONCRETE	54.000 LF		
0920	7034001 CLASS B-1 CONCRETE	9.700 CUYD		
0930	7101000 REINFORCING STEEL (EPOXY COATED)	1,370.000 LB		
0940	7110100 PROTECTIVE COATING - CONCRETE BENTS AND PIERS (URETHANE)	LUMP	LUMP	
0950	7120900 EXPANSION DEVICE (FINGER PLATE)	54.000 LF		
	Section 0011 Total			0.00

Section 0012 BR. NO. A16866

Alt Group

State of MISSOURI
 Dept of Transportation
 Schedule of Items

Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0960	2164500 REMOVAL OF EXISTING EXPANSION JOINTS & ADJACENT CONCRETE	112.000 LF		
0970	2169903 MISC. remove and replace barrier curb	18.000 LF		
0980	7034001 CLASS B-1 CONCRETE	19.700 CUYD		
0990	7040104 REPAIRING CONCRETE DECK (HALF-SOLING)	40.000 SQFT		
1000	7049904 MISC. concrete wearing surface repair	20.000 SQFT		
1010	7101000 REINFORCING STEEL (EPOXY COATED)	2,750.000 LB		
1020	7110200 PROTECTIVE COATING - CONCRETE BENTS AND PIERS (EPOXY)	LUMP	LUMP	

State of MISSOURI
 Dept of Transportation
 Schedule of Items

Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
1030	7172001 STRIP SEAL EXPANSION JOINT SYSTEM	112.000 LF		
	Section 0012 Total			0.00

Section 0013 BR. NO. A22494

Alt Group

1040	2164500 REMOVAL OF EXISTING EXPANSION JOINTS & ADJACENT CONCRETE	117.000 LF		
1050	2169903 MISC. remove and replace barrier curb	17.000 LF		
1060	7034001 CLASS B-1 CONCRETE	17.100 CUYD		
1070	7101000 REINFORCING STEEL (EPOXY COATED)	2,440.000 LB		
1080	7110200 PROTECTIVE COATING - CONCRETE BENTS AND PIERS (EPOXY)	LUMP	LUMP	

State of MISSOURI
 Dept of Transportation
 Schedule of Items

Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
1090	7172001 STRIP SEAL EXPANSION JOINT SYSTEM	117.000 LF		
	Section 0013 Total			0.00

Section 0014 Roadway

Alt Group

1100	2022010 REMOVAL OF IMPROVEMENTS	LUMP	LUMP	
1110	4030009 ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP095BSM MIX)	9,863.200 TONS		
1120	4071005 TACK COAT	9,040.000 GAL		
1130	4134000 BITUMINOUS FOG SEAL	4,936.000 GAL		
1140	6061010 GUARDRAIL TYPE A	3,775.000 LF		
1150	6062100 BRIDGE ANCHOR SECTION (CURB TYPE)	3.000 EA		

State of MISSOURI
 Dept of Transportation
 Schedule of Items

Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
1160	6062303 ASYMETRICAL TRANSITION SECTION, 6.5 FT. POSTS	3.000 EA		
1170	6063015 TYPE A CRASHWORTHY END TERMINAL	3.000 EA		
1180	6066610 END ANCHOR	2.000 EA		
1190	6123000A TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)	2.000 EA		
1200	6131010 FURNISHING AND PLACING CONCRETE MATERIAL FOR FULL DEPTH PAVEMENT REPAIR	1,432.000 SQYD		
1210	6131012 SUBGRADE COMPACTION (6 IN. DEPTH) (PAVEMENT REPAIR)	143.000 SQYD		
1220	6131013 TYPE 1 OR 5 AGGREGATE FOR BASE (4 IN. THICK) (PAVEMENT REPAIR)	143.000 SQYD		

State of MISSOURI
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 Schedule of Items

Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
1230	6131014 FULL DEPTH PAVEMENT REPAIR SAW CUT (FOR PERIMETER AND INTERNAL SAW CUTS)	5,370.000 LF		
1240	6131015 DOWEL BAR (DRILLING, FURNISHING AND INSTALLATION) FOR FULL DEPTH PAVEMENT REPAIR	3,580.000 EA		
1250	6133018 FURNISHING AND PLACING BITUMINOUS MATERIAL FOR CLASS B PARTIAL DEPTH PAVEMENT REPAIR	120.100 TONS		
1260	6133019 REMOVAL FOR CLASS B PARTIAL DEPTH PAVEMENT REPAIR	728.000 SQYD		
1270	6161005 CONSTRUCTION SIGNS	1,474.000 SQFT		
1280	6161009 FLAG ASSEMBLY	42.000 EA		
1290	6161025 CHANNELIZER (TRIM LINE)	300.000 EA		

State of MISSOURI
 Dept of Transportation
 Schedule of Items

Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
1300	6161034 DIRECTIONAL INDICATOR BARRICADE WITH LIGHT	30.000 EA		
1310	6161040 FLASHING ARROW PANEL	6.000 EA		
1320	6161055 SEQUENTIAL FLASHING WARNING LIGHT	33.000 EA		
1330	6161098 CHANGEABLE MESSAGE SIGN, CONTRACTOR FURNISHED, CONTRACTOR RETAINED	4.000 EA		
1340	6162010 WORK ZONE LIGHTING	LUMP	LUMP	
1350	6181000 MOBILIZATION	LUMP	LUMP	
1360	6205105 TYPE 2 PREFORMED MARKING TAPE (GROOVED), 6 IN., WHITE	1,600.000 LF		

State of MISSOURI
Dept of Transportation
Schedule of Items

Contract ID: 150821-C01
Letting Date: 08-21-15
Project(s):

Bidder: -

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
1370	6205130 TYPE 2 PREFORMED MARKING TAPE (GROOVED), LEFT/RIGHT ARROW	6.000 EA		
1380	6205902A 6 IN. WHITE HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS	45,051.000 LF		
1390	6205903A 6 IN. YELLOW HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS	30,027.000 LF		
1400	6205906A 12 IN. WHITE HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS	2,030.000 LF		
1410	6221001 COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3 IN. THICK OR LESS)	112,232.000 SQYD		
1420	6261000A BITUMINOUS SHOULDER RUMBLE STRIP	493.600 STA		

State of MISSOURI
 Dept of Transportation
 Schedule of Items

Contract ID: 150821-C01
 Letting Date: 08-21-15
 Project(s):

Bidder: -

Line	Item	Approx.	Unit Price		Bid Amount	
No.	Description	Quantity	-----		-----	
		and Units	Dollars	Cts	Dollars	Ct
	Section 0014 Total				0.00	
	Bid Total				0.00	

Contract Id: 150821-C01
Vendor Name:

Vendor Number:

SUBCONTRACTOR DISCLOSURE

The bidder shall submit with this bid any subcontracts that meet the requirements of Sec 102. List below the name of each subcontractor that will be furnishing labor or labor and materials, the category of work that the subcontractor will be performing (e.g. asphalt, concrete, earthwork, bridges...), and the dollar value of the subcontract. Select "NONE" if there are no subcontractors that need to be disclosed.

If the information is not available at the time of bid the bidder shall submit the "Subcontractor Disclosure Form", located on MoDOT's website, on or before 4:00 p.m. of the third business day after the bid opening date, directly to the Design Division, Missouri Department of Transportation, 105 W. Capitol Avenue, P.O. Box 270, Jefferson City, Missouri 65102-0270. Telefax transmittal to MoDOT will be permitted at fax no. 573-522-2281 or e-mailed to subcontractor.disclosure@modot.mo.gov. The complete signed original documents do not need to be mailed to MoDOT, but the bidder shall have it available if requested by the Design Division or the engineer.

SUBCONTRACTOR NAME	DOLLAR VALUE OF SUBCONTRACT	CATEGORY OF WORK
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BID BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we as principal and and as surety, are held and firmly bound unto the state of Missouri (acting by and through the Missouri Highways and Transportation Commission) in the penal sum of 0.00 Dollars to be paid to the commission to be credited to the state road fund, the principal and surety binding themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

Sealed with our seals and dated this.

THE CONDITION OF THIS OBLIGATION is such that WHEREAS the principal is submitting herewith a bid to the commission on

route(s)
in County(ies)
project(s)

for construction or improvement of state highway as set out in said bid;

NOW THEREFORE, if the commission shall accept the bid of the principal and if the principal shall properly execute and deliver to the commission the contract, contract bond, and evidence of insurance coverage in compliance with the requirements of the bid, the specifications, and the provisions of section 227.100 RSMo, to the satisfaction of the commission, then this obligation shall be void and of no effect, otherwise to remain in full force and effect.

In the event the said principal shall, in the judgment of the commission, fail to comply with any requirement as set forth in the preceding paragraph, then the state of Missouri, acting by and through the commission, shall immediately and forthwith be entitled to recover the full penal sum above set out, together with court costs, attorney's fees, and any other expense of recovery.

The principal and surety hereby certify that the document is the original or a verbatim copy of the bid bond form furnished by the Commission, in accordance with Sec 102.9 of the Missouri Standard Specifications for Highway Construction.

This Bid contains 1 amendment files

00001 08-14-15 Plans, JSPs and Bid Book

Job No. J4I3038C
J4I3022B
J4I3028B
Route: I-435
County: Jackson

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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


- A. General
- B. Contract Liquidated Damages
- C. Work Zone Traffic Management Plan
- D. Emergency Provisions and Incident Management
- E. Project Contact for Contract/Bidder Questions
- F. Utilities
- G. Supplemental Revisions
- H. Contractor Retained Guardrail
- I. Coldmilling Requirements
- J. Polymer Modified Tack Coat
- K. Liquidated Damages for Work Zone Delay
- L. Quality Management
- M. Safety Plan
- N. Safety Edge
- O. Cooperation Between Contractors
- P. Pavement Marking Log
- Q. Relocation of Existing Sign Assemblies
- R. Roller Compacted Concrete Shoulders and Mainline
- S. MoDOT's Construction Workforce Program
- T. **Liquidated Damages Specified for J4I3022B & J4I3028B**
- U. Order of Work
- V. Protection of Union Pacific Railroad Interests - J4I3038C
- W. Protection of Canadian Pacific Railway Interests – J4I3038C
- X. Kansas City Terminal Railway Requirements – J4I3038C
- Y. Substitutions in Lieu of 401 Asphalt Mixes
- Z. Liquidated Damages for Winter Months
- AA. Optional Pavement
- BB. Time Restrictions for Migratory Birds
- CC. e-Construction
- DD. Training Provision

ADDITIONAL INFORMATION

Asbestos Survey Reports



Job No. J4I3038C
 J4I3022B
 J4I3028B
 Route: I-435
 County: Jackson

 <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>If a seal is present on this sheet, JSP's have been electronically sealed and dated.</p>
	<p>JOB NUMBER: J4I3038C, J4I3022B, J4I3028B JACKSON COUNTY, MO DATE PREPARED: 6/12/2015</p>
	<p>ADDENDUM DATE: R001 August 14, 2015</p>
<p>Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: A - DD</p>	

Job No. J4I3038C
J4I3022B
J4I3028B
Route: I-435
County: Jackson

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.

Job No. J4I3038C
J4I3022B
J4I3028B
Route: I-435
County: Jackson

Notice to Proceed: November 2, 2015
Completion Date: November 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	Daily Road User Cost
J4I3022B/J4I3028B	175	\$9,800
J4I3038C	50	\$9,800

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 **\$1,500** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified completion date or calendar days.

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

C. 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 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

Job No. J4I3038C
J4I3022B
J4I3028B
Route: I-435
County: Jackson

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 three major summer holiday periods: Memorial Day, Independence Day, and Labor Day. All lanes shall be scheduled to be open to traffic during these holiday periods, from 12:00 noon on the last working day preceding the holiday until 9:00 a.m. on the first working day subsequent to the holiday.

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

3.3 Project J4I3022B - The contractor shall be aware that traffic data indicates construction operations on the roadbed between the hours of 5:00 a.m. and 9:00 a.m. and between 2:00 p.m. and 8:00 p.m. Monday through Friday and the hours of 7:00 a.m. and 9:00 a.m. and between 3:00 p.m. and 6:00 p.m. Saturday through Sunday will likely result in traffic queues greater than 15 minutes. Based on this data the contractors operations will be restricted accordingly unless it can be successfully demonstrated that their operations can be performed without a 15 minute queue in traffic. It shall be the responsibility of the engineer to determine if the above work hours may be modified. Working hours for evenings, weekends and holidays will be determined by the engineer.

Job No. J4I3038C
J4I3022B
J4I3028B
Route: I-435
County: Jackson

3.4 Any work requiring a reduction in the number of I-435 through lanes of traffic, other than long term closures for bridge construction, shall be completed during nighttime hours. Nighttime hours shall be considered to be 8:00 p.m. to 5:00 a.m. for projects J4I3038C, J4I3028B and J4I3022B.

3.5 Any work requiring double lane closures of I-435 northbound and southbound through lanes of traffic shall be completed between the hours of 10:00 p.m. to 5:00 a.m. for project J4I3038C.

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 sign shall be installed at a location as approved or directed by the engineer.

4.2 At least two lanes of traffic in each direction on Route I-435 shall be maintained at all times except for brief intervals of time required when the movement of the contractor's equipment or J4I3038C night work, as stated above in Section 3.5, which will seriously hinder the safe movement of traffic. Periods during which the contractor will be allowed to halt traffic will be designated by the engineer.

4.3 Work on northbound and southbound lanes of I-435 can be done simultaneously if it meets the requirements listed in this document.

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. 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 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 Highway Patrol (816-622-0800)	
City of Kansas City	City of Independence
Fire: 816-784-9200	Fire: 816-325-7123
Police: 816-234-5111	Police: 816-325-7270

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

Job No. J4I3038C
J4I3022B
J4I3028B
Route: I-435
County: Jackson

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.

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.

Deborah Huffman, J4I3022B & J4I3038C Project Contact
KC District
600 NE Colbern Rd
Lee's Summit, MO 64086
Telephone Number 816-607-2244
e-mail deborah.huffman@modot.mo.gov

Lee Ann Kell, J4I3028B Project Contact
KC District
600 NE Colbern Rd
Lee's Summit, MO 64086
Telephone Number 816-607-2264
e-mail Lee.Kell@modot.mo.gov

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

F. 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:

Job No. J4I3038C
 J4I3022B
 J4I3028B
 Route: I-435
 County: Jackson

<u>Utility Name</u>	<u>Required Adjustment</u>	<u>Comments</u>
Mr. Brian Cornish CenturyLink (LightCore) 600 New Century Parkway, 4th Floor New Century, KS 66031-1101 (913) 390-2746 Brian.Cornish@CenturyLink.com	None	Sec. 1.4
Mr. Paul Kreher Kansas City Power & Light Co. 720 E. Young Street Warrensburg, MO 64093 (816) 737-7777, ext. 74154 Paul.Kreher@kcpl.com	None	Sec. 1.5

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

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

1.4 **CenturyLink (LightCore)** has buried fiber running parallel to the east right-of-way line in the I-435 corridor between US 24 and the Missouri River, outside of the contractor's anticipated work areas, except for attachments to the following three bridges:

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- (NB) Bridge No. A2249 over the Union Pacific Railroad
- (NB) Bridge No. A1685 over the Blue River
- (NB) Bridge No. A1686 over the Union Pacific and Kansas City Southern Railroads

While no impact to LightCore's bridge attachments is anticipated, the contractor will be required to use caution when working in the vicinity of LightCore's facilities at each bridge end.

1.5 KCP&L (Transmission) has an aerial transmission crossing over I-435 approximately 100 feet south of Bridge No. A1686. Although no impact to the overhead power lines is expected during the performance of the required work at this bridge, the contractor will be required to exercise extreme caution if overhead equipment is used in the vicinity of the conductors.

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.

G. SUPPLEMENTAL REVISIONS JSP-09-01Q

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

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(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

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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 mixt 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*

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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

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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.

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^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.

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

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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 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

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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

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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.

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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:

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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

H. CONTRACTOR RETAINED GUARDRAIL JSP-04-11

1.0 Description. All guardrail removed from this project shall become the property of the Contractor and shall be disposed of in accordance with Sec 202.

2.0 Basis of Payment. All costs incurred for complying with this provision shall be considered completely covered by the contract unit price for Item No. 202-20.10, Removal of Improvements.

I. COLDMILLING REQUIREMENTS JSP-04-16

1.0 Description. The contractor will only be allowed to coldmill an area in which the first lift of bituminous material can be constructed in the same day's operation.

1.1 Coldmilled areas that are exempt from the above requirement include typical transverse joint transitions for project beginning, end, ramp or bridge transitions and but joints for overlays at entrances and approaches.

1.2 All exempt coldmilled areas shall have a temporary header installed and maintained until the first lift of bituminous material can be constructed.

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.

J. POLYMER MODIFIED TACK COAT

1.0 Description. A polymer modified asphalt emulsion shall be required for the tack coat material used on this project and shall be applied at the same rate as stated on the typical sections or as directed by the engineer.

2.0 Material. Bituminous material for polymer modified asphalt emulsion shall be in accordance with Sec 1015.

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K. LIQUIDATED DAMAGES FOR WORK ZONE DELAY

1.0 The contractor shall not alter the start time, ending time, or a reduction in the number of through lanes of the traffic or ramp closure without advance notification and approval by the engineer. The only work zone operation approved to begin 30 minutes prior to a reduction in through traffic lanes or ramp closures is the installation of traffic control signs. Should lane closures be placed or remain in place, prior to the approved starting time or after the approved ending time, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with the 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 15 minute increments with \$5,000 for the first 15 minutes, **\$10,000 for each 15 minutes** increments thereafter for a maximum of \$35,000 per hour, then **\$35,000 per hour** thereafter that the temporary lane closures are in place and not open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of unapproved closure time.

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

L. QUALITY MANAGEMENT (Version - 07/2014)

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

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

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

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

1.4 Any QC personnel determined in sole discretion of the engineer to be incompetent, derelict in their duties, or dishonest, shall at a minimum be removed from the project. Further investigation will follow

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with a stop work notification to be issued until the contractor submits a corrective action report that meets the approval of the engineer.

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

2.1 The QMP shall address all QC inspection and testing requirements of the work as described herein. A draft QMP shall be submitted to the Resident Engineer for review at least two weeks prior to the pre-construction conference. An approved QMP is required at least two weeks prior to the start of work, unless otherwise allowed by the engineer. Physical work on the project shall not begin prior to approval of the QMP by the engineer.

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

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

- a) Organizational structure of the contractor's project management, production staff, and QC staff, specific to this project.
- b) Name, qualifications and job duties of the Quality Manager.
- c) A list of all certified QC testers who will perform QC duties on the project, including sub-contract work, and the tests in which they are certified.
- d) A list of all QC inspectors who will perform QC inspection duties on the project, including sub-contract work, and the areas of inspection that they will be assigned.
- e) A procedure for verifying documentation is accurate and complete as outlined in Section 3.
- f) A procedure describing QC Inspections as outlined in Section 4.
- g) A procedure describing QC Testing, as outlined in Section 5, including a job specific Inspection and Test Plan (ITP).
- h) A procedure describing Material Receiving as outlined in Section 6.
- i) A list of Hold Points that are not included in the checklist forms, as outlined in Section 8.
- j) A procedure for documenting and resolving Non-Conforming work as outlined in Section 9.
- k) A procedure for tracking and documenting revisions to the QMP.

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- l) A list of any approved changes to the Standard Specifications or ITP, including a reference to the corresponding change order.
- m) Format for the Weekly Schedule and Work Plans as outlined in Section 10, including a list of activities that will require pre-activity meetings.

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

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

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

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

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

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

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

4.1 The QM shall identify the QC inspectors assigned to each work activity. The QC inspectors shall inspect the work to ensure the work is completed in accordance with the plans and specifications, and shall document the inspection by completing the required inspection checklists, forms, and reports provided by MoDOT. Depending on the type of work, the checklists may be necessary daily, or they

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may follow a progressive work process. The frequency of each checklist shall be stated in the QMP. The contractor may propose alternate versions of checklists that are more specific to the work.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

8.1 A list of minimum Hold Points will be provided by the engineer and shall be included in the QMP. The engineer may make changes to the Hold Point list at any time.

8.2 Prior to all Hold Point inspections, QC shall provide the engineer with the Daily Inspection Reports, Inspection Checklists, Test Reports, and Material Receiving Reports for the work performed leading up to the Hold Point. If the engineer identifies any corrective actions needed during a Hold Point inspection, the corrections shall be completed prior to continuing work. The engineer may require a new Hold Point to be scheduled if the corrections require a follow-up inspection.

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

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

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

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

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

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

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

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

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

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

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M. 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.

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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.

N. SAFETY EDGE JSP-12-08D

1.0 Description. An approved longitudinal shoulder wedge system shall be used to create a beveled edge at the edge of pavement for a roadway without a paved shoulder, or at the edge of shoulder for pavement with a paved shoulder up to and including 4 feet in width.

2.0 Construction Requirements. The shoulder wedge system shall result in a bevel measuring 30 degrees from horizontal and extending laterally from the edge of traveled way or shoulder to the point of intersection with the inslope. The construction tolerance shall be plus or minus 5 degrees.

2.1 The shoulder wedge system shall maintain contact between the device and road shoulder surface and allow automatic transition to cross roads, driveways and obstructions. The device must be removable or be able to be lifted when not in use.

2.2 All shoulder wedge systems to be used for the purpose of creating a Safety Edge must be approved by the engineer. The device must be designed to constrain the material, increase the consolidation of the extruded profile, and provide a smooth wedged surface. The use of a conventional single plate strike-off is not permitted.

3.0 Basis of Payment. There will be no direct payment for compliance with the requirements of this provision.

O. COOPERATION BETWEEN CONTRACTORS

1.0 This contract is one of several projects essential to the overall improvements along Route I-435. Other area projects that will or may be under construction during this project are:

Job No. J4I3038, Clay I-435 Pavement Improvements from I-35 to Parvin Road

2.0 When necessary for proper prosecution of work, each contractor shall permit the other access through the overlapping construction areas and will cooperate to coordinate temporary traffic control activities.

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P. PAVEMENT MARKING LOG

1.0 Description. The contractor shall log the locations of existing pavement marking prior to any construction operations that may affect the existing pavement marking. The log shall contain all existing pavement marking and shall include center stripes, no passing stripes, lane lines, turn arrows, hash bars, cross walks, and stop bars. The contractor shall provide a copy of the existing pavement marking log to the engineer. The contractor shall place the new pavement marking at the same locations as the existing pavement marking, unless otherwise directed by the engineer or shown on the plans.

2.0 Basis of Payment. No direct payment will be made for logging of existing pavement marking.

Q. RELOCATION OF EXISTING SIGN ASSEMBLIES

1.0 Description. This work consists of removing and relocating existing sign assemblies impacted by construction.

1.1 This provision is in addition to the requirements of the temporary relocation of existing signs and markers under Section 104.10.2 Signs and Markers.

2.0 Storage and Maintenance. The existing sign assemblies, posts and hardware that are to be relocated shall be maintained in accordance with Section 104.10.2, as shown on the plans or as directed by the engineer and it shall be the responsibility of the contractor to properly store and maintain them in good condition until it is time to re-install the signs.

2.2 The contractor shall exercise reasonable care in handling the sign assemblies and materials during removal and transportation. Should any of the signs be damaged by the contractor's negligence, they shall be replaced at the contractor's expense.

2.3 The contractor shall reinstall existing sign assemblies after the work is completed in the area that relocation is required. Sign assemblies to be reinstalled shall match their existing location or be relocated as shown in the plans or as directed by the engineer. Relocated sign assemblies shall be reinstalled, on new posts, with a new post base and breakaway assembly, in accordance with section 903.

3.0 Basis of Payment. Payment will be made at the contract unit price for bid item number 903-99.02, Relocation of Existing Sign Assemblies, per each. Payment shall constitute full compensation for all labor, materials and equipment necessary to complete this item of work. No direct payment shall be made for new posts, post bases, backing bars, breakaway assemblies, movable supports, frames, temporary sign supports, transportation or storage for relocation of existing sign assemblies.

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R. ROLLER COMPACTED CONCRETE SHOULDERS AND MAINLINE (Feb 2015)

Roller compacted concrete shoulders and mainline shall be in accordance with the GENERAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS TO 2011 MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION except as noted here in:

Delete Section 2.0 and substitute the following:

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

Item	Section
Coarse Aggregate	1005.2
Fine Aggregate	1005.3
Ground Granulated Blast Furnace Slag	1017
Fly Ash	1018
Cement	1019
Concrete Admixture	1054
Curing Compound	407, 1055
Water	1070

Delete Sec. 2.1 and replace with the following:

2.1 Aggregate. The plasticity index of the aggregates used shall not exceed 5. The aggregate gradation shall be well-graded without gradation gaps and shall meet the following combined gradation for the application type for RCC specified in the contract. :

Application	RCC as a Base or Intermediate Lift (Overlaid with 2-inch HMA or greater)	RCC as the final surface or with a thin lift overlay (RCC as the final surface or capped with a thin HMA overlay less than 2-inches)
	Percent Passing by Weight	Percent Passing by Weight
1 inch	100	---
¾ inch	---	100
½ inch	70 - 95	85 - 100
3/8 inch	60 - 85	---
No. 4	40 - 60	60 - 85
No. 8	--	40 - 60
No. 200	0 - 8	0 - 10

Delete Sec. 3.6 and replace with the following:

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3.6 Minimum Cementitious Content. The total amount of cementitious materials shall not be below 450 pounds per cubic yard.

Delete Sec. 5.7.2 and replace with the following:

5.7.2 Curing Compound. When RCC is used as the final surface, either white pigmented curing compound applied at the rate of one gallon for each 100 square feet or a tack coat product applied at 0.14 gal/yd² shall be used for curing. When the RCC is to be overlaid with asphalt, the curing compound shall be a tack coat product applied at 0.14 gal/yd² in accordance with Section 407.

Delete Sec. 5.11 and replace with the following:

5.11 Control Joints. Concrete control joints shall be constructed at 15-foot intervals in RCC mainline pavement. Control joint spacing for RCC shoulders adjacent to HMA or composite pavement shall be a minimum of 30-foot intervals. RCC shoulders adjacent to existing PCC pavement shall have control joints located to match the joints of the adjacent pavement. For existing PCC pavement with 15-foot joints, the RCC control joints would match every other mainline pavement joint. For all other PCC joint spacing; the RCC control joints shall match the adjacent PCC pavement's joints or cracks not to exceed a 30-foot interval. All control joints shall be tooled or cut to 1/3 the depth of the RCC thickness. Sealing the control joints is not required.

Delete Sec. 6.4 in its entirety and renumber accordingly:

Delete Sec. 6.9.1 and replace with the following:

6.9.1 Density. The density shall not be less than 98 percent of the maximum laboratory density.

S. MODOT'S CONSTRUCTION WORKFORCE PROGRAM NJSP-15-17

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.

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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 awarded Contractor's aggregate construction workforce on the project meets or exceeds the workforce goals of minority and female residents in the county(s) where the work is to occur.

1.9 When the contractor's existing construction workforce meets or exceeds the federal workforce goals established in Table 1, the OJT goal (Training Provision) as part of the contract will not be applicable for the contractor.

1.10 Contractor's Workforce Plan. The Contractor shall submit their Workforce Plan related to the project goals prior to the notice to proceed. The Contractor shall submit workforce data in one of the following ways: (1) a company-wide employment data report that includes the prime contractor's company-wide workforce and the anticipated project workforce of all the subcontractors that will be working on the project; or (2) the prime contractor can submit the anticipated workforce that will be utilized on the project including the prime and subcontractor(s) workforces on the project. The workforce data shall include the prime and all subcontractors' workforces. One report shall be submitted for the project that shall include the cumulative workforce of the prime and subcontractor(s). The Engineer will provide the Contractor with comments regarding their Workforce Plan prior to NTP.

1.11 The Contractor will be reimbursed \$10.00/hr. for 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 contractor shall manage the plan through the life of the project as described in the plan or as modified, in coordination with the Engineer.

1.12 The Contractor's workforce plan (either company-wide or project specific approach) may include existing construction support and professional services staff.

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

2.1 Cumulative Workforce Utilization Reports. This report is contract specific. Two reports shall be submitted to the Engineer by the 15th of each month. The first report will be used to report the contractor's own workforce compliance data with regard to the Commission's construction contract. The second report will be used to report consolidated workforce compliance data for the prime 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. The report will

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include a cumulative workforce for the project to date as well as the previous month's data.

2.2 Federal-Aid Highway Construction Contractors Annual EEO Report (FHWA Form 1391). This report is not contract specific. It is used to report on the utilization of females and minorities, by craft, per project. The report shall be submitted to the Engineer by the 1st of September with data from the last working week on the project during the month of July. The reporting shall include the number of individuals per each craft broken down by gender and ethnicity on project. The report will be used to report the Contractor's workforce compliance data with regard to the project. The Contractor shall be responsible for ensuring that its subcontractors also submit this report annually.

3.0 Submittal Required for Final Contract Payment. A final MoDOT Project Cumulative Workforce Utilization report shall serve as the final report and must be submitted before final payment will be made. The report shall include the workforce hours and number of individuals per each craft broken down by gender and ethnicity for the project from Notice to Proceed to Final Acceptance. The Contractor shall note the submittal of the final reports by notation entitled "Final Cumulative Report."

4.0 Methods for Securing Workforce Participation and Good Faith Efforts.

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

4.2 If the contractor is unable to secure minority and female participation to meet or exceed the construction workforce goals of the contract, the contractor shall be required to make good faith efforts to achieve the Program goals. The request to accept good faith efforts shall include documentation to prove that the contractor has made good faith efforts to meet the goal(s).

4.3 The Engineer will examine the contractor's request and documentation of good-faith efforts. 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.

4.4 In evaluating good-faith efforts, the ECR's Division will take into consideration the affirmative actions listed in Section 12.0 Federal Provisions (including provisions of Executive Order 11246).

4.5 The Contractor's attention is directed to TABLE 2 – Missouri Workforce Data as an aid in its workforce planning and good-faith efforts to meet the contract provisions. Table 2 represents the minority and female workers as determined by the 2010 Census Equal Employment (EEO) Tabulation Detailed Census Occupation by Sex and Race/Ethnicity by Residence Geography Civilian Labor Force 16 years and over.

4.6 MoDOT's Program allows the contractor flexibility to implement a project specific workforce and/or

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develop a long-term company workforce that can be utilized across various areas of the state to meet the Program's goals and the Federal Provisions. Missouri's census data is provided for the contractor's use. The contractor's construction project workforce shall meet or exceed the provisions of this contract; otherwise the contractor is required to secure a good-faith effort determination at the completion of the project.

Example:

Contractor's aggregate full-time company-wide construction workforce = 200 staff

Existing female staff = 20 (10%)
Existing minority staff = 30 (15%)

Project A's contract workforce goals are 6.9% for female and 12% minority and the contract includes a 1,000 hour training goal. The prime contractor is not using any subcontractors.

Analysis: Since the existing aggregate fulltime staff for female and minority utilization exceeds the contract's workforce goals, the contractor is not required to fulfill the training provision. Also, the contractor's aggregate construction workforce exceeds the contract's workforce goals. No training reimbursement or workforce reimbursement will be provided to the contractor as its existing workforce meets the contract provisions for training and workforce. The contractor will be required to verify the actual utilization of contract/aggregate workforce utilization (including subcontracts) at the end of the specific contract; otherwise the contractor would still be required to secure a good faith effort determination.

4.7 (In the event the contractor's project and company-wide construction workforce falls) short of the project workforce goals as noted in Table 1, this contract provides for reimbursement of \$10.00/hr. as a remedy to the contractor and as an aid in the long-term growth of experienced trades persons in the building of roads and bridges in Missouri.

4.8 In the event the contractor's company-wide construction workforce and project workforce falls short of the goals and the On-the-Job Training provision is included in the contract, it is possible that the utilization of the training hours will meet the project workforce goals. It is the contractor's responsibility to secure a good faith effort in the event it does not meet or exceed the goals established in Table 1 at the completion of the project.

Example: Awarded Contract = \$1,250,000 (includes 1,000 hours OJT Training goal)

Contractor's company-wide construction workforce does not meet the project workforce goals; therefore the training goal is applicable to the project. (Workforce numbers are verified through the submittal of documentation of the contractor's construction staff noting gender and ethnicity)

Contractor's total planned construction hours to complete project = 10,000 hrs (including sub-contracts)

Existing female employees planned = 3% (300 hrs)
Existing minority employees planned = 10% (1,000 hrs)

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Goals: 6.9% female, therefore 10,000 hrs. * 0.069 = 690 hrs
12.0% minority, therefore 10,000 hrs. * 0.12 = 1,200 hrs

Gap: 390 hrs. in female utilization
200 hrs. in minority utilization

Contractor's OJT plan is to use a minority female for 1,000 hrs.

Analysis: The contractor's plan meets the OJT goal. The contractor's OJT training utilization also exceeds the 590 hour workforce gap by using minority/ female workers. In addition, the contractor would be allowed the reimbursement provided for in the OJT provision towards the 1,000 hrs. (1,000 hr* \$/hr allowed). No additional reimbursement would be allowed for the workforce provision.

4.9 In the event the contractor's utilization of the training hours (if included in the contract) is not enough to supplement any gaps in meeting the project workforce goals, the remaining gap to meet the project workforce goals noted in Table 1 will be provided reimbursement of \$10.00/hr. (for the gap hours only. The training provision will specify the reimbursement allowed for training. The \$10.00/hr. reimbursement for the workforce provision will be available as a remedy to the contractor in efforts to meet the workforce goals. It is the contractor's responsibility to secure a good faith effort in the event the workforce used does not meet or exceed the goals established in Table 1. Any workforce reimbursement will be pre-approved by MoDOT as necessitated by the contractors approved project workforce utilization plan.

Example: Awarded Contract = \$1,250,000 (includes 500 hour OJT Training goal and workforce provisions)

Contractor's company-wide construction workforce does not meet the workforce goals, therefore the training goal is applicable to the project. Workforce numbers are verified through the submittal of the contractor's company-wide construction staff noting gender and ethnicity.

Contractor's total planned construction hours to complete contract = 10,000 hrs
Existing female employees planned = 3% (300 hrs)
Existing minority employees planned = 10% (1,000 hrs)

Goals: 6.9% female, therefore 10,000 hrs*0.069 = 690 hrs
12.0 % minority, therefore 10,000 hrs*0.12 = 1,200 hrs

Gap: 390 hrs. in female utilization
200 hrs. in minority utilization

Contractor's OJT plan is to use a minority female for 500 hrs.

Analysis: The contractors plan meets the OJT provision and will be provided the reimbursement specified in the training provision. Since the contractor used a minority female, the 500 hours of

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attained OJT training can be used towards the 590 hour gap, but there still remains a gap to attain the workforce goals. The contractor decided to apply the 500 hours towards the 390 hours of gap in female hours and to hire a minority male carpenter for the remaining 90 hours.

4.10 If the contractor's utilization 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.

<u>TABLE 2 - Missouri Minority and Female workforce data.</u>					
The data shown below is developed from the 2010 Census Equal Employment (EEO) Tabulation Detailed Census Occupation by Sex and Race/Ethnicity by Residence Geography Civilian Labor Force 16 years and over.					
County	Minority %	Female %	County	Minority %	Female %
Adair	2.7	1.4	Linn	5.1	8.1
Andrew	3.6	3.1	Livingston	5.1	8.1
Atchison	3.6	3.1	McDonald	13.5	1.9
Audrain	3.1	2.3	Macon	5.1	8.1
Barry	13.5	1.9	Madison	2.2	4.6
Barton	4.8	4.3	Maries	9.2	4.6
Bates	4.8	4.3	Marion	5.8	4.3
Benton	3.3	2.8	Mercer	3.9	1.3
Bollinger	2.2	4.6	Miller	1.8	4.0
Boone	12.0	4.8	Mississippi	12.2	2.9
Buchanan	9.9	6.1	Moniteau	1.8	4.0
Butler	4.5	2.7	Monroe	5.8	4.3
Caldwell	3.6	3.1	Montgomery	1.3	1.8
Callaway	3.1	2.3	Morgan	1.8	4.0
Camden	1.6	4.0	New Madrid	12.2	2.9
Cape Girardeau	3.9	5.7	Newton	9.6	6.7
Carroll	5.4	2.4	Nodaway	3.6	3.1
Carter	4.5	2.7	Oregon	4.6	2.7
Cass	12.5	5.1	Osage	9.2	4.6
Cedar	4.8	4.3	Ozark	3.4	2.9
Chariton	5.1	8.1	Pemiscot	17.6	4.8
Christian	2.5	5.8	Perry	3.9	5.7
Clark	2.7	3.4	Pettis	11.6	5.2
Clay	11.8	2.5	Phelps	1.8	3.8
Clinton	3.0	1.7	Pike	5.6	3.7
Cole	9.7	1.1	Platte	16.0	3.0
Cooper	1.8	4.0	Polk	10.7	4.7
Crawford	3.2	1.5	Pulaski	9.2	4.6
Dade	4.8	4.3	Putnam	3.9	1.3
Dallas	10.7	4.7	Ralls	5.8	4.3
Daviess	3.6	3.1	Randolph	5.1	8.1
DeKalb	3.0	1.7	Ray	5.4	2.4

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Dent	1.8	3.8	Reynolds	3.2	1.5
Douglas	3.4	2.9	Ripley	4.5	2.7
Dunklin	17.6	4.8	St. Charles	3.8	2.8
Franklin	2.2	3.4	St. Clair	3.3	2.8
Gasconade	1.3	1.8	St. Francois	1.0	2.8
Gentry	3.6	3.6	Ste. Genevieve	1.0	2.8
Greene	9.5	3.4	St. Louis City	50.7	4.4
Grundy	3.9	1.2	St. Louis County	27.2	3.6
Harrison	3.6	3.1	Saline	11.6	5.2
Henry	3.3	2.8	Schuyler	2.7	3.4
Hickory	10.7	4.7	Scotland	2.7	3.4
Holt	3.6	3.1	Scott	12.2	2.9
Howard	11.6	5.2	Shannon	4.6	2.7
Howell	4.6	2.7	Shelby	5.8	4.3
Iron	3.2	1.5	Stoddard	2.2	4.6
Jackson	32.1	3.8	Stone	9.3	3.9
Jasper	14.9	3.1	Sullivan	3.6	1.3
Jefferson	4.5	2.8	Taney	9.3	3.9
Johnson	11.1	4.3	Texas	3.4	2.9
Knox	2.7	3.4	Vernon	4.8	4.3
Laclede	1.1	7.0	Warren	1.3	1.5
Lafayette	5.4	2.4	Washington	3.2	1.5
Lawrence	13.5	1.9	Wayne	2.2	4.6
Lewis	2.7	3.4	Webster	1.1	7.0
Lincoln	5.6	3.7	Worth	3.6	3.1
			Wright	3.2	2.9

4.11 On-site verification. After completing the preliminary analysis of the data and information submitted by the contractor towards the good-faith effort determination, an on-site project review will be performed by MoDOT’s ECR Division which may include, but is not limited to, conducting interviews, a physical tour of job site, an exit conference, etc.

4.12 When more than one county falls with the project limits, the contractors plan will be evaluated based on its own merits prior to the Notice to Proceed. The contractor shall follow through on the plan and request changes from the Engineer, if necessary.

4.13 Verification of work performed by classification and time assigned to construction operations used in the Contractor’s plan shall be the responsibility of the contractor (including subcontracts).

5.0 Compliance Determination. 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 prove compliance with MoDOT’s Construction Workforce Program.

6.0 Corrective Actions. If the goal was not met or a good-faith effort was not approved, the contractor shall be found in non-compliance when there is sufficient evidence to make a determination that the contractor failed to effectively implement the Program. The following progressive corrective action steps may be implemented:

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- a. **Voluntary Corrective Action Plan (VCAP).** A contractor found in non-compliance of minor deficiencies can develop and submit an acceptable VCAP within 15 days following the finding. The contractor's written and signed commitment, outlining specific actions taken, or proposed, to correct the deficiencies cited in a compliance review constitute the VCAP. Failure to submit an acceptable VCAP is grounds for a finding of non-compliance.
- b. **Corrective Action Plan (CAP).** Contractors who have major deficiencies, which include underutilization of minorities and females, signs of discrimination, etc. will be issued a show-cause notice and will be required to enter into a Corrective Action Plan (CAP) in order to correct the deficiencies. Show Cause Notice: A written notification finding the contractor in non-compliance with the equal opportunity requirements. The notice informs the contractor of the specific basis for the determination and allows the contractor 30 days from the date the notification was sent for the contractor to provide an explanation and documentation why sanctions should not be imposed. The CAP will include a mandatory written and signed commitment outlining specific actions the contractor has taken, or proposes, to correct the deficiencies cited in a finding of non-compliance. The statement must include time limits and goals to remedy each violation of the equal opportunity requirements as specified in the show cause notice.

7.0 Liquidated Damages. In addition to any corrective action plans, if the contractor fails to achieve the construction workforce goals or a good-faith effort determination, 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:

7.1 If the contractor failed to meet or exceed the workforce goals of this contract, or establish a good-faith effort determination on this project, the sum of **three thousand dollars (\$3,000)** will be assessed.

8.0 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).

9.0 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.

10.0 Independent Third-Party Compliance Monitor (Monitor). MoDOT may hire a Monitor. The Monitor shall be responsible for monitoring the project's workforce utilization for the contractor and subcontractors. 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.

11.0 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 and a representative(s) from the Federal Highway Administration. The Council will

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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.

12.0 Federal Provisions.

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:
3. Construction contractors, which are participating in an approved Hometown Plan. (see 41 CFR 60-4.5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the area covered by the Hometown Plan. With regard to all their other covered construction work, such contractors are required to comply with the following goals:

GOALS AND TIMETABLES

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

Goals for Minority Participation for Each Trade 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

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Cape Girardeau	11.4	Newton	2.3
Carroll	10	Nodaway	10
Carter	11.4	Oregon	2.3
Cass	12.7	Osage	4
Cedar	2.3	Ozark	2.3
Chariton	4	Pemiscot	26.5
Christian	2	Perry	11.4
Clark	3.4	Pettis	10
Clay	12.7	Phelps	11.4
Clinton	10	Pike	3.1
Cole	4	Platte	12.7
Cooper	4	Polk	2.3
Crawford	11.4	Pulaski	2.3
Dade	2.3	Putnam	4
Dallas	2.3	Ralls	3.1
Daviess	10	Randolph	4
DeKalb	10	Ray	12.7
Dent	11.4	Reynolds	11.4
Douglas	2.3	Ripley	11.4
Dunklin	26.5	St. Charles	14.7
Franklin	14.7	St. Clair	2.3
Gasconade	11.4	St. Francois	11.4
Gentry	10	Ste. Genevieve	11.4
Greene	2	St. Louis City	14.7
Grundy	10	St. Louis County	14.7
Harrison	10	Saline	10
Henry	10	Schuyler	4
Hickory	2.3	Scotland	4
Holt	10	Scott	11.4
Howard	4	Shannon	2.3
Howell	2.3	Shelby	4
Iron	11.4	Stoddard	11.4
Jackson	12.7	Stone	2.3
Jasper	2.3	Sullivan	4
Jefferson	14.7	Taney	2.3
Johnson	10	Texas	2.3
Knox	4	Vernon	2.3
Laclede	2.3	Warren	11.4
Lafayette	10	Washington	11.4
Lawrence	2.3	Wayne	11.4
Lewis	3.1	Webster	2.3
Lincoln	11.4	Worth	10
		Wright	2.3

These goals are applicable to all of the contractor's construction work (whether or not is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to

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this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority, or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

4. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
5. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" of the county, route, and limits described in the proposal for the work.

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

1. As used in these specifications:
 - a. "Covered area," means the geographical area described in the solicitation, which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of labor, or any person to who the Director delegates authority;
 - c. "Employer Identification Number" means the Federal Social Security number used on the Employer's quarterly Federal Tax Return, U.S. Treasury Department Form 941;
 - d. "Minority" includes;
 - (i) Black (all person having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

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- (iii) Asian and pacific islander (all persons having origins in any of the original peoples of the Far East, southeast Asia, the Indian Subcontinent, or the Pacific Islands; and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North American and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
 3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligation under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
 4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.
 5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with who the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, nor the regulations promulgated pursuant thereto.
 6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goal, the Contractor must employ such apprentices and trainees during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at

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the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant of the contractor's employment needs, especially those programs funded or approved by the Department of labor. The contractor shall provide notice of these programs to the sources complied under 7b above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement by publicizing it in the company newspaper, annual report, etc., by specific review of the policy with all management personnel and with all minority and female

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employees at least one a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as superintendents, General foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, person attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and Subcontractors with who the Contractor Does or anticipates doing business.
- i. Direct recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and test to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer vacation employment to minority and female youth both on the site and in other areas of contractor's workforce.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document an maintain a record of all solicitations of offers for subcontracts from minority

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and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

- p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling anyone or more of its obligations under 7a through 7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in a violation of the executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive order, the Implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4-.8.

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14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried, out to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provide shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Action of 1977 and the Community Development block Grant Program).

OPERATING POLICY STATEMENT

The contractor shall accept as his operating policy the following statement, or one of equal coverage, which is designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex, or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program:

"It is the policy of this company to assure that applicants are employed, and that employees are treated during employment without regard to their race, religion, sex, color, or national origin. Such action shall include: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

SUPPLEMENTAL REPORTING REQUIREMENTS

1. The contractor will keep such records as are necessary to determine compliance with the contractor's equal employment opportunity obligations. The records kept by the contractor will be designed to indicate the number of minority and non-minority group members and women employed in each work classification on the project.
2. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the State Highway agency and the Federal Highway Administration.
3. The contractor and each covered subcontractor will submit to the State Highway agency, for the month of July, for the duration of the project, a report (Form PR-1391) "Federal-aid Highway Construction Contractors Annual EEO Report", indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work.

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NONDISCRIMINATION IN EMPLOYMENT

The following provisions are added by the State to the Required Contract Provisions of Federal-Aid Contracts.

The contractor is advised that the exemptions referred to in the Required Contract Provisions, Federal-Aid Contracts under Section II, Nondiscrimination, Paragraph 3g, with respect to contracts and subcontracts, are substantial and are to be found in Chapter 60, Office of Federal Contract Compliance, Equal Employment Opportunity, Department of labor (33 Federal Register 7804-7812, May 28, 1968, effective July 1, 1968, Chapter 60, Title 41, Code of Federal Regulations), by which contracts and subcontracts of \$10,000 or less and certain contracts and subcontracts for indefinite quantities are exempt.

The two pertinent exemption clauses are as follows:

60-1.5 Exemptions

General:


- (1) Transactions of \$10,000 or under. Contracts and subcontracts not exceeding \$10,000, other than Government bills of lading, and other than contracts and subcontracts with depositories of Federal funds in any amount and with financial institutions which are issuing and paying agents for U.S. savings bonds and savings notes, are exempt from the requirements of the equal opportunity clause. In determining the applicability of this exemption to any federally assisted construction contract, or subcontract thereunder, the amount of such contract or subcontract rather than the amount of the Federal financial assistance shall govern. No agency, contractor, or subcontractor shall procure supplies or services in a manner so as to avoid applicability of the equal opportunity clause: Provided, that where a contractor has contracts or subcontracts with the Government in any 12-month period which have an aggregate total value (or can reasonably be expected to have an aggregate total value) exceeding \$10,000, the \$10,000 or under exemption does not apply, and the contracts are subject to the order and the regulation issued pursuant thereto regardless of whether any single contract exceeds \$10,000.
- (2) Contracts and subcontracts for indefinite quantities. With respect to contracts and subcontracts for indefinite quantities (including, but not limited to, open end contracts, requirement-type contracts, Federal Supply Schedule contracts, "call-type" contracts, and purchase notice agreements), the equal opportunity clause shall be included unless the purchaser has reason to believe that the amount to be ordered in any year under such contract will not exceed \$10,000. The applicability of the equal opportunity clause shall be determined by the purchaser at the time of award for the first year, and annually thereafter for succeeding years, if any. Notwithstanding the above, the equal opportunity clause shall be applied to such contract whenever the amount of a single order exceeds \$10,000. Once the equal opportunity clause is determined to be applicable, the contract

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shall continue to be subject to such clause for its duration, regardless of the amounts ordered, or reasonably expected to be ordered in any year.

T. LIQUIDATED DAMAGES SPECIFIED FOR J4I3022B & J4I3028B

1.0 Description. This provision contains modifications to the standard specifications for the construction of the rehabilitation work for Bridges A1750, A1698, A1682, A1683, A2249, A1685 and A1686 to minimize the lane closure or lane restriction time on any traffic lanes for I-435 northbound and southbound and access to any interchange entrance or exit ramps. The contractor is advised of the following traffic control phases as specified in the plans have time restrictions:

 **REVISED**

1.1 Northbound and Southbound Shoulder Reconstruction at bridges: ~~40~~15 Calendar Days

Description and time restrictions: Closure of one northbound and one southbound I-435 lane, Route 24 northbound on-ramp and lane width restriction for northbound and southbound I-435 traffic while shoulder reconstruction work is being done on northbound and southbound I-435 for projects J4I3022B and J4I3028B to support traffic control phases 1-4. The closure of the ramp, lane and lane width restrictions shown as northbound and southbound Phase 0 for shoulder reconstruction in the plans shall be restricted to a total of ~~40~~15 calendar days.

 **REVISED**

1.2 Northbound I-435 Phase 1: 40 Calendar Days

Description and time restrictions: Closure of one northbound I-435 lane, Route 24 northbound on-ramp and lane width restriction for northbound I-435 traffic while rehabilitation work is being done on northbound I-435 bridges for projects J4I3022B & J4I3028B (A1750, A1682, A2249, A1685 and A1686) from Route 24 to Front Street as shown in Phase 1 of the traffic control plans. The closure of the ramp, lane and lane width restrictions shown as northbound Phase 1 in the plans shall be restricted to 40 calendar days.

1.3 Northbound I-435 Phase 2: 40 Calendar Days

Description and time restrictions: Closure of one northbound I-435 lane, Route 24 northbound on-ramp and lane width restriction for northbound I-435 traffic while rehabilitation work is being done on northbound I-435 bridges for projects J4I3022B & J4I3028B (A1750, A1682, A2249, A1685 and A1686) from Route 24 to Front Street as shown in Phase 2 of the traffic control plans. The closure of the ramp, lane and lane width restrictions shown as northbound Phase 2 in the plans shall be restricted to 40 calendar days.

1.4 Southbound I-435 Phase 1a: 20 Calendar Days

Description and time restrictions: Closure of one southbound I-435 lane and lane width restriction for southbound I-435 traffic while rehabilitation work is being done on southbound I-435 bridges for projects J4I3022B & J4I3028B (A1682, A1683 and A1750) from Front Street to Route 24 as shown in southbound Phase 1 of the traffic control plans. The closure of the lane and lane width restrictions shown as southbound Phase 1a in the plans shall be restricted to 20 calendar days.

1.5 Southbound I-435 Phase 1b: 20 Calendar Days

Description and time restrictions: Additional closure of one southbound I-435 lane and lane width restriction from phase 1 for southbound I-435 traffic while rehabilitation work is being done on

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southbound I-435 bridge (A1750) at Route 24 as shown in Phase 1 of the traffic control plans. The closure of the lane and lane width restrictions shown as southbound Phase 1b in the plans shall be restricted to 20 calendar days.

1.6 Southbound I-435 Phase 2a: 20 Calendar Days

Description and time restrictions: Closure of one southbound I-435 lane and lane width restriction for southbound I-435 traffic while rehabilitation work is being done on southbound I-435 bridges for projects J4I3022B and J4I3028B (A1682, A1683 and A1750) from Front Street to Route 24 as shown in southbound Phase 2 of the traffic control plans. The closure of the lane and lane width restrictions shown as southbound Phase 2a in the plans shall be restricted to 20 calendar days.

1.7 Southbound I-435 Phase 2b: 20 Calendar Days

Description and time restrictions: Additional closure of one southbound I-435 lane and lane width restriction from phase 2 for southbound I-435 traffic while rehabilitation work is being done on southbound I-435 bridge (A1750) at Route 24 as shown in Phase 2 of the traffic control plans. The closure of the lane and lane width restrictions shown as southbound Phase 2b in the plans shall be restricted to 20 calendar days.

1.8 Northbound I-435 Phase 3 & 4 at Route 78: 15 Calendar Days

Description and time restrictions: Closure of one northbound I-435 lane and lane width restriction from phase 3 and 4 of northbound I-435 traffic while rehabilitation work is being done on northbound I-435 bridge (A1698) at Route 78 as shown in Phase 3 and 4 of the traffic control plans. The closure of the lane and lane width restrictions shown as northbound Phase 3 and 4 in the plans shall be restricted to 15 calendar days each.

1.9 Southbound I-435 Phase 3 & 4 at Route 78: 20 Calendar Days

Description and time restrictions: Closure of one southbound I-435 lane and lane width restriction from phase 3 and 4 of southbound I-435 traffic while rehabilitation work is being done on southbound I-435 bridge (A1698) at Route 78 as shown in Phase 3 and 4 of the traffic control plans. The closure of the lane and lane width restrictions shown as northbound Phase 3 and 4 in the plans shall be restricted to 20 calendar days each.

1.10 US 24 at I-435: 18 Hours Per Each Closure – Weekend Work

Description and time restrictions: Closure of Route 24 while bridge deck removal work is being done at the southbound and northbound I-435 bridge (A1750) at Route 24 as shown in Phases 1 and 2 of the traffic control plans. The closure of Route 24 shall be restricted to 18 hours per each closure (four closures total) and shall be done during the weekend hours (8:00 p.m. Friday to 10:00 p.m. Sunday). All Route 24 and I-435 interchange ramps, except the I-435 northbound on ramp during the northbound I-435 bridge deck removal, shall remain open.

If each phase is not completed by the listed calendar days, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public.

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2.0 Liquidated Damages Specified for Failure To Complete Work on Time. These costs are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the following amounts per calendar day for each full calendar day that each item of work for each phase defined in Section 1.0 that is not complete as directed in the contract and on the plans including guardrail and open to traffic, in excess of the limitation as specified elsewhere in the special provision:

Section 1.1	North & Southbound I-435 Phase 0	\$5,000 per day
Section 1.2	Northbound I-435 Phase 1	\$5,000 per day
Section 1.3	Northbound I-435 Phase 2	\$5,000 per day
Section 1.4	Southbound I-435 Phase 1a	\$5,000 per day
Section 1.5	Southbound I-435 Phase 1b	\$5,000 per day
Section 1.6	Southbound I-435 Phase 2a	\$5,000 per day
Section 1.7	Southbound I-435 Phase 2b	\$5,000 per day
Section 1.8	Northbound I-435 Phase 3 & 4	\$5,000 per day
Section 1.9	Northbound I-435 Phase 3 & 4	\$5,000 per day

2.1 The said liquidated damages specified will be assessed in addition to any other liquidated damages charged under the Missouri Standard Specifications for Highway Construction, as indicated elsewhere in this contract. It will be the responsibility of the engineer to determine the quantity of excess closure time.

2.2 This deduction will continue until such time as the necessary work is completed and traffic is restored.

3.0 Liquidated Damages Specified for Failure To Complete Work on Time. These costs are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the following amounts per hour for each full hour that each item of work for each phase defined in Section 1.0 that is not complete as directed in the contract and on the plans including guardrail and open to traffic, in excess of the limitation as specified elsewhere in the special provision:

Section 1.10	Route 24	\$500 per hour
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3.1 The said liquidated damages specified will be assessed in addition to any other liquidated damages charged under the Missouri Standard Specifications for Highway Construction, as indicated elsewhere in this contract. It will be the responsibility of the engineer to determine the quantity of excess closure time.

3.2 This deduction will continue until such time as the necessary work is completed and traffic is restored.

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U. ORDER OF WORK

1.1 The contractor shall reconstruct shoulders needed for traffic control phases 1 – 4 before traffic is placed on them.

1.2 The contractor shall complete all J4I3022B & J4I3028B bridge work, other than painting operations for the I-435 bridges (A1750) over Route 24, prior to starting the asphalt mill and fill operations (J4I3038C).

2.0 Basis Of Payment. No direct pay will be made for compliance with this special provision.

V. PROTECTION OF UNION PACIFIC RAILROAD INTERESTS – J4I3038C

1.0 The right of way of the Union Pacific Railroad Company, herein called "Railroad", is located within the project limits of this project. However, this project has been developed with the specific intention that no involvement with the Railroad, the Railroad's facilities, traffic or right of way is required for the performance of the contractual work herein. The work to be performed at the bridge approaches near the Railroad's right of way shall not interfere with the Railroad's operations or facilities. Under these circumstances, the requirements of Sec 104.12.3, Sec 104.12.8 through 104.12.10.5 (inclusive), and Sec 107.13.4 shall not apply.

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

W. PROTECTION OF CANADIAN PACIFIC RAILWAY INTERESTS – J4I3038C

1.0 The right of way of the Canadian Pacific Railway, herein called "Railroad", is located within the limits of this project. However, this project has been developed with the specific intention that no involvement with the Railroad, the Railroad's facilities, traffic or right of way is required for the performance of the contractual work herein. The work to be performed at the bridge approaches near the Railroad's right of way shall not interfere with the Railroad's operations or facilities. Under these circumstances, the requirements of Sec 104.12.3, Sec 104.12.8 through 104.12.10.5 (inclusive), and Sec 107.13.4 shall not apply.

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

X. KANSAS CITY TERMINAL RAILWAY REQUIREMENTS – J4I3038C

1.0 Introduction.

1.1 These requirements set forth terms and conditions agreed between the Kansas City Terminal Railway (Railroad) and the Missouri Highways and Transportation Commission (Commission), under

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which the Railroad will allow the Commission's contractor to enter in and upon the Railroad's real property, right of way, tracks and other facilities to perform the contractor's work relating to this project.

1.2 To report an emergency on the Railroad, call: (913) 551 2179

1.3 The project is located near the Kansas City Terminal Railway System at the I-435 Viaduct near tracks 1, 405, 2 and 3.

2.0 Right of Entry. Although railroad involvement is unlikely, contractor shall be required to execute the KCT Right of Entry. KCT will apply no fees except to the extent a flagger would become necessary, at which point the contractor would reimburse KCT for flagging costs.

2.1 The Commission has secured an easement from the Railroad where the highway crosses over the Railroad's right of way. Should the contractor need to enter any part of the Railroad's right of way outside of this easement the contractor shall be required to secure a Right of Entry Agreement from the Railroad (Example of the form follows below in Section 2.3). Further, if the Contractor does not need to enter the Railroad's Right of Way but merely has the *potential* to foul the Railroad tracks (by working over or near the tracks, using an extended crane or other equipment near the tracks, etc.), the Contractor shall be required to secure a Right of Entry Agreement. The contractor shall complete the form including Exhibit A, secure all insurance requirements in Exhibit D, secure the Railroad's execution of the form, and pay the associated fee before entering any portion of the Railroad's property. If the contractor does not need additional property rights from the Railroad and all work can be performed within the existing easement granted to the Commission, and there is no potential for the Contractor's employees or equipment to intentionally or unintentionally come near the railroad tracks, then the contractor does not need to secure a Right of Entry from the Railroad, but the contractor shall comply with all of the procedures, terms and conditions detailed in Railroad's Right of Entry agreement.

2.2 Payment for Cost of Compliance. The contractor is not entitled to any separate payment for any extra cost it may incur on account of compliance with these Railroad Requirements. The contractor shall include all such costs in the contract unit price for items properly authorized in the contract.

2.3 Example of Right of Entry:

This Right of Entry Agreement ("**Agreement**") is entered into by and between Kansas City Terminal Railway Company ("**KCT**") and [Name of Permittee], a _____ **[corporation/limited liability company/limited partnership]** ("**Permittee**") effective on the last date indicated on the signature pages as the date of execution of this Agreement (the "**Effective Date**").

KCT is the owner of certain real property legally described and/or depicted on **Exhibit A** (the "**Property**"). Permittee desires a right of entry from KCT to enter upon the Property for the sole and exclusive purpose of performing the following professional and/or construction activities:

[Describe with specificity the activities to be allowed]

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(together or collectively, as applicable, the “**Permitted Activities**”).

NOW, THEREFORE, for other good and valuable consideration and the promises, covenants and representations in this Agreement, the parties agree as follows:

GRANT OF RIGHT OF ENTRY. KCT hereby grants Permittee a non-exclusive, limited right of entry to the Property solely for the purpose of performing the Permitted Activities and for no other purpose. The performance of the Permitted Activities shall at all times be subject to the reasonable requirements of the Railroad Representative (as defined below) and shall be performed and completed with commercially reasonable dispatch.

Conditions to Entry on the Property. Prior to entering on the Property or the commencement of the Permitted Activities:

Permittee shall contact the Sr. Manager Contracts & Real Estate of KCT, [**Mr. Shawn Lauby**], at (913) 551-2127, or such other person as may be designated by KCT or [**Mr. Lauby**] (the “**Railroad Representative**”) at least fifteen (15) days prior to commencing any Permitted Activities on the Property in order for the Railroad Representative to arrange for one or more flaggers at various locations throughout the Property,

Permittee shall be in compliance with the insurance requirements of **Section 8** below,

Permittee and the Authorized Personnel (as defined below) shall be safety trained in the manner required by 49 CFR 214 (c) of the FRA Rules and Regulations for Roadway Worker Protection and must be familiar with and abide by the safety requirements set forth set forth on **Exhibit B** (the “**Permittee Safety Requirements**”),

Permittee and the Authorized Personnel shall be familiar with and abide by the requirements set forth on **Exhibit C** (collectively, the “**Protection of Railroad Facilities Requirements**”), and,

Permittee shall request that KCT locate and mark, at Permittee’s cost and expense, all buried cable, air lines, communication lines and other buried or below grade systems or facilities of KCT on the Property and KCT shall have so marked such system or facilities, and

Permittee shall have paid the Right of Entry Fee (as defined below) to KCT.

AUTHORIZED PERSONNEL. Permittee represents and agrees that the Permitted Activities shall be performed solely by Permittee or (i) persons within the direct employ of Permittee or (ii) subcontractors and agents of Permittee, all of which have been approved in advance by KCT, which approval shall not be unreasonably withheld (“**Authorized Personnel**”).

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TERM. The term of this Agreement (“**Term**”) shall commence upon the Effective Date and shall continue, unless earlier terminated, to the earlier of (i) _____ (____) [days/months/year] following the Effective Date; or (ii) _____, 20_____.

FEES. In consideration of this Agreement and as a condition precedent to entering onto the Property, Permittee shall pay to KCT a one-time, non-refundable fee in the amount of \$_____ (the “**Right of Entry Fee**”). Permittee shall also reimburse KCT within thirty (30) days of receipt of bill therefore for all costs of KCT’s flagman (which, upon the Effective Date is [**\$800.00**] per eight hour basic day, with time and one-half or double time for overtime, rest days and holidays).

RESTORATION OF PROPERTY. After the expiration or earlier termination of the Term, Permittee agrees that all rights of entry granted by KCT to Permittee by this Agreement shall cease and be no longer in effect. Prior to the expiration or earlier termination of the Term, unless otherwise authorized by KCT in writing, Permittee shall (i) remove from the Property all equipment, tools, vehicles, items or property of Permittee or Permittee’s Authorized Personnel of any kind whatsoever used in connection with its Permitted Activities, and (ii) at Permittee’s sole cost and expense, restore the Property to substantially the same condition that existed prior to the Effective Date, if such change in condition was caused by Permittee’s exercise of its rights under this Agreement.

KCT Right to Cure. In the event Permittee shall fail to remove its equipment, tools, vehicles, items or property or shall fail to restore the Property to the same condition that existed prior to the Effective Date, then KCT may, but shall not be required to, perform such acts at the cost of Permittee. In such event, KCT shall not be liable to Permittee for any damage to such equipment, tools, vehicles or property incurred during such removal, nor shall KCT be required to secure or safeguard such equipment, tools, vehicles or property either while located on the Property or following the removal thereof.

Recovery of Losses. KCT shall have the right to recover from Permittee and Permittee agrees to pay to KCT any loss or damage sustained by KCT due to Permittee’s breach of its agreements contained in this Section. KCT shall provide Permittee a written accounting of such loss or damage and Permittee shall pay such amount to KCT not later than thirty (30) days following receipt of such accounting. Permittee agrees to and shall withhold from final payment due any of Permittee’s Authorized Personnel such amount(s) as may be reasonable and necessary to reimburse KCT for such loss or damage arising from the actions or inactions of the Permittee’s Authorized Personnel. The term “loss or damage” as used in this section shall mean all of the costs incurred by KCT to perform such acts as may be required to repair or restore the Property to its condition prior to the Effective Date, including without limitation, costs associated with repairing damage from erosion, silting, water and the accidental or intentional placement of objects on the Property. Permittee’s obligations under this **Section 5** shall survive the expiration or earlier termination of this Agreement.

Notwithstanding the foregoing, in the event KCT executes this Agreement with a Permittee acting on behalf of a political subdivision, rather than entering into such Agreement directly with a political subdivision (as an accommodation to such political subdivision), the

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Permittee hereby agrees that such political subdivision, upon receipt of written demand from KCT (i) may withhold from final payment due its Permittee and its Authorized Personnel, such amount(s) as may be reasonable and necessary to reimburse KCT for such loss or damage arising from the actions or inactions of the Permittee or its Authorized Personnel, and (ii) shall pay such amount directly to KCT.

SAFETY. Safety is of prime importance in performing the Permitted Activities. Nothing shall be done or suffered to be done by Permittee and the Authorized Personnel at any time that would in any manner impair the safety of the personnel, tracks, property and facilities of KCT or its lessees, licensees or others. Permittee and the Authorized Personnel shall take all reasonably necessary precautions so as not to suffer or permit any unreasonably dangerous condition to be created, exist or continue on or near the Property. Permittee shall incorporate the Permittee Safety Requirements into any subcontract or subservice agreement relating to the Permitted Activities to which Permittee is a party.

NO INTERFERENCE. No Permitted Activities performed by Permittee in connection with this Agreement shall cause any interference with the constant, continuous and uninterrupted use of the tracks, property and facilities of KCT or its lessees, licensees or others, unless specifically permitted under this Agreement or specifically authorized in writing in advance by the Railroad Representative. The Permittee shall incorporate the Protection of Railroad Facilities Requirements into any subcontract or subservice agreement relating to the Permitted Activities to which Permittee is a party.

INSURANCE. Permittee shall procure and maintain during the continuance of this Agreement, at its sole cost and expense, all such insurance coverage as is set forth on **Exhibit D**, which insurance coverage shall include without limitation, coverage for each and all of Permittee's contractual indemnity obligations set forth in this Agreement.

CONDITION OF THE PROPERTY. KCT makes no representation concerning the condition of the Property and Permittee expressly accepts the use of the Property pursuant to this Agreement in the Property's current condition. Permittee specifically waives and disclaims any and all claims related to damage to property, personal injury or death resulting from the performance of the Permitted Activities on or near the Property by Permittee and the Authorized Personnel.

Subsurface Conditions. In the event Permittee or the Authorized Personnel shall damage any of KCT's property (including the Property), including without limitation, any property, equipment or systems which are buried or below grade (such as cables, air lines, communication lines gas, water, sewer or other utility lines) or any other property, systems or facilities of KCT (and KCT's owner railroads) arising out of or related to Permittee's and the Authorized Personnel's Permitted Activities or any other action or inaction of Permittee and the Authorized Personnel, Permittee shall be liable for and pay for all such damage. Permittee shall be responsible for and pay such damages, regardless of the accuracy or completeness of any markings by KCT of the location of any subsurface conditions.

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Modifications to Property. In the event the Permittee shall make any modifications, alterations or improvements to the Property, Permittee shall promptly provide KCT with written notice thereof and shall provide KCT with as-built drawings and surveys of any such modifications, alterations or improvements. The foregoing notwithstanding, nothing in this Agreement shall be construed to grant the Permittee the right to make any modifications, alterations or improvements to the Property unless such modifications, alterations or improvements are expressly provided for in the Permitted Activities. Permittee acknowledges that any such modifications, alterations or improvements to the Property shall (at the option of KCT) become the sole property of KCT and that KCT may require the Permittee to remove any such unauthorized modifications, alterations or improvements at Permittee's sole cost and expense.

COMPLIANCE WITH LAWS. Permittee shall be responsible for determining and complying with all federal, state and local statutes, laws and regulations applicable to the Permitted Activities, including, but not limited to (i) environmental laws and regulations (including but not limited to the Oil Pollution Act, the hazardous Materials Transportation Act and CERCLA), and (ii) the location, contact, excavation and protection regulations of the Occupational Safety and Health Act ("**OSHA**") (20 CFR 1926.651(b), et al.), and applicable state "One Call"—"Call Before You Dig" requirements. Prior to performing any Permitted Activities, Permittee shall secure any and all necessary permits, if any, and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the acts covered by the right of entry granted by this Agreement. Permittee assumes sole responsibility for failure to obtain any permit(s) and approval(s) required for the performance of the Permitted Activities and for any violations thereof or for costs or expenses of compliance or remedy. If any failure by Permittee to comply with any such laws, regulations, and enactments shall result in any fine, penalty, cost or charge being assessed, imposed or charged against KCT, Permittee shall reimburse and indemnify KCT for any such fine, penalty, cost, or charge, including without limitation attorneys' fees, court costs and expenses. Permittee further agrees in the event of any such action, upon notice thereof being provided by KCT, to defend such action free of cost, charge, or expense to KCT. Permittee's obligations under this **Section 10** shall survive the expiration or earlier termination of this Agreement.

LIENS. Permittee shall not allow any mechanic's lien to be filed against the Property by reason of Permitted Activities, labor, or services performed or furnished to Permittee or the Authorized Personnel. If any such lien shall at any time be filed against the Property, Permittee may contest the same in good faith but notwithstanding such contest, Permittee shall, within fifteen (15) days after the filing thereof, cause such lien to be released of record by payment, bond, order of a court of competent jurisdiction, or otherwise. If Permittee fails to remove said lien within fifteen (15) days after the filing thereof, KCT may (but shall not be obligated to) satisfy and remove said lien by payment or otherwise, without investigation of the validity of said lien, and Permittee shall reimburse KCT upon demand all amounts paid by KCT, including KCT's costs and expenses, including attorneys fees. Permittee's obligations to KCT pursuant to this **Section 11** shall survive the expiration or earlier termination of this Agreement.

DEFAULT; REMEDIES.

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Default. Permittee shall be in default if Permittee or the Authorized Personnel fail to timely comply with any material term or provision of this Agreement, and KCT has provided Permittee written notice of such failure. Material terms or provisions of this Agreement include, without limitation **Sections 6, 7 and 8.** Upon the date of such notice of default, Permittee shall have twenty-four (24) hours in which to cure any such default (or such longer period of time as may be provided by KCT in the notice of default), provided that such default is of the nature which can be reasonably cured within twenty-four (24) hours. For any failure which cannot reasonably be cured within twenty-four (24) hours, the cure period shall be extended for a reasonable period so long as Permittee commences to cure the failure within such twenty-four (24) hour period and thereafter continues diligently and in a professional manner to cure such failure. KCT shall have the right to suspend Permittee's or the Authorized Personnel's access to the Property during any such cure period.

Remedies. In the event of an uncured default, KCT may, in its sole discretion, terminate this Agreement, and

seek such other remedies available to KCT at law or in equity, including injunctive relief.

All rights and remedies under this Agreement are cumulative and no one of them shall be exclusive of any other, and each party shall have the right to pursue any one or all of such rights and remedies or any other remedy which may be provided by law, whether or not stated in this Agreement, except to the extent expressly provided to the contrary in this Agreement.

RELEASE OF LIABILITY; INDEMNITY.

Indemnification. Permittee hereby expressly **waives, releases and discharges and does hereby expressly agree to defend, indemnify and save harmless** KCT, its owner railroads and their respective agents, representatives and employees from all judgments, awards, liability, loss, cost, demands or claims (including attorneys' fees) for:

injury or death to all persons, including KCT's, Permittee's or the Authorized Personnel's officers and employees, which occurs as a result of, or arises in any manner from Permittee's and/or the Authorized Personnel's acts, omissions, presence or activities on and/or about the Property;

for loss of or damage to any property (regardless of who owns said property) which occurs as a result of, or arises in connection with, Permittee's and/or the Authorized Personnel's acts, omissions, presence or activities on and/or about the Property; and

any other damage, liability, loss, cost or claim which occurs as a result of, or arises in connection with Permittee's and/or the Authorized Personnel's acts, omissions, presence or activities on and/or about the Property.

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THE LIABILITY ASSUMED BY PROVIDER SHALL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DESTRUCTION, DAMAGE, DEATH OR INJURY WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF KCT, ITS AGENTS, SERVANTS, EMPLOYEES, OWNERS OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROXIMATELY CAUSED BY THE INTENTIONAL MISCONDUCT OR GROSS NEGLIGENCE OF KCT. THE INDEMNIFICATION OBLIGATION ASSUMED BY PROVIDER INCLUDES ANY CLAIMS, SUITS OR JUDGMENTS BROUGHT AGAINST KCT UNDER THE FEDERAL EMPLOYEE'S LIABILITY ACT, INCLUDING CLAIMS FOR STRICT LIABILITY UNDER THE SAFETY APPLICATION ACT OR THE BOILER INSPECTION ACT, WHENEVER SO CLAIMED.

Defense and Settlement of Claims. KCT shall give notice to Permittee, in writing, of the receipt of notice or pendency of any claim or cause of action against KCT arising or growing out of or in any manner connected with the Permitted Activities and any other liability assumed by Permittee under this Agreement. Upon receipt of such notice, Permittee must proceed (at its sole cost and expense) to adjust and handle to a conclusion such claims. In the event of a suit being brought against KCT, KCT shall forward the summons and complaint or other process in connection therewith to Permittee. At KCT's discretion, either (i) Permittee (at its sole cost and expense) shall defend, adjust or settle such suits and protect, indemnify, and save harmless KCT from and against all damages, judgments, decrees, attorney's fees, costs and expenses growing out of or resulting from or incident to any such claims or suits, or (ii) KCT may elect to defend, adjust and settle such suit and Permittee shall reimburse KCT for any and all costs and expenses (including without limitation, attorneys fees) incurred by KCT as well as all damages, judgments, awards and settlements associated with such suit. Permittee shall not settle any claim or suit without the express written consent of KCT.

Survival. Permittee expressly acknowledges and agrees that Permittee's obligations under this Section shall survive the termination or expiration of this Agreement.

NOTICES. Any notice to be given by either party in connection with or required by this Agreement shall be delivered either by hand delivery, via certified United States mail or for next business day delivery by a reputable overnight delivery service (e.g., FedEx or UPS). All such notices shall be postage prepaid to the following addresses or to such other address as either party may specify for itself by written notice given pursuant to this Section :

To KCT: Kansas City Terminal Railway Company
4501 Kansas Avenue
Kansas City, Kansas 66106
Attention: General Manager

To Permittee: At the address shown beneath Permittee's signature on the
execution page

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A notice which is delivered (i) by hand shall be deemed received on the date delivered, (ii) by US Mail shall be deemed received three (3) days following deposit with the US Postal Service, and (iii) by overnight delivery service shall be deemed received on the next business day following deposit with the overnight delivery service.

MISCELLANEOUS.

Savings Clause. To the maximum extent possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be prohibited by, or held to be invalid under applicable law, such provision shall be ineffective solely to the extent of such prohibition or invalidity, and this shall not invalidate the remainder of such provision, or any other provision of this Agreement.

State Law: Venue. This Agreement shall be governed by, and construed in accordance with, the laws of the State of [Missouri / Kansas]. The [Circuit Court of Jackson County, Missouri / Wyandotte County Kansas District Court] shall have exclusive jurisdiction of any litigation between the parties arising out of or related to this Agreement.

Expenses. Permittee shall bear any and all costs and expenses associated with this Agreement or any costs or expenses incurred by KCT relating to this Agreement or the enforcement of KCT's rights under the Agreement (including, but not limited to cost for flaggers and any reasonable and necessary attorneys fees or expenses incurred by KCT in enforcing this Agreement).

Waiver of Breach. The waiver by KCT of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by Permittee shall in no way impair the right of KCT to avail itself of any remedy for any subsequent breach thereof.

Counterparts. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

Integration. This Agreement constitutes the entire agreement between KCT and Permittee and there are no other oral or written agreements between them with respect to the Permitted Activities.

Exhibits. Each Exhibit to this Agreement is attached hereto and is incorporated into this Agreement by this reference. Capitalized terms used in the Exhibits shall, unless expressly stated to the contrary in such Exhibit, have the same meaning as in this Agreement.

Authority. Each person executing this Agreement in a representative capacity warrants and represents that such person has the authority to do so and, upon request, proof of such authority in customary form shall be furnished to the requesting party.

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IN WITNESS WHEREOF, the parties have entered into this Right of Entry on the date last written below.

KCT:

KANSAS CITY TERMINAL RAILWAY COMPANY

BY: _____
NAME: [Shawn Lauby]
TITLE: Sr. Manager, Contracts & Real Estate
ADDRESS: 4501 Kansas Avenue
Kansas City, Kansas 66106
PHONE: (913) 551-2127

Executed by KCT this _____ day of _____, 20_____.

Attach: **Exhibit A:** Legal Depiction/Description of Property
Exhibit B: Permittee Safety Requirements
Exhibit C: Protection of Railroad Facilities
Exhibit D: Insurance Requirements

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[PERMITTEE'S SIGNATURE APPEARS ON NEXT PAGE]

Signature Page for Right of Entry between KCT and [_____].

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PERMITEE:

BY: _____
NAME: _____
TITLE: _____
ADDRESS: _____
PHONE: _____

Executed by Permittee this _____ day of _____, 20_____.

And if Permittee desires that a notice be sent to a second party, with a copy to:

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Signature Page for Right of Entry between KCT and [_____]

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EXHIBIT A to Right of Entry

Depiction and/or Legal Description of Property

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EXHIBIT B to Right of Entry

Permittee Safety Requirements

SAFETY ORIENTATION

Orientation and Training. Neither Permittee nor any of the Authorized Personnel may enter the Property without first having completed the railroad contractor safety courses (the “**Permittee Safety Orientation**”) on the website located at www.ers-shortline.com (the “**Safety Web Site**”). Before entering the Property, Permittee must ensure that Permittee and each and every one of its Authorized Personnel (i) completes the Permittee Safety Orientation through the Safety Web Site, and (ii) possesses a card certifying completion of the Permittee Safety Orientation before entering the Property. Permittee is responsible for the cost of \$55 per person for the Permittee Safety Orientation. Permittee must renew the Permittee Safety Orientation annually, in the event the term of the Agreement exceeds one year. Further clarification regarding the Permittee Safety Orientation may be found on the Web Site or obtained from the Railroad Representative.

PERMITTEE ROADWAY WORKER ON TRACK SAFETY PROGRAM AND SAFETY ACTION PLAN

Development of Safety Program. Permittee and each of the Authorized Personnel that will perform Permitted Activities within 25 feet of the centerline of a railroad track must develop and implement a Roadway Worker Protection/On Track Safety Program (a “**RW Safety Program**”) for the Permitted Activities with the Railroad Representative in order to develop an on track safety strategy as described in the guidelines listed in the on track safety portion of the Permittee Safety Orientation. This RW Safety Program must provide training for the Permittee and the Authorized Personnel. Permittee shall reinforce this training at the job site through job safety briefings. During the performance of the Permitted Activities, Permittee must audit the performance of the Permitted Activities to ensure RW Safety Program compliance. Permittee must designate one on-site supervisor to serve as the contact person for KCT and who will be responsible to maintain a copy of the RW Safety Program, safety audits, and Material Safety Datasheets (“**MSDS**”), at the site of the Permitted Activities. All Permitted Activities performed by Permittee or the Authorized Personnel within 25 feet of any track must be in compliance with Federal Railroad Administration (“**FRA**”) Roadway Worker Protection Regulations.

PERMITTEE GENERAL SAFETY REQUIREMENTS

Moving Trains. Permitted Activities in the proximity of KCT’s railroad track(s) is potentially hazardous where movement of trains and equipment can occur at any time and in any direction. When any Permitted Activities are in progress in the vicinity of railroad tracks located on or near the Property, Permittee and the Authorized Personnel should always be alert for approaching trains or engines, and should expect the movement of trains, engines or cars on any track at any time. Upon the approach of a train or engine, Permittee and the Authorized Personnel shall stop all Permitted Activities and station

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themselves not closer than twenty five feet (25'0") from the centerline of the track on which the train is operating. Because the performance of the Permitted Activities on and around railroad tracks can be hazardous, safety precautions and KCT's instructions must be followed at all times.

Protective Equipment/Clothing. All personnel protective equipment ("**PPE**") used on the Property must meet applicable OSHA and American National Standards Institute ("**ANSI**") specifications. Such specifications require that Permittee and the Authorized Personnel performing the Permitted Activities in and around train operations shall wear suitable clothing and other personal protective equipment as may be required by KCT. Current KCT PPE is set forth on the Safety Web Site, however, a partial list of the requirements include: (i) safety glasses with permanently affixed side shields (no yellow lenses); (ii) hard hats; (iii) safety shoes with hardened toes, above-the ankle lace-up and a defined heel; and (iv) high visibility retro-reflective work wear. Hearing protection, fall protection, gloves, and respirators must be worn as required by State and Federal regulations. In the event of a discrepancy between the information contained on the Safety Web Site and the information in this section, the Safety Web Site shall govern.

Report Injuries. Permittee and the Authorized Personnel shall report to KCT, in writing, any personal injury of Permittee, any of the Authorized Personnel or any other person, occurring on the Property or relating to the Permitted Activities, within 24 hours of the injury or as soon as practicable.

Safety Briefings. Before commencing any of the Permitted Activities on the Property, a thorough job safety briefing must be conducted with all Authorized Personnel involved with the Permitted Activities. Such job safety briefing shall be repeated when the Authorized Personnel or task involved with the Permitted Activities changes. If the Permitted Activities or a particular task of the Permitted Activities is within 25 feet of the centerline of any railroad track, the job safety briefing must include KCT's flagger, as applicable, and include the procedures Permittee shall use to protect the Authorized Personnel when moving any equipment adjacent to or across any railroad track(s).

Safety Strategy. Permittee and the Authorized Personnel shall not perform Permitted Activities within 25 feet of the centerline of any track without an on-track safety strategy approved by the Railroad Representative. When authority is provided, each of the Authorized Personnel must know: (i) the identity of KCT flagger and how to contact KCT flagger, (ii) limits of the authority, (iii) the method of communication to stop and resume Permitted Activities, and (iv) location of the designated place of safety. Persons or equipment entering flag/Permitted Activities limits that were not previously job briefed must notify the flagger immediately and be given a job briefing when Permitted Activities are within 25 feet of the centerline of track.

Activities After Hours. When Permittee or the Authorized Personnel are to perform Permitted Activities on the Property after normal business hours or on weekends, the Railroad Representative must be notified prior to conducting such activities. A minimum of two employees must be present at all times such Permitted Activities are conducted.

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Drugs, Alcohol, Weapons. For safety reasons, while conducting Permitted Activities on the Property no person shall (i) have in their possession any pocket knives, firearms or other deadly weapons, and (ii) be under the influence of drugs or alcohol or be in possession of drugs or alcohol. Any Authorized Personnel under suspicion of being under the influence of drugs or alcohol, or in the possession of same, shall be immediately removed from the Property by Permittee or KCT, and if removed by KCT, such Authorized Personnel shall be subsequently released to the custody of a representative of Permittee. Future access to the Property will be denied to any Authorized Personnel found to have violated this Section.

Report Damage. The Permittee and any of the Authorized Personnel must immediately report to the Railroad Representative any damage to the Property, or any hazard noticed on passing trains. In the event any vehicle or machine comes in contact with any track, signal equipment, or structure (bridge) and such contact could result in a train derailment, the Permittee and any of the Authorized Personnel shall report such contact immediately to the KCT representative in charge of the project and to KCT's Operations Center at [(913) 551-2179]. Local emergency numbers are to be obtained from the Railroad Representative prior to the start of any Permitted Activities and Permittee shall post such emergency numbers at the job site.

Storage. **NEITHER PERMITTEE NOR ANY OF THE AUTHORIZED PERSONNEL SHALL PILE OR STORE ANY MATERIALS, MACHINERY OR EQUIPMENT CLOSER THAN 25'-0" TO THE CENTER LINE OF THE NEAREST KCT TRACK ON THE PROPERTY. MATERIALS, MACHINERY OR EQUIPMENT MUST NOT BE STORED OR LEFT WITHIN 250 FEET OF ANY HIGHWAY/RAIL AT-GRADE CROSSINGS, WHERE STORAGE OF THE SAME WILL OBSTRUCT THE VIEW OF A TRAIN APPROACHING THE CROSSING. PRIOR TO BEGINNING OF THE PERMITTED ACTIVITIES, PERMITTEE MUST ESTABLISH A STORAGE AREA WITH CONCURRENCE OF KCT'S GENERAL MANAGER.**

Unattended Equipment. Machines or vehicles must not be left unattended with the engine running. Parked machines or equipment must be in gear with brakes set and if equipped with blade, pan or bucket, they must be lowered to the ground. All machinery and equipment left unattended on the Property must be left inoperable and secured against movement. (See Safety Web Site for more detailed specifications).

Drainage. Neither Permittee nor the Authorized Personnel shall create and leave any conditions on the Property where the Permitted Activities have been/are being performed that would interfere with water drainage. Any Permitted Activities performed near and over water or which may impact a water way must meet all Federal, State and Local regulations.

Power Lines. All power line wires must be considered dangerous and of high voltage unless informed to the contrary by proper authority. For all power lines the minimum clearance between the lines and any part of the equipment or load must be: (i) 200 KV or below – 15 feet; (ii) 200 to 350 KV – 20 feet; (iii) 350 to 500 KV – 25 feet; (iv) 500 to 750 KV – 35 feet; and (v) 750 to 1000 KV – 45 feet. If capacity of the line is not known, a minimum clearance of 45 feet must be maintained. A person must be

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designated to observe clearance of the equipment and give a timely warning for all operations where it is difficult for an operator to maintain the desired clearance by visual means.

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EXHIBIT C to Right of Entry

Protection of Railroad Facilities

1. GENERAL.

No Interference. Permittee must plan, schedule and conduct all Permitted Activities so as not to interfere with the movement of any trains on the Property.

Cooperation of KCT. Subject to the movement of KCT's trains, KCT will cooperate with the Permittee such that the Permitted Activities may be handled and performed in an efficient manner.

Cease Activities. KCT shall have the absolute right to cause the Permitted Activities on the Property to cease if, in the opinion of KCT, Permittee's activities create a hazard to the Property, or any of KCT's other property, employees, and/or operations. Permittee shall have no claim whatsoever for any type of damages or for extra or additional compensation in the event the Permitted Activities are delayed by KCT.

False Work or Excavations. The Permittee shall furnish KCT with five (5) sets of drawings showing details of construction affecting the Property and tracks, if the Permitted Activities involve (i) any false work above any tracks or (ii) any excavations (A) located within twenty-five (25) feet of the centerline of the nearest track or (B) intersecting a slope from the plane of the top of rail on a 1 ½ horizontal to 1 vertical slope beginning at eleven (11) feet from centerline of the nearest track, both measured perpendicular to the centerline of the track. The drawings of the Permitted Activities must include the proposed method of installation and removal of false work, shoring or cribbing, not included in the contract plans and two (2) sets of structural calculations of any false work, shoring or cribbing. All calculations must take into consideration railway surcharge loading and must be designed to meet American Railway Engineering and Maintenance of Way Association (previously known as American Railway Engineering Association) Coopers E-80 live loading standard. All drawings and calculations must be stamped by a registered professional engineer licensed to practice in the state the project is located. Permittee shall not begin Permitted Activities until notified by KCT that the plans for false work have been approved. Permittee shall be required to use lifting devices such as, cranes and/or winches to place or to remove any false work over KCT's tracks. In no case will the Permittee be relieved of responsibility for results obtained by the implementation of said approved plans.

FLAGGER SERVICES.

Prior Notice. Permittee must give the Railroad Representative a minimum of thirty (30) calendar days advance notice when flagging services will be required so that the Railroad Representative may make appropriate arrangements (i.e., bulletin the flagger's position). If flagging services are scheduled in advance by the Permittee and it is subsequently determined by the parties hereto that such services are no longer necessary, Permittee must give the Railroad Representative five (5) business days advance

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notice so that appropriate arrangements can be made to abolish the position, pursuant to union requirements.

When Required. Unless determined otherwise by the Railroad Representative, a KCT flagger and protective services and devices will be required and furnished when (i) Permittee's Permitted Activities are located over, under and/or within twenty-five (25) feet measured horizontally from centerline of the nearest track, and (ii) cranes or similar equipment positioned beyond 25-feet from the track centerline could foul the track in the event of tip-over or other catastrophic occurrence, resulting from (but not limited to) the following conditions:

When in the opinion of the Railroad Representative it is necessary to safeguard the Property, and KCT's employees, trains, engines and facilities.

When any excavation is performed below the bottom of tie elevation, if, in the opinion of the Railroad Representative, track or other KCT facilities may be subject to movement or settlement.

When Permitted Activities in any way interfere with the safe operation of trains at timetable speeds.

When any hazard is presented to KCT track, communications, signal, electrical, or other facilities either due to persons, material, equipment or blasting in the vicinity.

Heavy Equipment/Objects. Special permission must be obtained from KCT before moving heavy or cumbersome objects or equipment which might result in making the track impassable.

Flagging Services. All flagging services will be performed by qualified KCT flaggers. A flagging crew generally consists of one employee. However, additional personnel may be required to protect the Property and KCT operations, if deemed necessary by the Railroad Representative.

Each time a flagger is called, the minimum period for billing will be the eight (8) hour basic day.

The cost of flagger services provided by KCT, when deemed necessary by the Railroad Representative, will be borne by Permittee. The estimated cost for one (1) flagger is [**\$800.00**] for an eight (8) hour basic day with time and one-half or double time for overtime, rest days and holidays. The estimated cost for each flagger includes vacation allowance, paid holidays, KCT and unemployment insurance, public liability and property damage insurance, health and welfare benefits, transportation, meals, lodging and supervision. Negotiations by appropriate Federal authorities may increase actual or estimated flagging rates. The flagging rate in effect at the time services are performed will be used to calculate the actual costs of flagging pursuant to this Section.

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EXCAVATION.

Underground Structures. In the event the Permitted Activities involve excavation, prior to performing any such excavation, Permittee must determine whether any underground structures, equipment or facilities (including without limitation, utility lines, pipe lines, electric wires or cables, fiber optic cable systems) (any of which may be referred to as an “**Underground Structure**”) are present and located within the portion of the Property where such Permitted Activities may be performed. Permittee must determine whether excavation on the Property could cause damage to any Underground Structure. Damage to an Underground Structure may result in delays to KCT traffic and disruption of service to other users. Delays and disruptions to service may cause business interruptions involving loss of revenue and profits. Before commencing excavation, Permittee must contact the Railroad Representative. All underground and overhead wires will be considered HIGH VOLTAGE and dangerous until verified with the company having ownership of the line. It is Permittee’s responsibility to notify any other companies that have underground utilities on the Property and arrange for the location of all underground utilities before performing any excavation activity.

Location of Underground Structures. If there is any doubt about the location of Underground Structure of any kind, no Permitted Activities must be performed until the exact location of such Underground Structure has been determined. There will be no exceptions to these instructions. Permittee must cease all Permitted Activities and notify the Railroad Representative immediately before continuing excavation in the area if obstructions (including Underground Structure) are encountered which do not appear on drawings. If the obstruction is a utility and the owner of the utility can be identified, then Permittee must also notify the owner immediately.

OSHA Standards. All excavations must be conducted in compliance with applicable OSHA regulations and, regardless of depth, must be properly shored where there is any danger to tracks, structures or personnel.

Excavations Secured. Any excavations, holes or trenches on the Property must be covered, guarded and/or protected at all times including when work thereon is not being performed. When leaving the Property at night and over weekends, the Permittee shall secure the Property and leave it in a condition that will ensure that KCT employees and other personnel who may be working or passing through the Property are protected from all hazards. All excavations must be back filled as soon as possible and to such specifications as may be required by KCT.

PROTECTIVE MEASURES.

Protection of Facilities. Permittee must take protective measures as are necessary to keep KCT’s facilities, including track ballast, free of sand, debris, and other foreign object and materials resulting from Permittee’s operations. Any damage to KCT’s facilities resulting from Permittee’s Permitted Activities shall be repaired or replaced by KCT and Permittee agrees to promptly reimburse KCT for all costs of such repairs or replacement.

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Blasting. Permittee must notify the Railroad Representative at [(913) 551-2596] and provide blasting plans to KCT for review not less than seven (7) calendar days prior to conducting any blasting operations adjacent to or on the Property.

Temporary Clearances. Permittee must abide by the following temporary clearances during construction and the performance of all Permitted Activities:

15' Horizontally from center line of nearest track

21'-6" Vertically above top of rail

27'-0" Vertically above top of rail for electric wires carrying less than 70 volts

28'-0" Vertically above top of rail for electric wires carrying 750 volts to 15,000 volts

30'-0" Vertically above top of rail for electric wires carrying 15,000 volts to 20,000 volts

34'-0" Vertically above top of rail for electric wires carrying more than 20,000 volts

Permanent Clearances. Upon completion of construction, the following clearances shall be maintained:

25' Horizontally from centerline of nearest track

23'-3 ½" Vertically above top of rail

Clearance Infringement. If any infringement of State statutory clearances due to the Permitted Activities is anticipated, details of such infringement must be submitted to KCT and, if the Permittee is working on behalf of a political subdivision of the State, to such political subdivision. No Permitted Activities involving such infringement may be undertaken until (i) approved in writing by KCT, and (ii) the applicable political subdivision has obtained any necessary authorization from the State Regulatory Authority for the infringement. No extra compensation will be allowed in the event the Permitted Activities are delayed pending KCT approval and/or the State Regulatory Authority's approval.

Tell-Tale. In the case of impaired vertical clearance above top of rail, KCT may install "tell-tale" or other protective devices KCT deems necessary for protection of KCT operations. The cost of tell-tale or protective devices shall be borne by Permittee.

Additional Details. The details of Permitted Activities affecting the Property and tracks not included in the contract plans must be submitted to KCT for approval before Permitted Activities may be undertaken.

Temporary Crossing. Other than at public road crossings, Permittee shall not move any equipment or materials across the Property or tracks until permission has been obtained from KCT. Permittee must

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obtain a “Temporary Private Crossing Right of Entry” from KCT prior to moving such equipment or materials across KCT’s tracks. The temporary crossing must be gated and locked at all times when not required for use by Permittee. The temporary crossing for use of the Permittee will be at the sole expense of Permittee.

Hazardous Materials. Permittee shall not allow the Property to become a treatment, storage or transfer facility for hazardous materials or substances as those terms are defined in the Resource Conservation and Recovery Act or any state analogue. The discharge, release or spill on the Property of any hazardous substances, oil, petroleum, constituents, pollutants, contaminants, or any hazardous waste is prohibited.

REPORTING REQUIREMENTS.

Environmental Laws. If, while performing any Permitted Activities under this Agreement, Permittee or any of the Authorized Personnel (i) discover any hazardous waste, hazardous substance, petroleum or other deleterious material, including but not limited to any non-containerized commodity or material, (A) on or adjacent to the Property, or (B) in or near any surface water, swamp, wetlands or waterways, or (ii) cause any discharge, release or spills of such materials in excess of a reportable quantity, then Permittee shall immediately:

notify KCT’s Operations Center at [(913) 551-2179], of such discovery or release;

take safeguards necessary to protect its Authorized Personnel and/or third parties; and

exercise due care with respect to the discovery or release, including the taking of any appropriate measure to minimize the impact of such release.

Personal Injuries. KCT is required to report certain injuries as a part of compliance with FRA reporting requirements. Any personal injury sustained by Permittee or the Authorized Personnel while on KCT’s property must be reported immediately (by phone mail if unable to contact in person) to the Railroad Representative. The Individual Incident Report form [**contained herein**] is to be completed and sent by fax to KCT at [(913) 551-2167] and to the Railroad Representative no later than the close of shift on the date of the injury.

TRAIN DELAY.

Permittee Liable for Delays. Permittee is responsible for and hereby indemnifies and holds harmless KCT (including its owner roads and its tenants) for, from and against all damages arising from any unscheduled delay to a freight or passenger train which affects KCT’s ability to fully utilize its equipment and to meet customer service and contract obligations which are caused by Permittee, or the Authorized Personnel, subcontractors or subservice providers performing Permitted Activities under the Agreement. Permittee will be billed, as further provided below, for all of the economic losses arising from such delay, including without limitation (i) loss of use of equipment, (ii) contractual loss of incentive pay and bonuses and (iii) contractual penalties resulting from train delays.

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For loss of use of equipment, Permittee will be billed the current freight train hour rate per train as determined from KCT's records. Any disruption to train traffic may cause delays to multiple trains at the same time for the same period.

Additionally, the parties acknowledge that passenger, U.S. mail trains and certain other grain, intermodal, coal and freight trains operate under incentive/penalty contracts between KCT and its customer(s). Under these arrangements, if KCT does not meet its contract service commitments, KCT may suffer loss of performance or incentive pay and/or be subject to penalty payments. Permittee is responsible for any train performance and incentive penalties or other contractual economic losses actually incurred by KCT which are attributable to a train delay caused by Permittee, the Authorized Personnel or its subcontractors.

The contractual relationship between KCT and its customers is proprietary and confidential. In the event of a train delay covered by the Agreement, KCT will share information relevant to any train delay to the extent consistent with KCT confidentiality obligations. Damages for train delay for certain trains may be as high as \$50,000.00 per incident.

Work Windows. If absolutely required for the Permitted Activities, Permittee may request work windows from KCT and KCT may, in its sole discretion, grant Permittee and its subcontractors permission for such work windows provided that Permittee provide KCT's Railroad Representative thirty (30) days advance notice of the times and dates for proposed work windows. KCT and Permittee will establish mutually agreeable work windows for the Permitted Activities. KCT has the right at any time to revise or change the work windows due to train operations or service obligations. KCT will not be responsible for any additional costs or expenses resulting from a change in work windows. Additional costs or expenses resulting from a change in work windows shall be accounted for in Permittee's expenses for the Permitted Activities.

[Permittee may request that Permittee, the Authorized Personnel and subcontractors must plan, schedule, coordinate and conduct all Permitted Activities so as to not cause any delays to any trains.]

Job No. J4I3038C
J4I3022B
J4I3028B
Route: I-435
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EXHIBIT D to Right of Entry

Insurance Provisions

Permittee must, at its sole cost and expense, procure and continuously maintain during the Term of the Agreement the following insurance coverages:

Commercial General Liability Insurance.

Coverage. Commercial General Liability Insurance must contain broad form contractual liability with a combined single limit of a minimum of \$5,000,000 each occurrence and an aggregate limit of at least \$10,000,000 applying to each annual period. Coverage must be purchased on a post 1997 ISO occurrence form or equivalent and include coverage for, but not limited to the following:

Bodily Injury and Property Damage

Personal and Advertising Injury

Fire legal liability

Products and completed operations

Other coverage Requirements. The Commercial General Liability Insurance policy must also contain the following provisions, which must be indicated on the certificate of insurance:

It is agreed that any workers' compensation exclusion does not apply to KCT's payments related to the Federal Employers Liability Act or a Railroad Wage Continuation Program or similar programs and any payments made are deemed not to be either payments made or obligations assumed under any workers' compensation, disability benefits, or unemployment compensation law or similar law.

The definition of insured contract must not include any exclusion, exception or other limitation for any Permitted Activities being done within 50 feet of KCT's Property (Form CG 24 17).

Any exclusions related to the explosion, collapse and underground hazards must be removed.

No other endorsements limiting coverage as respects obligations under the Agreement may be included on the policy.

Business Automobile Insurance.

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Coverage. Business Automobile insurance must contain a combined single limit of at least \$1,000,000 per occurrence applying to each annual period, and include coverage for, but not limited to the following:

Bodily injury and property damage

Any and all vehicles owned, used or hired

Workers Compensation and Employers Liability Insurance.

Coverage. Workers Compensation and Employees Liability Insurance shall include coverage for, but not limited to:

Permittee's statutory liability under the worker's compensation laws of the state(s) in which the Permitted Activities are to be performed. If optional under State law, the insurance must cover all employees.

Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.

Railroad Protective Liability Insurance. Railroad Protective Liability Insurance shall name "Kansas City Terminal Railway (KCT)" as the insured with coverage of at least \$5,000,000 per occurrence and \$10,000,000 in the aggregate applying to each annual period.

Endorsements. The Railroad Protective Liability Insurance policy must be issued on a standard ISO form CG 00 35 10 93 and include the following:

Endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93)

Endorsed to include the Limited Seepage and Pollution Endorsement.

Endorsed to remove any exclusion for punitive damages.

No other endorsements restricting coverage may be added.

The original policy must be provided to KCT prior to the Permittee or any Authorized Personnel performing any Permitted Activities under the Agreement.

Other Requirements.

No Punitive Damage Exclusions. All policies (applying to coverage listed above) must not contain an exclusion for punitive damages and certificates of insurance must reflect that no exclusion exists.

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Waivers of Recovery and Subrogation. Permittee agrees to waive its right of recovery against KCT for all claims and suits against KCT. In addition, its insurers, through the terms of the policy or policy endorsement, must waive their right of subrogation against KCT for all claims and suits. The certificate of insurance must reflect the waiver of subrogation. Permittee further waives its right of recovery, and its insurers also must waive their right of subrogation against KCT for loss of its owned or leased property or property under Permittee's care, custody or control.

Primary and Non-Contributing. Permittee's insurance policies through policy endorsement, must include wording which states that the policy is primary and non-contributing with respect to any insurance carried by KCT. The certificate of insurance must reflect that the above wording is included in evidenced policies.

Separation of Insureds. All policy(ies) required above (excluding Workers Compensation and if applicable, Railroad Protective) must include a separation of insureds provision. Separation of insureds must be indicated on the certificate of insurance.

Self Insurance. Permittee is not allowed to self insure without the prior written consent of KCT. If granted by KCT, any deductible, self-insured retention or other financial responsibility for claims must be covered directly by Permittee in lieu of insurance. Any and all KCT liabilities that would otherwise, in accordance with the provisions of the Agreement, be covered by Permittee's insurance will be covered as if Permittee elected not to include a deductible, self-insured retention or other financial responsibility for claims.

Certificates of Insurance. Prior to commencing the Permitted Activities, Permittee must furnish to KCT an acceptable certificate(s) of insurance including an original signature of the authorized representative evidencing the required coverage, endorsements, and amendments and referencing the contract audit/folder number if available. The policy(ies) must contain a provision that obligates the insurance company(ies) issuing such policy(ies) to notify KCT in writing at least 30 days prior to any cancellation, non-renewal, substitution or material alteration. This provision must be indicated on the certificate of insurance. Upon request from KCT, a certified duplicate original of any required policy must be furnished. Permittee should send the certificate(s) to the following address:

[Mr. Shawn Lauby]
Sr. Manager, Contracts & Real Estate
Kansas City Terminal Railway Company
4501 Kansas Avenue
Kansas City, Kansas 66106

Approved Insurance Providers. Any insurance policy must be written by a reputable insurance company acceptable to KCT or with a current Best's Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the service is to be provided.

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J4I3022B
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Broker's Review. Permittee represents that the Agreement has been thoroughly reviewed by Permittee's insurance agent(s)/broker(s), who have been instructed by Permittee to procure the insurance coverage required by the Agreement.

Modification of Required Coverages. Attorneys fees and necessary litigation expenses must be in addition to all policy limits for the insurance coverages referenced above. Not more frequently than once a year, KCT may reasonably modify the required insurance coverage to reflect then-current risk management practices in the railroad industry and underwriting practices in the insurance industry. In such event, such modifications will be set forth in a written notice delivered to Permittee and Permittee shall modify its insurance coverage in compliance with such modifications within thirty (30) days of the receipt of such notice.

Subcontractors. If any portion of the Permitted Activities are to be subcontracted by Permittee, Permittee must require that the subcontractor provide and maintain the insurance coverages set forth herein, naming KCT as an additional insured, and requiring that the subcontractor release, defend and indemnify KCT to the same extent and under the same terms and conditions as Permittee is required to release, defend and indemnify KCT herein.

Remedies. Failure to provide evidence as required by this section will entitle, but not require, KCT to terminate the Agreement immediately. Acceptance of a certificate that does not comply with this section will not operate as a waiver of Permittee's obligations hereunder.

No Limits. The fact that insurance (including, without limitation, self-insurance) is obtained by Permittee will not be deemed to release or diminish the liability of Permittee including, without limitation, liability under the indemnity provisions of the Agreement. Damages recoverable by KCT will not be limited by the amount of the required insurance coverage.

Definition of KCT. For purposes of this Exhibit, KCT includes the owner railroads of KCT.

Y. SUBSTITUTIONS IN LIEU OF 401 ASPHALT MIXES

Delete Sec 401.5.2 and substitute the following:

401.5.2 Substitutions. At the option of the contractor and at no cost to the Commission, the contractor may use a Sec 401 mixture with a smaller nominal maximum size aggregate or an approved Sec 403 mixture, design level C or E, with the same or smaller nominal maximum size aggregate in lieu of any Sec 401 mixture. When a Sec 403 mixture is substituted, the layer thickness requirements of Sec 403 will apply. The gradation, asphalt content, deleterious, and density acceptance of the substituted mixture during production will be in accordance with Sec 401.

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Z. LIQUIDATED DAMAGES FOR WINTER MONTHS

1.0 Description. Revise Sec 108.8.1.2 (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.

AA. OPTIONAL PAVEMENTS JSP 06-06E

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.

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

2.4 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.

BB. TIME RESTRICTIONS FOR MIGRATORY BIRDS

1.0 Description. Swallows and other bird species protected by the Migratory Bird Treaty Act may be nesting under bridges A1686, A2249, and A1685 that will be repaired under this contract.

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2.0 Restrictions. To comply with the Migratory Bird Treaty Act, nests of protected species cannot be disturbed when active (eggs or young are present). Generally, nests are active between April 1 and July 31 but active nests can be present outside of these dates. The contractor is prohibited from disturbing active nests regardless of when they are present. Determination if a nest belongs to a protected species, and if it is active or inactive, shall be the responsibility of the MoDOT's Environmental Specialist.

3.0 Options. To facilitate the bridge work the contractor has the following options that allow work on the bridge during nesting season:

- a. The work may be completed at any time after July 31 or prior to April 1 as long as no active nests of protected species are present. No additional action is required with this option.
- b. Work during the general nesting period will only be allowed if the contractor completely removes the colony's inactive or partially constructed nests by March 15 and maintains a nest free condition until the existing bridge deck is removed. Removal methods can consist of scraping or hydro-blasting the existing nests.

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

CC. 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.

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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.

DD. TRAINING PROVISION

Delete 2.10 and 2.15 of the Training Provision in the GENERAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS TO 2011 MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION and substitute the following:

2.10 Except as otherwise noted below, the contractor will be reimbursed \$10.00 per hour of training given an employee in the contract in accordance with an approved training program. As approved by the engineer, reimbursement will be made for training persons in excess of the number of trainee hours specified in the contract. Reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other sources do not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor when the trainees are concurrently employed on a federal aid project and the contractor does one or more of the following, and contributes to the cost of the training, provides instruction to the trainee, or pays the trainee's wages during the offsite training period. In order receive the reimbursement the trainee must complete at least 500 hours on the project.


2.15 If the training hours have not been obtained and a GFE has not been displayed upon project completion, the Contractor will be assessed liquidated damages in the amount of \$20.00 per hour for those hours not realized. For instance, if the project goal was 1,000 hours and only 450 hours were met, then liquidated damages would be assessed at $550 \times \$20.00 = \$11,000.00$.



MEMORANDUM
Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: Heather Barrows-KC/de

COPY:

FROM: Frank Reichart 
Environmental Chemist

DATE: October 20, 2014

SUBJECT: Materials
Asbestos Inspection & Heavy Metal Paint Survey
Route I-435
Job No. J4I3022B
Bridges A-1682, A-1698, & A-1750
Jackson County

We are providing you with the results of the requested inspection on the above referenced property. The inspection report contains an asbestos and a heavy metals survey, unless otherwise requested. The asbestos inspection included sample collection of suspect asbestos-containing material and National Voluntary Laboratory Accreditation Program (NVLAP) accredited testing to confirm the presence of asbestos. This asbestos and heavy metal paint report includes four different report forms. Form T746 lists all of the samples taken during the asbestos inspection. Form T747 shows only those samples that tested positive for Category I nonfriable asbestos-containing materials that may remain in the structure during demolition, if kept adequately wet to avoid visible air emissions. Form T748 shows only those samples that tested positive for asbestos and require removal prior to demolition. Form C760 lists all paint samples taken during the heavy metal paint survey and their metal content.

In accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP), as well as city and county asbestos abatement regulations - Registration, Notification, and Performance Requirements, regulated asbestos-containing material (RACM) namely, Friable and Category II nonfriable, have a high probability of becoming friable under normal demolition forces. Practices and procedures for removal prior to demolition, disposal, and clearances should be in accordance with referenced regulations. Missouri Department of Transportation policy is to perform asbestos abatements in accordance with NESHAP.

In accordance with Missouri Department of Natural Resources' Technical Bulletin "Managing Construction and Demolition Waste" dated January 31, 2003, a heavy metal paint survey has been performed on the above referenced property. We are providing you with the results of this survey. This survey includes locating painted concrete, block and/or brick surfaces, sampling/testing the painted surface(s) to determine if hazardous heavy metals are present. Non-hazardous painted concrete, blocks, or bricks may be used as clean fill materials, if properly

TO: Barrows-KC/de
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handled. You must contact the Central Office Design Division for proper handling of the reported painted surfaces.

Although our survey included observing and sampling behind walls, above ceilings, beneath floors, etc., it is possible that potentially hidden asbestos-containing materials may exist within the structure. To our knowledge, we have located all suspect asbestos-containing and all painted concrete, block and brick surfaces. If suspect asbestos-containing materials or if painted concrete, block and/or brick surfaces are observed in addition to those reflected in this inspection report, then please advise us immediately so that we may schedule a follow-up inspection.

Should you have any questions regarding these reports, please contact me at (573) 526-4359.

db/dr

[http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared
documents/asbestos/districts/kansas city \(kc\)/jxi's/j4i3022b/fr1410204.docx](http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared/documents/asbestos/districts/kansas%20city%20(kc)/jxi's/j4i3022b/fr1410204.docx)
Attachments

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM**

ROUTE: I-435
MODOT JOB NO.: J413022B
DISTRICT: KC
COUNTY: Jackson
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge A-1682 (Twin)

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Over Front Street, Kansas City
TYPE(S) OF STRUCTURE(S): Bridge




Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE: I-435
MODOT JOB NO.: J4I3022B
DISTRICT: KC
COUNTY: Jackson
DATE OF TESTS: N/A
PARCEL NO.: Bridge A-1682 (Twin)

TESTED BY:  Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Over Front Street, Kansas City
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: I-435
MODOT JOB NO.: J413022B
DISTRICT: KC
COUNTY: Jackson
DATE OF TESTS: N/A
PARCEL NO.: Bridge A-1682 (Twin)

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Over Front Street, Kansas City
TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

IN F = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-435
MODOT JOB NO.: J413022B
DISTRICT: KC
COUNTY: Jackson
SURVEYED BY: Frank Reichart
DATE OF SURVEY: October 15, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge A-1682 (Twin)
SITE ADDRESS: Over Front Street, Kansas City
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)												
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag					
	No samples taken. No painted surfaces located.													

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
 b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435
MODOT JOB NO.: J413022B
DISTRICT: KC
COUNTY: Jackson
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge A-1698 (Twin)

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Over Rt 78 (23rd Street), Kansas City
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
14MFJR 255	Asphalt Fiber Board	4-Curb Joints at Abutments	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected II NF = Category II Nonfriable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)



ROUTE:	I-435	TESTED BY:	Frank Reichart
MODOT JOB NO.:	J413022B	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Over Rt 78 (23rd Street), Kansas City
COUNTY:	Jackson	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	October 20, 2014		
PARCEL NO.:	Bridge A-1698 (Twin)		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			


All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report
All materials requiring removal or special handling.

ROUTE: I-435
MODOT JOB NO.: J413022B
DISTRICT: KC
COUNTY: Jackson
DATE OF TESTS: October 20, 2014
PARCEL NO.: Bridge A-1698 (Twin)

TESTED BY: Frank Reichart 
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Over Rt 78 (23rd Street), Kansas City
TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: 1-435
 MODOT JOB NO.: J413022B
 DISTRICT: KC
 COUNTY: Jackson
 SURVEYED BY: Frank Reichart *FR*
 DATE OF SURVEY: October 15, 2014

TESTED BY: N/A
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge A-1698 (Twin)
 SITE ADDRESS: Over Rt 78 (23rd Street), Kansas City
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)												
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag					
	No samples taken. No painted surfaces located.													

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
 b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435
MODOT JOB NO.: J413022B
DISTRICT: KC
COUNTY: Jackson
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge A-1750 (Twin)

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Over US 24 (Independence Avenue), Kansas City
TYPE(S) OF STRUCTURE(S): Bridge



Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.



ROUTE: I-435
MODOT JOB NO.: J413022B
DISTRICT: KC
COUNTY: Jackson
DATE OF TESTS: N/A
PARCEL NO.: Bridge A-1750 (Twin)

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Over US 24 (Independence Avenue), Kansas City
TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-435
MODOT JOB NO.: J413022B
DISTRICT: KC
COUNTY: Jackson
SURVEYED BY: Frank Reichart
DATE OF SURVEY: October 15, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge A-1750 (Twin)
SITE ADDRESS: Over US 24 (Independence Avenue), Kansas City
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)													
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag						
	No samples taken. No painted surfaces located.														

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471



MEMORANDUM

Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: Heather Barrows-KC/de

CC:

FROM: Frank Reichart *FR*
Environmental Chemist, Lead License #110506-300003364

DATE: October 20, 2014

SUBJECT: Materials
Job No. J4I3022B
I-435/Jackson County
Bridge A-1750

On October 15, 2014, a field check of the paint system was performed on the subject bridge. TMS paint data shows System B paint, applied in 1986. The field check verified the information found in TMS.

The existing paint system is lead-based paint (LBP). Therefore the rehabilitation project as well as any painting project will be subject to DHSS notification and regulation if more than 50 square feet of painted structural steel is disturbed. Additionally be advised that System B paint used basic lead silico chromate so high levels of chromium, another regulated heavy metal, will also be found on this bridge.

Should further screenings be required, please contact Todd Bennett, Chemical Laboratory Director, at (573) 751-1045.

Should you have any questions, feel free to call me at (573) 526-4359.

fr/dr


[http://sharepoint/systemdelivery/cm/chemicallab/environmental/shareddocuments/asbestos/districts/kansas city \(kc\)/jxi's/j4i3022b/fr1410203 a-1750.docx](http://sharepoint/systemdelivery/cm/chemicallab/environmental/shareddocuments/asbestos/districts/kansas%20city%20(kc)/jxi's/j4i3022b/fr1410203%20a-1750.docx)



MEMORANDUM
Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: Melissa Neff-KC/de

COPY:

FROM: Frank Reichart 
Environmental Chemist

DATE: October 21, 2014

SUBJECT: Materials
Asbestos Inspection & Heavy Metal Paint Survey
Job No. J4I3028

Route/County	Bridge #	Route/County	Bridge #
I-29/Platte	L-0692	I-435/Platte	A-3548
152/Platte	A-3526	I-435/Platte	A-3310
152/Platte	A-4717	I-29/Platte	A-3460
I-435/Clay	A-3293	I-29/Platte	A-3459
I-35/Clay	L-0655	I-29/Platte	L-0354
I-435/Jackson	A-2249	I-29/Platte	A-0199
I-435/Jackson	A-1686	I-435/Clay	A-3333
I-435/Clay	A-3407	I-435/Clay	A-3334
I-435/Clay	A-3373	152/Clay	A-3113
I-29/Platte	A-1689	I-435/Clay	A-3323
I-29/Clay	A-1601	I-435/Clay	A-3314
I-29/Clay	A-1615	I-435/Clay	A-3303
I-29/Clay	A-1599	I-435/Clay	A-3302
US 169/Clay	A-4643	I-35/Clay	A-1367
US 169/Clay	A-4642	I-435/Jackson	A-1685
152/Platte	A-3481	I-435/Jackson	A-1683
I-435/Platte	A-3342	I-435/Clay	A-3324
I-435/Platte	A-3318	152/Platte	A-3430

We are providing you with the results of the requested inspection on the above referenced property. The inspection report contains an asbestos and a heavy metals survey, unless otherwise requested. The asbestos inspection included sample collection of suspect asbestos-containing material and National Voluntary Laboratory Accreditation Program (NVLAP) accredited testing to confirm the presence of asbestos. This asbestos and heavy metal paint report includes four different report forms. Form T746 lists all of the samples taken during the asbestos inspection. Form T747 shows only those samples that tested positive for Category I nonfriable asbestos-containing materials that may remain in the structure during demolition, if kept adequately wet to avoid visible air emissions. Form T748 shows only those samples that tested positive for

TO: Neff-KC/de
Page 2
October 21, 2014

asbestos and require removal prior to demolition. Form C760 lists all paint samples taken during the heavy metal paint survey and their metal content.

In accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP), as well as city and county asbestos abatement regulations - Registration, Notification, and Performance Requirements, regulated asbestos-containing material (RACM) namely, Friable and Category II nonfriable, have a high probability of becoming friable under normal demolition forces. Practices and procedures for removal prior to demolition, disposal, and clearances should be in accordance with referenced regulations. Missouri Department of Transportation policy is to perform asbestos abatements in accordance with NESHAP.

In accordance with Missouri Department of Natural Resources' Technical Bulletin "Managing Construction and Demolition Waste" dated January 31, 2003, a heavy metal paint survey has been performed on the above referenced property. We are providing you with the results of this survey. This survey includes locating painted concrete, block and/or brick surfaces, sampling/testing the painted surface(s) to determine if hazardous heavy metals are present. Non-hazardous painted concrete, blocks, or bricks may be used as clean fill materials, if properly handled. You must contact the Central Office Design Division for proper handling of the reported painted surfaces.

Although our survey included observing and sampling behind walls, above ceilings, beneath floors, etc., it is possible that potentially hidden asbestos-containing materials may exist within the structure. To our knowledge, we have located all suspect asbestos-containing and all painted concrete, block and brick surfaces. If suspect asbestos-containing materials or if painted concrete, block and/or brick surfaces are observed in addition to those reflected in this inspection report, then please advise us immediately so that we may schedule a follow-up inspection.

Should you have any questions regarding these reports, please contact me at (573) 526-4359.


db/dr

[http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared documents/asbestos/districts/kansas city \(kc\)/jxi's/j4i3028/fr1410211.docx](http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared/documents/asbestos/districts/kansas%20city%20(kc)/jxi's/j4i3028/fr1410211.docx)
Attachments

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: _____
 MODOT JOB NO.: _____
 DISTRICT: _____
 COUNTY: _____
 DATE OF SURVEY: _____
 PARCEL NO.: _____

I-29
 J413028
 KC
 Platte
 October 16, 2014
 Bridge# L-0692

SURVEYED BY: Frank Reichart 
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: RP SR A to I-29N, Over I-29
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
14MFJR 262	Asphalt Felt Material	Behind Curb Plates	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)



ROUTE: I-29
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Platte
 DATE OF TESTS: October 20, 2014
 PARCEL NO.: Bridge# L-0692

TESTED BY: Frank Reichart
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: RP SR A to I-29N, Over I-29
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: I-29
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Platte
DATE OF TESTS: October 20, 2014
PARCEL NO.: Bridge# L-0692

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: RP SR A to I-29N, Over I-29
TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: 1-29
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Platte
SURVEYED BY: Frank Reichart
DATE OF SURVEY: October 16, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# L-0692
SITE ADDRESS: RP SR A to I-29N, Over I-29
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: MO 152
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Platte
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge# A-3526

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Platte Purchase Drive, Over MO 152
TYPE(S) OF STRUCTURE(S): Bridge

FR

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
14MFJR 261	Asphalt Felt Material	Behind 4-Curb Plates	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

II NF = Category II Nonfriable F = Friable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)

ROUTE:	MO 152	TESTED BY:	Frank Reichart
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Platte Purchase Drive, Over MO 152
COUNTY:	Platte	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	October 20, 2014		
PARCEL NO.:	Bridge# A-3526		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.
INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: MO 152
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Platte
DATE OF TESTS: October 20, 2014
PARCEL NO.: Bridge# A-3526

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Platte Purchase Drive, Over MO 152
TYPE(S) OF STRUCTURE(S): Bridge



Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: MO 152
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Platte
SURVEYED BY: Frank Reichart *FR*
DATE OF SURVEY: October 15, 2014


TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-3526
SITE ADDRESS: Platte Purchase Drive, Over MO 152
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
 Asbestos Survey Report
 All Suspect ACM

ROUTE: MO 152
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Platte
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge# A-4714

SURVEYED BY:  Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Childress Avenue, Over MO 152
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
14MFJR 260	Asphalt Felt Material	Behind 4-Curb Plates	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

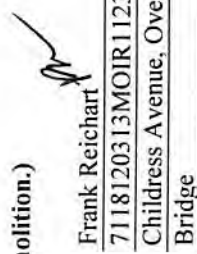
Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)

ROUTE: MO 152
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Platte
DATE OF TESTS: October 20, 2014
PARCEL NO.: Bridge# A-4714

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Childress Avenue, Over MO 152
TYPE(S) OF STRUCTURE(S): Bridge



Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.
 INF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: MO 152
MODOT JOB NO.: J4E3028
DISTRICT: KC
COUNTY: Platte
DATE OF TESTS: October 20, 2014
PARCEL NO.: Bridge# A-4714

TESTED BY: Frank Reichardt
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Childress Avenue, Over MO 152
TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: MO 152
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Platte
 SURVEYED BY: Frank Reichart
 DATE OF SURVEY: October 15, 2014

TESTED BY: N/A
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-4714
 SITE ADDRESS: Childress Avenue, Over MO 152
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)													
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag						
	No samples taken. No painted surfaces located.														

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
 b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge# A-3293

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Woodland Avenue, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
14MFJR 259	Asphalt Felt Material	Behind 4-Curb Plates	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE: I-435
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Clay
 DATE OF TESTS: October 20, 2014
 PARCEL NO.: Bridge# A-3293

TESTED BY: Frank Reichart
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: Woodland Avenue, Over I-435
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE:	I-435	TESTED BY:	N/A
MODOT JOB NO.:	J413028	DATE OF TESTS:	N/A
DISTRICT:	KC	PARCEL NO.:	Bridge# A-3293
COUNTY:	Clay	SITE ADDRESS:	Woodland Avenue, Over I-435
SURVEYED BY:	Frank Reichart <i>[Signature]</i>	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF SURVEY:	October 15, 2014		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)											
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag				
	No samples taken. No painted surfaces located.												

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: I-35
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge# L-0655

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: N Brighton Avenue, Over I-35
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
14MFJR 258	Asphalt Felt Material	4-Curb Plates, Sidewalk Side	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE: I-35
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF TESTS: October 20, 2014
PARCEL NO.: Bridge# L-0655

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: N Brighton Avenue, Over I-35
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE:	I-35	TESTED BY:	Frank Reichart
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	N Brighton Avenue, Over I-35
COUNTY:	Clay	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	October 20, 2014		
PARCEL NO.:	Bridge# L-0655		

FR

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-35
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
SURVEYED BY: Frank Reichart
DATE OF SURVEY: October 15, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# L-0655
SITE ADDRESS: N Brighton Avenue, Over I-35
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)										
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag			
	No samples taken. No painted surfaces located.											

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
 b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: 1-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Jackson
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge# A-2249

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Northbound, Over UP RR
TYPE(S) OF STRUCTURE(S): Bridge



Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
14MFJR 257	Asphalt Joint Material	2-Curb Joints, South Abutment	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure II NF = Category II Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

**Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)**

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Jackson
DATE OF TESTS: October 20, 2014
PARCEL NO.: Bridge# A-2249

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Northbound, Over UP RR
TYPE(S) OF STRUCTURE(S): Bridge



Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

All materials requiring removal or special handling.

FR

TESTED BY: Frank Reichart
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: Northbound, Over UP RR
 TYPE(S) OF STRUCTURE(S): Bridge

ROUTE: I-435
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Jackson
 DATE OF TESTS: October 20, 2014
 PARCEL NO.: Bridge# A-2249

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Jackson
SURVEYED BY: Frank Reichart
DATE OF SURVEY: October 15, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-2249
SITE ADDRESS: Northbound, Over UP RR
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
 b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Jackson
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge# A-1686

SURVEYED BY: Frank Reichardt
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Northbound, Over UP RR & KCS RR
TYPE(S) OF STRUCTURE(S): Bridge



Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
14MFR 256	Asphalt Felt Material	Behind Curb Plates	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE:
MODOT JOB NO.:
DISTRICT:
COUNTY:
DATE OF TESTS:
PARCEL NO.:

I-435
J413028
KC
Jackson
October 20, 2014
Bridge# A-1686

TESTED BY:
CERTIFICATION #:
SITE ADDRESS:
TYPE(S) OF STRUCTURE(S):

Frank Reichart
7118120313MOIR11239
Northbound, Over UP RR & KCS RR
Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Jackson
DATE OF TESTS: October 20, 2014
PARCEL NO.: Bridge# A-1686

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Northbound, Over UP RR & KCS RR
TYPE(S) OF STRUCTURE(S): Bridge




Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Jackson
SURVEYED BY: Frank Reichart 
DATE OF SURVEY: October 15, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-1686
SITE ADDRESS: Northbound, Over UP RR & KCS RR
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435 SURVEYED BY: Frank Reichart
 MODOT JOB NO.: J413028 CERTIFICATION #: 7118120313MOIR11239
 DISTRICT: KC SITE ADDRESS: Northbound, Over MO 152
 COUNTY: Clay TYPE(S) OF STRUCTURE(S): Bridge
 DATE OF SURVEY: October 14, 2014
 PARCEL NO.: Bridge# A-3407

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
14MFJR 254	Asphalt Felt Material	Behind Curb Plates	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected II NF = Category II Nonfriable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)

ROUTE: I-435


MODOT JOB NO.: J413028

DISTRICT: KC

COUNTY: Clay

DATE OF TESTS: October 20, 2014

PARCEL NO.: Bridge# A-3407

TESTED BY:  Frank Reichart

CERTIFICATION #: 7118120313MOIR11239

SITE ADDRESS: Northbound, Over MO 152

TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.


INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF TESTS: October 20, 2014
PARCEL NO.: Bridge# A-3407

TESTED BY: Frank Reichart 
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Northbound, Over MO 152
TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes


ROUTE: I-435
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Clay
 SURVEYED BY: Frank Reichart
 DATE OF SURVEY: October 14, 2014

TESTED BY: N/A
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-3407
 SITE ADDRESS: Northbound, Over MO 152
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
 b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
All Suspect ACM

ROUTE:	I-435	SURVEYED BY:	Frank Reichart 
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Southbound, Over MO 152
COUNTY:	Clay	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF SURVEY:	October 14, 2014		
PARCEL NO.:	Bridge# A-3373		

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
14MFJR 253	Asphalt Felt Material	Behind Curb Plates	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure II NF = Category II Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)



ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF TESTS: October 20, 2014
PARCEL NO.: Bridge# A-3373

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Southbound, Over MO 152
TYPE(S) OF STRUCTURE(S): Bridge


Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

All necessary work to handle this material is the contractor's responsibility.

I NF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report
All materials requiring removal or special handling.

ROUTE:	I-435	TESTED BY:	Frank Reichart 
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Southbound, Over MO 152
COUNTY:	Clay	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	October 20, 2014		
PARCEL NO.:	Bridge# A-3373		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

INF = Category I Nonfriable

II NF = Category II Nonfriable

F = Friable

* = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-435
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Clay
 SURVEYED BY: Frank Reichart
 DATE OF SURVEY: October 14, 2014

TESTED BY: N/A
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-3373
 SITE ADDRESS: Southbound, Over MO 152
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
 b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: I-29
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Platte
 DATE OF SURVEY: October 16, 2014
 PARCEL NO.: Bridge# A-1689

SURVEYED BY: Frank Reichart 
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: RP I-29S to SR A
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

II NF = Category II Nonfriable F = Friable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)

FR

ROUTE:	I-29	TESTED BY:	Frank Reichart
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	RP I-29S to SR A
COUNTY:	Platte	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-1689		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			


All necessary work to handle this material is the contractor's responsibility.

I NF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE:	I-29	TESTED BY:	Frank Reichart 
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	RP I-29S to SR A
COUNTY:	Platte	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-1689		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable

II NF = Category II Nonfriable

F = Friable

* = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE:	1-29	TESTED BY:	N/A
MODOT JOB NO.:	J413028	DATE OF TESTS:	N/A
DISTRICT:	KC	PARCEL NO.:	Bridge# A-1689
COUNTY:	Platte	SITE ADDRESS:	RP I-29S to SR A
SURVEYED BY:	Frank Reichart 	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF SURVEY:	October 16, 2014		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)									
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag		
	No samples taken. No painted surfaces located.										

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM**

ROUTE: I-29
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF SURVEY: October 16, 2014
PARCEL NO.: Bridge# A-1601

SURVEYED BY: Frank Reichart 
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: RP US 169N to I-29N, Over US 69
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)

ROUTE: I-29
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Clay
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-1601

TESTED BY: Frank Reichart
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: RP US 169N to I-29N, Over US 69
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: _____
 MODOT JOB NO.: _____
 DISTRICT: _____
 COUNTY: _____
 DATE OF TESTS: _____
 PARCEL NO.: _____

1-29
 J4E028
 KC
 Clay
 N/A
 Bridge# A-1601

TESTED BY: _____
 CERTIFICATION #: _____
 SITE ADDRESS: _____
 TYPE(S) OF STRUCTURE(S): _____


Frank Reichart
 7118120313MOIR11239
 RP US 169N to I-29N, Over US 69
 Bridge

FR

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure


**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE:	1-29	TESTED BY:	N/A
MODOT JOB NO.:	J413028	DATE OF TESTS:	N/A
DISTRICT:	KC	PARCEL NO.:	Bridge# A-1601
COUNTY:	Clay	SITE ADDRESS:	RP US 169N to I-29N, Over US 69
SURVEYED BY:	Frank Reichart 	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF SURVEY:	October 16, 2014		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
All Suspect ACM

ROUTE: I-29 **SURVEYED BY:** Frank Reichart 

MODOT JOB NO.: J413028 **CERTIFICATION #:** 7118120313MOIR11239

DISTRICT: KC **SITE ADDRESS:** RP US 169N to I-29N, Over I-29S

COUNTY: Clay **TYPE(S) OF STRUCTURE(S):** Bridge

DATE OF SURVEY: October 16, 2014

PARCEL NO.: Bridge# A-1615

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)

ROUTE: I-29
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-1615

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: RP US 169N to I-29N, Over I-29S
TYPE(S) OF STRUCTURE(S): Bridge



Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**


Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: _____
MODOT JOB NO.: _____
DISTRICT: _____
COUNTY: _____
DATE OF TESTS: _____
PARCEL NO.: _____

I-29
J4E028
KC
Clay
N/A
Bridge# A-1615

TESTED BY: _____
CERTIFICATION #: _____
SITE ADDRESS: _____
TYPE(S) OF STRUCTURE(S): _____


Frank Reichart
7118120313MOIR11239
RP US 169N to I-29N, Over I-29S
Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-29
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
SURVEYED BY: Frank Reichart
DATE OF SURVEY: October 16, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-1615
SITE ADDRESS: RP US 169N to I-29N, Over I-29S
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: _____
 MODOT JOB NO.: _____
 DISTRICT: _____
 COUNTY: _____
 DATE OF SURVEY: _____
 PARCEL NO.: _____

I-29
 J413028
 KC
 Clay
 October 16, 2014
 Bridge# A-1599

SURVEYED BY:  Frank Reichart
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: RP I-29S to US 169S, Over US 69
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

II NF = Category II Nonfriable F = Friable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

FR

ROUTE:	I-29	TESTED BY:	Frank Reichart
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	RP I-29S to US 169S, Over US 69
COUNTY:	Clay	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-1599		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

All necessary work to handle this material is the contractor's responsibility.

I NF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**


Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE:
MODOT JOB NO.:
DISTRICT:
COUNTY:
DATE OF TESTS:
PARCEL NO.:

I-29
J413028
KC
Clay
N/A
Bridge# A-1599

TESTED BY:
CERTIFICATION #:
SITE ADDRESS:
TYPE(S) OF STRUCTURE(S):

Frank Reichart 
7118120313MOIR11239
RP I-29S to US 169S, Over US 69
Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
 Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes


ROUTE: 1-29
MODOT JOB NO.: J4I3028
DISTRICT: KC
COUNTY: Clay
SURVEYED BY: Frank Reichart ^{NW}
DATE OF SURVEY: October 16, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-1599
SITE ADDRESS: RP I-29S to US 169S, Over US 69
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
 b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM**

ROUTE: US 169 **SURVEYED BY:** Frank Reichart 

MODOT JOB NO.: J413028 **CERTIFICATION #:** 7118120313MOIR11239

DISTRICT: KC **SITE ADDRESS:** Southbound, Over BNSF RR

COUNTY: Clay **TYPE(S) OF STRUCTURE(S):** Bridge

DATE OF SURVEY: October 16, 2014

PARCEL NO.: Bridge# A-4643

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)



ROUTE:	US 169	TESTED BY:	Frank Reichart
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Southbound, Over BNSF RR
COUNTY:	Clay	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-4643		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

All necessary work to handle this material is the contractor's responsibility.


I NF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: US 169
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-4643

TESTED BY: Frank Reichart 
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Southbound, Over BNSF RR
TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable

II NF = Category II Nonfriable

F = Friable

* = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE:	US 169	TESTED BY:	N/A
MODOT JOB NO.:	J413028	DATE OF TESTS:	N/A
DISTRICT:	KC	PARCEL NO.:	Bridge# A-4643
COUNTY:	Clay	SITE ADDRESS:	Southbound, Over BNSF RR
SURVEYED BY:	Frank Reichart 	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF SURVEY:	October 16, 2014		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
 CONSTRUCTION AND MATERIALS**
 Asbestos Survey Report
 All Suspect ACM

ROUTE: US 169
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF SURVEY: October 16, 2014
PARCEL NO.: Bridge# A-4642

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Northbound, Over BNSF RR
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
 CONSTRUCTION AND MATERIALS
 Asbestos Survey Report
 Nonfriable Asbestos-Containing Materials
 (Abatement not required if not made friable during demolition.)

ROUTE: US 169 **TESTED BY:** Frank Reichart
MODOT JOB NO.: J413028 **CERTIFICATION #:** 7118120313MOIR11239
DISTRICT: KC **SITE ADDRESS:** Northbound, Over BNSF RR
COUNTY: Clay **TYPE(S) OF STRUCTURE(S):** Bridge
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-4642



Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

All necessary work to handle this material is the contractor's responsibility.
 I NF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report
All materials requiring removal or special handling.

FR

ROUTE:	US 169	TESTED BY:	Frank Reichart
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Northbound, Over BNSF RR
COUNTY:	Clay	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-4642		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: US 169 TESTED BY: N/A
 MODOT JOB NO.: J413028 DATE OF TESTS: N/A
 DISTRICT: KC PARCEL NO.: Bridge# A-4642
 COUNTY: Clay SITE ADDRESS: Northbound, Over BNSF RR
 SURVEYED BY: Frank Reichart TYPE(S) OF STRUCTURE(S): Bridge
 DATE OF SURVEY: October 16, 2014

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
 b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
All Suspect ACM

ROUTE: MO 152 MODOT JOB NO.: J4E3028 DISTRICT: KC COUNTY: Platte DATE OF SURVEY: October 15, 2014 PARCEL NO.: Bridge# A-3481	SURVEYED BY: Frank Reichart CERTIFICATION #: 7118120313MOIR11239 SITE ADDRESS: Over SR K TYPE(S) OF STRUCTURE(S): Bridge
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Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure II NF = Category II Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)

ROUTE:	MO 152	TESTED BY:	Frank Reichart
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Over SR K
COUNTY:	Platte	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-3481		



Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report
All materials requiring removal or special handling.


ROUTE: MO 152
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Platte
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-3481

TESTED BY: Frank Reichart *FR*
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: Over SR K
 TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE:	MO 152	TESTED BY:	N/A
MODOT JOB NO.:	J413028	DATE OF TESTS:	N/A
DISTRICT:	KC	PARCEL NO.:	Bridge# A-3481
COUNTY:	Platte	SITE ADDRESS:	Over SR K
SURVEYED BY:	Frank Reichart 	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF SURVEY:	October 15, 2014		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
All Suspect ACM

ROUTE:
MODOT JOB NO.:
DISTRICT:
COUNTY:
DATE OF SURVEY:
PARCEL NO.:

I-435
J413028
KC
Platte
October 15, 2014
Bridge# A-3342

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Northbound, Over MO 152
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Platte
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-3342

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Northbound, Over MO 152
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.
INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: I-435 MODOT JOB NO.: J413028 DISTRICT: KC COUNTY: Platte DATE OF TESTS: N/A PARCEL NO.: Bridge# A-3342	TESTED BY: Frank Reichart CERTIFICATION #: 7118120313MOIR11239 SITE ADDRESS: Northbound, Over MO 152 TYPE(S) OF STRUCTURE(S): Bridge
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Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Platte
SURVEYED BY: Frank Reichart
DATE OF SURVEY: October 15, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-3342
SITE ADDRESS: Northbound, Over MO 152
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)													
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag						
	No samples taken. No painted surfaces located.														

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435
MODOT JOB NO.: J4I3028
DISTRICT: KC
COUNTY: Platte
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge# A-3318

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: MO 45, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material 1 NF = Category I Nonfriable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

II NF = Category II Nonfriable F = Friable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE:	I-435	TESTED BY:	Frank Reichart 
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	MO 45, Over I-435
COUNTY:	Platte	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-3318		


Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**


Asbestos Survey Report
All materials requiring removal or special handling.

ROUTE:	I-435	TESTED BY:	 Frank Reichart
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	MO 45, Over I-435
COUNTY:	Platte	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-3318		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-29	TESTED BY: N/A
MODOT JOB NO.: J413028	DATE OF TESTS: N/A
DISTRICT: KC	PARCEL NO.: Bridge# A-3459
COUNTY: Platte	SITE ADDRESS: RP I-435N to I-29N, Over I-29
SURVEYED BY: Frank Reichart 	TYPE(S) OF STRUCTURE(S): Bridge
DATE OF SURVEY: October 15, 2014	

Sample ID	Color/Location of Material/Substrate	Metals (ppm)														
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag							
	No samples taken. No painted surfaces located.															

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE:
MODOT JOB NO.:
DISTRICT:
COUNTY:
DATE OF SURVEY:
PARCEL NO.:

I-29
J4I3028
KC
Platte
October 15, 2014
Bridge# L-0354

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Southbound, Over Platte River
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes**

ROUTE: I-29
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Platte
SURVEYED BY: Frank Reichart
DATE OF SURVEY: October 15, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# L-0354
SITE ADDRESS: Southbound, Over Platte River
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
 b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM**

ROUTE: _____
MODOT JOB NO.: _____
DISTRICT: _____
COUNTY: _____
DATE OF SURVEY: _____
PARCEL NO.: _____

1-29
 J413028
 KC
 Platte
 October 15, 2014
 Bridge# A-0199

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Northbound, Over Platte River
TYPE(S) OF STRUCTURE(S): Bridge



Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: 1-29
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Platte
SURVEYED BY: Frank Reichart
DATE OF SURVEY: October 15, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-0199
SITE ADDRESS: Northbound, Over Platte River
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)																																																																																																																																																			
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag																																																																																																																																												
	No samples taken. No painted surfaces located.																																																																																																																																																				

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435 SURVEYED BY: Frank Reichart
 MODOT JOB NO.: J413028 CERTIFICATION #: 7118120313MOIR11239
 DISTRICT: KC SITE ADDRESS: US 169N, Over I-435
 COUNTY: Clay TYPE(S) OF STRUCTURE(S): Bridge
 DATE OF SURVEY: October 15, 2014
 PARCEL NO.: Bridge# A-3333

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-3333

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: US 169N, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.
INF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-3333

TESTED BY:
CERTIFICATION #:
SITE ADDRESS:
TYPE(S) OF STRUCTURE(S):

Frank Reichart
7118120313MOIR11239
US 169N, Over I-435
Bridge



Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-435	TESTED BY: N/A	DATE OF TESTS: N/A
MODOT JOB NO.: J413028	PARCEL NO.: Bridge# A-3333	SITE ADDRESS: US 169N, Over I-435
DISTRICT: KC	TYPE(S) OF STRUCTURE(S): Bridge	
COUNTY: Clay		
SURVEYED BY: Frank Reichart		
DATE OF SURVEY: October 15, 2014		


Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: _____
MODOT JOB NO.: _____
DISTRICT: _____
COUNTY: _____
DATE OF SURVEY: _____
PARCEL NO.: _____

I-435
J413028
KC
Clay
October 15, 2014
Bridge# A-3334

SURVEYED BY: Frank Reichart 
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: RP I-435S TO US 169N, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

II NF = Category II Nonfriable F = Friable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)



ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-3334

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: RP I-435S TO US 169N, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

7118120313MOIR11239
 RP I-435S TO US 169N, Over I-435
 Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

All necessary work to handle this material is the contractor's responsibility.


I NF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-3334

TESTED BY: Frank Reichart 
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: RP I-435S TO US 169N, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
All Suspect ACM

ROUTE: MO 152 **SURVEYED BY:** Frank Reichart

MODOT JOB NO.: J413028 **CERTIFICATION #:** 7118120313MOIR11239

DISTRICT: KC **SITE ADDRESS:** Over East Fork Shoal Creek

COUNTY: Clay **TYPE(S) OF STRUCTURE(S):** Bridge

DATE OF SURVEY: October 14, 2014


PARCEL NO.: Bridge# A-3113(Twin)

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)


ROUTE:	MO 152	TESTED BY:	Frank Reichart 
MODOT JOB NO.:	J4I3028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Over East Fork Shoal Creek
COUNTY:	Clay	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-3113(Twin)		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE:	MO 152	TESTED BY:	N/A
MODOT JOB NO.:	J413028	DATE OF TESTS:	N/A
DISTRICT:	KC	PARCEL NO.:	Bridge# A-3113(Twin)
COUNTY:	Clay	SITE ADDRESS:	Over East Fork Shoal Creek
SURVEYED BY:	Frank Reichart 	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF SURVEY:	October 14, 2014		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM**

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF SURVEY: October 14, 2014
PARCEL NO.: Bridge# A-3323

SURVEYED BY: Frank Reichart 
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Shoal Creek Parkway, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE: I-435 **TESTED BY:** Frank Reichart 

MODOT JOB NO.: J413028 **CERTIFICATION #:** 7118120313MOIR11239

DISTRICT: KC **SITE ADDRESS:** Shoal Creek Parkway, Over I-435

COUNTY: Clay **TYPE(S) OF STRUCTURE(S):** Bridge

DATE OF TESTS: N/A

PARCEL NO.: Bridge# A-3323

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE:	<u>I-435</u>	TESTED BY:	<u>N/A</u>
MODOT JOB NO.:	<u>J413028</u>	DATE OF TESTS:	<u>N/A</u>
DISTRICT:	<u>KC</u>	PARCEL NO.:	<u>Bridge# A-3323</u>
COUNTY:	<u>Clay</u>	SITE ADDRESS:	<u>Shoal Creek Parkway, Over I-435</u>
SURVEYED BY:	<u>Frank Reichart</u>	TYPE(S) OF STRUCTURE(S):	<u>Bridge</u>
DATE OF SURVEY:	<u>October 14, 2014</u>		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF SURVEY: October 14, 2014
PARCEL NO.: Bridge# A-3314

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: 96th Street, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE: I-435 **TESTED BY:** Frank Reichart 

MODOT JOB NO.: J413028 **CERTIFICATION #:** 7118120313MOIR11239

DISTRICT: KC **SITE ADDRESS:** 96th Street, Over I-435

COUNTY: Clay **TYPE(S) OF STRUCTURE(S):** Bridge

DATE OF TESTS: N/A

PARCEL NO.: Bridge# A-3314

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

All necessary work to handle this material is the contractor's responsibility.

I NF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-435
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Clay
 SURVEYED BY: Frank Reichart
 DATE OF SURVEY: October 14, 2014

TESTED BY: N/A
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-3314
 SITE ADDRESS: 96th Street, Over I-435
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
 b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)

ROUTE: I-435
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Clay
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-3303

TESTED BY: Frank Reichart
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: 108th Street, Over I-435
 TYPE(S) OF STRUCTURE(S): Bridge



Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category 1 Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE:	I-435	TESTED BY:	Frank Reichart
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	108th Street, Over I-435
COUNTY:	Clay	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-3303		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

INF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure


**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE:	<u>I-435</u>	TESTED BY:	<u>N/A</u>
MODOT JOB NO.:	<u>J413028</u>	DATE OF TESTS:	<u>N/A</u>
DISTRICT:	<u>KC</u>	PARCEL NO.:	<u>Bridge# A-3303</u>
COUNTY:	<u>Clay</u>	SITE ADDRESS:	<u>108th Street, Over I-435</u>
SURVEYED BY:	<u>Frank Reichart</u>	TYPE(S) OF STRUCTURE(S):	<u>Bridge</u>
DATE OF SURVEY:	<u>October 14, 2014</u>		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435 SURVEYED BY: Frank Reichart 

MODOT JOB NO.: J4I3028 CERTIFICATION #: 7118120313MOIR11239

DISTRICT: KC SITE ADDRESS: MO 291, Over I-435

COUNTY: Clay TYPE(S) OF STRUCTURE(S): Bridge

DATE OF SURVEY: October 14, 2014

PARCEL NO.: Bridge# A-3302

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure II NF = Category II Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-3302

TESTED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: MO 291, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

FR

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE: I-435
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Clay
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-3302

TESTED BY: Frank Reichart
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: MO 291, Over I-435
 TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
SURVEYED BY: Frank Reichart
DATE OF SURVEY: October 14, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-3302
SITE ADDRESS: MO 291, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)								
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag	
	No samples taken. No painted surfaces located.									

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
All Suspect ACM

ROUTE: I-35
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
DATE OF SURVEY: October 14, 2014
PARCEL NO.: Bridge# A-1367(Twin)

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Over MO 33, N/O Kearney
TYPE(S) OF STRUCTURE(S): Bridge

W

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)

ROUTE:	<u>I-35</u>	TESTED BY:	<u>Frank Reichart</u>
MODOT JOB NO.:	<u>J413028</u>	CERTIFICATION #:	<u>7118120313MOIR11239</u>
DISTRICT:	<u>KC</u>	SITE ADDRESS:	<u>Over MO 33, N/O Kearney</u>
COUNTY:	<u>Clay</u>	TYPE(S) OF STRUCTURE(S):	<u>Bridge</u>
DATE OF TESTS:	<u>N/A</u>		
PARCEL NO.:	<u>Bridge# A-1367(Twin)</u>		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report
All materials requiring removal or special handling.


ROUTE: I-35
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Clay
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-1367(Twin)

TESTED BY: Frank Reichart
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: Over MO 33, N/O Kearney
 TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-35
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Clay
SURVEYED BY: Frank Reichart 
DATE OF SURVEY: October 14, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-1367(Twin)
SITE ADDRESS: Over MO 33, N/O Kearney
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Jackson
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge# A-1685(Northbound)

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Over Blue River
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
 NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE:	I-435	TESTED BY:	Frank Reichart 
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Over Blue River
COUNTY:	Jackson	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-1685(Northbound)		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			

All necessary work to handle this material is the contractor's responsibility.
INF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE:	I-435	TESTED BY:	Frank Reichart
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Over Blue River
COUNTY:	Jackson	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-1685(Northbound)		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes**


ROUTE:	I-435	TESTED BY:	N/A
MODOT JOB NO.:	J413028	DATE OF TESTS:	N/A
DISTRICT:	KC	PARCEL NO.:	Bridge# A-1685(Northbound)
COUNTY:	Jackson	SITE ADDRESS:	Over Blue River
SURVEYED BY:	Frank Reichart <i>FR</i>	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF SURVEY:	October 15, 2014		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)									
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag		
	No samples taken. No painted surfaces located.										

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435
MODOT JOB NO.: J413028
DISTRICT: KC
COUNTY: Jackson
DATE OF SURVEY: October 15, 2014
PARCEL NO.: Bridge# A-1683

SURVEYED BY: Frank Reichart 
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Southbound, Over UP RR
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable F = Friable
 NAFC = No Asbestos Fiber Detected II NF = Category II Nonfriable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

Nonfriable Asbestos-Containing Materials

(Abatement not required if not made friable during demolition.)



ROUTE:	I-435	TESTED BY:	Frank Reichart
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Southbound, Over UP RR
COUNTY:	Jackson	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-1683		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

All necessary work to handle this material is the contractor's responsibility.

I NF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report

All materials requiring removal or special handling.


ROUTE: I-435
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Jackson
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-1683

TESTED BY: Frank Reichart
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: Southbound, Over UP RR
 TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE:	I-435	TESTED BY:	N/A
MODOT JOB NO.:	J413028	DATE OF TESTS:	N/A
DISTRICT:	KC	PARCEL NO.:	Bridge# A-1683
COUNTY:	Jackson	SITE ADDRESS:	Southbound, Over UP RR
SURVEYED BY:	Frank Reichart 	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF SURVEY:	October 15, 2014		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)												
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag					
	No samples taken. No painted surfaces located.													

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: I-435
MODOT JOB NO.: J4I3028
DISTRICT: KC
COUNTY: Clay
DATE OF SURVEY: October 14, 2014
PARCEL NO.: Bridge# A-3324

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Pleasant Valley Road, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure II NF = Category II Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE: I-435
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Clay
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-3324

TESTED BY: Frank Reichart
 CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: Pleasant Valley Road, Over I-435
 TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	INF			


All necessary work to handle this material is the contractor's responsibility.

INF = Category I Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

ROUTE:	I-435	TESTED BY:	Frank Reichart 
MODOT JOB NO.:	J413028	CERTIFICATION #:	7118120313MOIR11239
DISTRICT:	KC	SITE ADDRESS:	Pleasant Valley Road, Over I-435
COUNTY:	Clay	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF TESTS:	N/A		
PARCEL NO.:	Bridge# A-3324		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: I-435
MODOT JOB NO.: J4I3028
DISTRICT: KC
COUNTY: Clay
SURVEYED BY: Frank Reichart
DATE OF SURVEY: October 14, 2014

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-3324
SITE ADDRESS: Pleasant Valley Road, Over I-435
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471




MEMORANDUM

Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: Melissa Neff-KC/de

CC:

FROM: Frank Reichart 
Environmental Chemist, Lead License #110506-300003364

DATE: October 20, 2014

SUBJECT: Materials
Job No. J4I3028
I-435/Clay
Bridge# A-3324

On October 14, 2014, a field check of the paint system was performed on the subject bridge. TMS paint data shows System B paint, applied in 1981. The field check verified the information found in TMS.

The existing paint system is lead-based paint (LBP). Therefore the rehabilitation project as well as the painting project will be subject to DHSS notification and regulation. Additionally be advised that System B paint used basic lead silico chromate so high levels of chromium, another regulated heavy metal, will also be found on this bridge.

Should further screenings be required, please contact Todd Bennett, Chemical Laboratory Director, at (573) 751-1045.

Should you have any questions, feel free to call me at (573) 526-4359.

fr/dr

[http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared documents/asbestos/districts/kansas city \(kc\)/jxi's/j4i3028/fr1410201 a3324.docx](http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared/documents/asbestos/districts/kansas%20city%20(kc)/jxi's/j4i3028/fr1410201%20a3324.docx)

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE:
MODOT JOB NO.:
DISTRICT:
COUNTY:
DATE OF SURVEY:
PARCEL NO.:

MO 152
J413028
KC
Platte
October 15, 2014
Bridge# A-3430

SURVEYED BY: Frank Reichart
CERTIFICATION #: 7118120313MOIR11239
SITE ADDRESS: Over Brush Creek
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure II NF = Category II Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE: MO 152 **TESTED BY:** Frank Reichart *FR*
MODOT JOB NO.: J413028 **CERTIFICATION #:** 7118120313MOIR11239
DISTRICT: KC **SITE ADDRESS:** Over Brush Creek
COUNTY: Platte **TYPE(S) OF STRUCTURE(S):** Bridge
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A-3430

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	1 NF			

All necessary work to handle this material is the contractor's responsibility.

1 NF = Category 1 Nonfriable

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS**

Asbestos Survey Report

All materials requiring removal or special handling.

TESTED BY: 
Frank Reichart

ROUTE: MO 152
 MODOT JOB NO.: J413028
 DISTRICT: KC
 COUNTY: Platte
 DATE OF TESTS: N/A
 PARCEL NO.: Bridge# A-3430

CERTIFICATION #: 7118120313MOIR11239
 SITE ADDRESS: Over Brush Creek
 TYPE(S) OF STRUCTURE(S): Bridge

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS

Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE:	MO 152	TESTED BY:	N/A
MODOT JOB NO.:	J4I3028	DATE OF TESTS:	N/A
DISTRICT:	KC	PARCEL NO.:	Bridge# A-3430
COUNTY:	Platte	SITE ADDRESS:	Over Brush Creek
SURVEYED BY:	Frank Reichart <i>FR</i>	TYPE(S) OF STRUCTURE(S):	Bridge
DATE OF SURVEY:	October 15, 2014		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)									
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag		
	No samples taken. No painted surfaces located.										

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471




MEMORANDUM

Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: Melissa Neff-KC/de

CC:

FROM: Frank Reichart 
Environmental Chemist, Lead License #110506-300003364

DATE: October 20, 2014

SUBJECT: Materials
Job No. J413028
MO 152/Platte County
Bridge# A-3430

On October 15, 2014, a field check of the paint system was performed on the subject bridge. TMS paint data shows System C Green paint, applied in 1985. The field check verified the information found in TMS.

The existing paint system is NOT lead-based paint; however, System C Green paint has historically been shown to contain high levels of chromium (Cr), a regulated heavy metal. It is advised that any contractor be strongly urged to use proper PPE when dealing with this material.

Should further screenings be required, please contact Todd Bennett, Chemical Laboratory Director, at (573) 751-1045.


Should you have any questions, feel free to call me at (573) 526-4359.

fr/dr

[http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared documents/asbestos/districts/kansas city \(kc\)/jxi's/j4i3028/fr1410202 a3430.docx](http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared/documents/asbestos/districts/kansas%20city%20(kc)/jxi's/j4i3028/fr1410202%20a3430.docx)

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- G. Surface Sealing Concrete
- H. Rapid Set Concrete Patching Material – Vertical and Overhead Repairs

 <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p>	<p>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65101 Phone (888) 275-6636</p>
	<p>If a seal is present on this sheet, JSP's has been electronically sealed and dated.</p>
	<p>JOB NO. J413022B Jackson County, MO Date Prepared: 1/15/2015</p>

JOB SPECIAL PROVISIONS (BRIDGE)

Job No J413022B
Route I-435
Jackson County

JOB SPECIAL PROVISIONS (BRIDGE)

A. CONSTRUCTION REQUIREMENTS

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

2.0 Construction Requirements. Plans for the existing structure(s) are included in the contract in the bridge electronic deliverables zip file for informational purposes only.

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 Qualified special mortar shall be a qualified rapid set concrete patching material in accordance with [Sec 704](#). A qualified rapid set concrete patching material will not be permitted for repairing concrete deck (half-soling), deck repair with void tube replacement, full depth repair, modified deck repair and substructure repair (formed) unless a note on the bridge plans specifies that a qualified special mortar may be used.

2.3 The following bridge(s) being re-decked, the slab was constructed as non-composite or composite which is mentioned in the following table.

Bridge No.	Type of deck
A1750 NB	Composite
A1750 SB	Composite

2.4 Provisions shall be made to prevent any debris and materials from falling onto the roadway. Any debris and materials that falls below the bridge outside the limits mentioned previously and if determined necessary by the engineer, the debris shall be removed as approved by the engineer at the contractor's expense. Traffic under the bridge shall be maintained in accordance with the contract documents.

2.5 Any damage sustained to the remaining structure as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

2.6 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.

2.7 SSPC-SP2 and SSPC-SP-3 surface preparation shall be in accordance with the environmental regulations in [Sec 1081](#) and collection of residue shall be in accordance with [Sec 1081](#) for collection of blast residue. SSPC-SP6, SSPC-SP10 and SSPC-SP-11 surface preparation shall be in accordance with the approved blast media and environmental regulations in [Sec 1081](#) and collection of blast residue shall be in accordance with [Sec 1081](#).

3.0 Coating Information.

3.1 Straps Removal. Exposed portions of straps for stay-in-place forms shall be removed prior to surface preparation. Straps need not be removed in areas that are not being painted. Flame cutting will not be permitted. The contractor shall exercise care not to damage the existing structure during removal. Any damage sustained to the remaining structure as a result of the

JOB SPECIAL PROVISIONS (BRIDGE)

contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

3.2 Slab Drains and Stay-In-Place Forms. The stay-in-place forms, the slab drains and slab drain brackets shall not be recoated or overcoated or damaged during the painting operation. Any portion of the slab drain bracket that is blast cleaned shall be recoated with System G. Any damage sustained as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

3.3 Existing Bridge Information. The informational plans may be used by bidders in determining the amount of steel to be cleaned and painted/coated with the full understanding that the State accepts no responsibility for accuracy of the estimated tons of existing steel shown in the table below. The bidder's acceptance and use of the estimate shown below shall be no cause for claim for any final adjustment in the contract unit price for the work involved in repainting. Each bidder is expected to carefully examine the structure(s), investigate the condition of existing paint and to prepare their own estimate of quantities involved before submitting a bid. Surface preparation and applying field coatings to the structural steel will be based on the contract plan quantities. No final measurements will be made.

Bridge No.	Estimated Tons			Existing Paint System	Lead Based
	Coating System		Total		
	System G	Calcium Sulfonate			
A1750 NB	158	-	158	B	Yes
A1750 SB	158	-	158	B	Yes

3.4 Environmental Contact. Environmental Section may be contacted at the below address or phone number. The Missouri Department of Health may be contacted at 573-751-6102.

- (a) MoDOT - Design Division - Environmental Section
PO Box 270
105 W Capitol Ave, Jefferson City, MO 65102
Telephone (573) 526-4778

3.5 Approved Smelter and Hazardous Waste Treatment, Storage and Disposal Facility. The following is the approved smelter and hazardous waste treatment, storage and disposal facility:

Doe Run Company-Resource Recycling Division-Buick Facility
Highway KK
Boss, MO 65440
Telephone 573-626-4813

4.0 Method of Measurement. No measurement will be made.

5.0 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.

JOB SPECIAL PROVISIONS (BRIDGE)

B. PENETRATING CONCRETE SEALER

1.0 Description. This work shall consist of preparing and treating the new concrete surfaces with a penetrating concrete sealer meeting this specification. These surfaces include the bridge deck, concrete approach slabs (if present) and roadway face and top of sidewalks, curbs, parapets, medians and barrier curbs. This type of sealer shall be used in lieu of the normal surface sealing for concrete in accordance with Sec 703.

2.0 Materials. The sealer shall meet the requirements of this job special provision. The sealer selected by the contractor shall be submitted to the engineer for approval two weeks before application and shall be listed on MoDOT's Pre-Qualified Product List. If the contractor chooses to submit a new product for possible inclusion on MoDOT's Pre-Qualified Product List, the product shall be submitted to the engineer 30 days prior to application of the product on a MoDOT job. New submittals shall include certified test data from an independent test laboratory and the concrete mix design and curing procedure on the test specimens in which sealer was tested.

2.1 The sealer shall be a alkyltrialkoxysilane, with low oligomer and polymer compound content. The chemical composition shall meet the following requirements:

Property	Specification
Purity	95% minimum monomer by weight
Solvent	Less than 5% by weight
Residue	Less than 2% by weight
Density	Per the manufacturer's recommendation
Flash Point	ASTM D93: greater than 125 degrees F
Dry Time	ASTM D1640 Sec 7.5.1: One hour or less

2.1.1 The ASTM D1640 test shall be performed on a concrete surface. This concrete shall be a mix design called for in section 2.2 of this job special provision. The application rate shall be the same rate called for in section 3.4 of this job special provision.

2.2 The sealer shall meet the following performance criteria based on a single application at the application rate specified in Section 3.4 of this specification. MoDOT reserves the right to verify any qualification tests at their expense on any field application. Test specimens shall be produced using either the MoDOT Class B-2 concrete in accordance with Section 501 or the concrete mix specified by the test being performed.

Test	Test Method	Duration	Max Absorption / Cl ⁻
Water Immersion	ASTM C642	48 hours	0.5 percent by weight (mass)
Water Immersion	ASTM C642	50 days	1.5 percent by weight (mass)
Salt Water Ponding (based on non-abraded specimen)	AASHTO T 259	90 days	80% min reduction in Cl ⁻ absorption & 0.50 lbs/cu yd Cl ⁻ at a depth of 1/2" - 1" max

2.3 The sealer shall not permanently stain, discolor or darken the concrete. Application of the sealer shall not alter the surface texture or form a coating on the concrete surfaces.

2.4 The sealer shall not leave residue on glass, painted metal or automobiles.

JOB SPECIAL PROVISIONS (BRIDGE)

2.5 The sealer shall not reduce the bond of pavement markings or reduce the skid resistance of the surface being sealed. Any sealer determined to have these adverse effects will be removed from the pre-qualified list.

2.6 The sealer shall be delivered to the project in unopened containers with the manufacturer's label identifying the product and with the seal(s) intact. Each container shall be clearly marked by the manufacturer with the following information:

- Manufacturer's name and address.
- Product name.
- Date of manufacture and expiration date.
- Lot identification.
- Storage requirements.

3.0 Construction Requirements.

3.1 Equipment. Application equipment shall be as recommended by the manufacturer. The spray equipment, tanks, hoses, brooms, rollers, coaters, squeegees, etc. shall be thoroughly clean, dry, free of foreign matter, oil residue and water prior to applying the treatment.

3.2 Cleaning and Surface Preparation. Surfaces which are to be treated shall meet the approved product's requirements for surface condition. Sealing shall not be done until all concrete construction or repair has been completed and cured to the requirements of the manufacturer. The contractor shall furnish the engineer with written instructions for the surface preparation requirements.

3.2.1 Sealing shall be done after the bridge deck has been textured.

3.2.2 At a minimum, the surface shall be thoroughly cleaned to remove dust, dirt, oil, wax, curing components, efflorescence, laitance, coatings and other foreign materials. The manufacturer or manufacturer's representative shall approve the use of chemicals and other cleaning compounds to facilitate the removal of these foreign materials before use. The treatment shall be applied within 48 hours following surface preparation.

3.2.3 Cleaning equipment shall be fitted with suitable traps, filters, drip pans and other devices to prevent oil and other foreign material from being deposited on the surface.

3.3 Test Application. Prior to final application, the contractor shall treat a measured test coverage area on horizontal and vertical surfaces of the different components of the structure to be treated for the purpose of demonstrating the desired physical and visual effect on an application or of obtaining a visual illustration of the absorption necessary to achieve the specified coverage rate. In the latter case, the applicator shall use at least ½ gallon (1.9 liter) of treatment following the manufacturer's recommended method of application for the total of the test surfaces. Horizontal test surfaces shall be located on the deck and on the curb or sidewalk, and vertical test surfaces shall be located on a parapet or safety barrier curb so that the different textures are displayed.

3.4 Application. The sealer shall be applied by thoroughly saturating the concrete surfaces so that one gallon of material shall not be spread over more than 200 square feet. A low pressure, high volume method of application shall be used that will not atomize the silane. Hand pump sprayer shall not be used.

JOB SPECIAL PROVISIONS (BRIDGE)

3.4.1 The concrete surface temperature shall be between 35°F and rising and 100°F and falling.

3.4.2 At a minimum, the wet cure must be complete and the moisture content of the concrete must be at or below 8 percent as measured by a moisture meter.

3.4.3 Allow concrete to dry a minimum of 48 hours after any measurable precipitation.

3.4.4 The treatment shall be spread from puddles to dry areas.

3.4.5 If the applicator is unable to complete the entire application continuously, the location where the application was stopped shall be noted and clearly marked.

3.5 Protection of Adjoining Surfaces and the Public.

3.5.1 When applying the sealer, the contractor shall protect adjoining surfaces of the structure that are not to be sealed. The contractor shall also make provision to protect the public from overspray.

3.5.2 Asphalt and mastic type surfaces shall be protected from spillage and overspray. Any asphalt pavement damaged by the sealer will result in removal and replacement at the contractor's expense. Joint sealants, traffic paints and asphalt overlays may be applied to the treated surfaces 48 hours after the treatment has been applied. Adjoining and nearby surfaces of aluminum or glass shall be covered where there is possibility of the treatment being deposited on the surfaces. Plants and vegetation shall be protected from overspray by covering with drop cloths. Precautions shall be followed as indicated on the manufacturer's product and material safety data sheet.

3.6 Opening to Traffic. Traffic maybe allowed on a deck when the material is tack free. Dried coating shall not leave residue on glass, painted metal or automobiles.

4.0 Method of Measurement. The contractor will provide the engineer with material delivery tickets verifying how much sealer was supplied to the site and verification of how much was applied.

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

C. REMOVAL OF CATHODIC PROTECTION SYSTEM

1.0 Description. This work shall consist of disengaging the power to and removing the cathodic protection system during rehabilitation.

2.0 Removal Requirements.

2.1 The existing cathodic protection system shall be turned off as directed by the engineer prior to beginning work. The removal of the cathodic protection system shall include all wiring, cathodic protection control cabinets and all conduits on the bridge. All insulated wiring associated with the removal of the cathodic protection system shall be disposed by the contractor and as approved by the engineer.

JOB SPECIAL PROVISIONS (BRIDGE)

2.2 If during removal of the cathodic protection system, the existing concrete deck is damaged and not covered by new concrete, the areas on the deck shall be repaired with Class B-1 concrete in accordance with [Sec 704](#). If the concrete is damaged at other locations, the repair areas shall be made with a qualified special mortar. The qualified special mortar shall be in accordance with [Sec 704](#).

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 lump sum price for "Removal of Cathodic Protection System".

D. CLEAN AND EPOXY SEAL

1.0 Description. In order to protect the bridge superstructure concrete from deicing chemicals and other contaminants, loose and delaminated concrete shall be removed and an epoxy seal shall be applied to the concrete in the area of curb outlets and the vertical face of the curbs in accordance with the bridge plans and this job special provision.

2.0 Construction Requirements. All loose and delaminated concrete in the areas as required by this job special provision shall be removed in the cleaning process with hand tools. Hand tools may include chipping chisels, wire brushes, dust brushes, etc. After the loose and delaminated concrete has been removed to the satisfaction of the engineer, the epoxy sealing preparation and applying the epoxy to these areas shall be in accordance with [Sec 704](#). The areas to be cleaned and epoxy sealed shall be as shown on the plans.

3.0 Method of Measurement. The area to be cleaned and epoxy sealed will be computed to the nearest square foot. Final measurement will not be made except for authorized changes during construction or if appreciable errors are found in the contract quantity.

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 based on the contract plan quantities and will be considered completely covered by the contract unit price for "Clean and Epoxy Seal". Any change in the contract plan quantities, based on approved change orders, will be paid for at the contract unit price.

E. NON-DESTRUCTIVE TESTING

1.0 Description. This work shall consist of performing non-destructive testing on the welds of all the existing top flange cover plates.

2.0 Construction Requirements.

2.1 After the concrete deck is removed, the steel that is to remain will be inspected by the engineer. In addition to this inspection, the welds and adjacent base metal at the ends of the top cover plate shall have non-destructive (magnetic particle) testing performed. Inspection shall be done by an acceptable testing agency. The contractor shall provide the engineer with documentation of the testing agency and the qualifications of personnel performing the testing.

JOB SPECIAL PROVISIONS (BRIDGE)

The documentation and qualifications shall be submitted to the State Bridge Engineer for acceptance. Personnel performing the tests shall be qualified for SNT-TC-1A Level II.

2.2 The length of weld to be tested and the base metal, one inch (25 mm) either side of the weld, shall be cleaned of all rust prior to the testing. On cover plates with square ends, the weld shall be tested one inch (25 mm) from each corner along the ends of the cover plate plus 6 inches (150 mm) back along the side from each corner of the plate. On cover plates with tapered ends, the weld shall be tested along the end of the cover plate, along tapered edges and 6 inches (150 mm) back along the cover plate from end of taper.

2.3 If fatigue cracks are found, the cracks are expected to be very small and may be located in the base metal at the toe of the welds. Any cracks discovered by testing, regardless of length, shall be marked and reported to the engineer. All repairs shall be made by a MoDOT certified welder. Any repair work and retesting of the repair work required, as a result of this inspection, will be paid for in accordance with [Sec 109](#). This shall not relieve the contractor from responsibility to repair any damage caused by this work at the contractor's expense. Any delay or inconvenience caused by this inspection requirement will be non-compensable and effect on time of performance non-excusable.

3.0 Method of Measurement. Measurement of non-destructive testing will be to the nearest linear foot (0.5 m). The extent of non-destructive testing may vary from the estimated quantities, but the contract unit price shall prevail regardless of the variation. Final measurements will not be made except for authorized changes during construction, or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

4.0 Basis of Payment. Accepted quantities of non-destructive testing will be paid for at the contract unit price. 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 unit price for "Non-Destructive Testing".

F. SURFACE SEALING LOW SLUMP CONCRETE

1.0 Description. This provision allows surface sealing low slump concrete to be applied as last order of work.

2.0 Construction Requirements. The surface of the low slump concrete shall be surface sealed in accordance with [Sec 703.3.8](#) and as required by special provision Penetrating Concrete Sealer except that lanes may be opened to traffic after the low slump concrete has properly cured in accordance with [Sec 505](#) and the sealant applied as a last order of work. Any lanes open to traffic prior to surface sealing shall have foreign materials removed. Surfaces that are sealed after each stage of construction shall have all vertical construction joints between stages protected from the surface sealant. If asphalt roadway surface is adjacent to the new low slump concrete, the asphalt surface shall be protected from spillage of the sealant.

3.0 Method of Measurement. No measurement will be made.

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

JOB SPECIAL PROVISIONS (BRIDGE)

G. SURFACE SEALING CONCRETE

1.0 Description. This provision allows surface sealing concrete to be applied as last order of work.

2.0 Construction Requirements. The surface of the new concrete shall be surface sealed in accordance with [Sec 703.3.8](#) and as required by special provision Penetrating Concrete Sealer except that lanes may be opened to traffic after the concrete has properly cured in accordance with [Sec 703](#) and the sealant applied as a last order of work. Any lanes open to traffic prior to surface sealing shall have foreign materials removed. Surfaces that are sealed after each stage of construction shall have all vertical construction joints between stages protected from the surface sealant. If asphalt roadway surface is adjacent to the new concrete, the asphalt surface shall be protected from spillage of the sealant.

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.

H. RAPID SET CONCRETE PATCHING MATERIAL – VERTICAL AND OVERHEAD REPAIRS JSP-02-01

1.0 Description. This specification covers cementitious concrete, polymer-modified concrete and polymer concrete that are suitable for repairing concrete surfaces on bridges or concrete structures, particularly under fast setting or special conditions. The repairs would involve vertical or overhead applications. The work shall consist of removing, furnishing, preparing, and placing materials at locations as shown on the plans or as directed by the engineer.

2.0 Material. All materials shall be in accordance with MoDOT specifications and as noted herein.

2.1 Aggregate For Extending Commercial Mixture. Coarse and fine aggregates shall be in accordance with [Sec 1005](#), except the requirements for gradation and percent passing the No. 200 sieve shall not apply. Coarse aggregate meeting Gradation E requirements shall be used for repairs greater than one inch (25 mm) in depth. Fine aggregate will be allowed for repairs less than one inch (25 mm). Aggregate specified, bagged, labeled and furnished by the rapid set concrete patching material manufacturer may also be used for mortar extension.

2.2 Material Applications. The contractor shall select and use the product most suitable for the work and field conditions in accordance with these specifications.

2.3 Curing. Rapid set concrete patching material shall be cured until the minimum compressive strength 1500 psi is attained using standard curing specifications, unless otherwise specified by the manufacturer.

2.4 Qualification and Project Acceptance.

2.4.1 Inspection. All materials shall be subject to inspection and sampling by MoDOT at the source of manufacture, intermediate shipping terminal or destination. MoDOT will be allowed free access to all facilities and records as required to conduct inspection and sampling.

JOB SPECIAL PROVISIONS (BRIDGE)

2.4.2 Qualification. Prior to use, rapid set concrete patching materials need to be qualified.

2.4.2.1 Requested Information. The manufacturer shall submit with samples of the materials, a written request to Construction and Materials with the following information:

- (a) New Products Evaluation Form
- (b) Brand name of the product.
- (c) Certification that the material meets this specification.
- (d) Certified test results from an independent laboratory showing compliance with this specification.
- (e) Specific preparation instructions of repair area.
- (f) Specific mixing, handling and curing instructions.
- (g) Application type (i.e., vertical or overhead).

2.4.2.2 Field Evaluation. Final approval will be granted when the following requirements are met:

- (a) MoDOT report documenting two years of field performance on MoDOT system. The report will contain the placement date, field observations (semi annual), description of field performance and photographs of in-place material.
- (b) A manufacturer's representative shall be present during placement of the material to provide technical expertise.

2.4.2.2.3 Disqualification. If during the two year observation period the repair area(s) fails the product will not be added to the qualified list.

2.5 Qualified List. The listing of qualified products are available from Construction and Materials or on MoDOT's web site. New certified test results and samples shall be submitted any time the manufacturing process or the material formulation is changed. The material will be subject to removal from the qualified list if there is evidence of unsatisfactory performance or a change in manufacturing process or formulation, or when random sampling and testing of material offered for use indicates nonconformity with any of the requirements herein specified.

2.6 Certification. The contractor shall supply a manufacturer's certification to the engineer for each lot of material furnished. The certification shall include the name of the manufacturer, a manufacturer certification statement that the material supplied is the same as that qualified and listing the date of qualification.

2.7 Acceptance. Acceptance of the material will be based on the use of a qualified product, the manufacturer's certification that the material supplied is the same as that approved and upon the results of such tests as may be performed by the engineer.

JOB SPECIAL PROVISIONS (BRIDGE)

3.0 Mixture. Unless otherwise specified, rapid set concrete patching material shall be approved commercial mixtures meeting [Sections 3.1 – 3.1.3](#). Rapid set concrete patching materials shall be specifically designed for the application needed.

3.1 Commercial Mixtures. Rapid set concrete patching material in its sacked form and mixtures when properly prepared in accordance with the manufacturer’s specifications, shall meet the minimum test requirements given in Table 1. Mixtures may be supplied, as required, as a patching mortar or as a patching mortar with aggregate extension. If the material is to be supplied with extender aggregate, this shall also pass the required tests in Table 1 using the maximum allowed amount of extender aggregate.

3.1.1 Mixture Requirements. Rapid set concrete patching material shall be single packaged dry mix requiring the addition of water or other liquid component just prior to mixing. The material shall not contain soluble chlorides as an ingredient of manufacture. The material shall be placed in accordance to the manufacturer's recommendations.

Table 1 (English Unit)				
Physical Test Property	Specification	Requirement for cementitious concrete	Requirement for polymer-modified concrete	Requirement for polymer concrete
Bond Strength by Slant Shear	ASTM C882/C928 ²	min. 1000 psi @ 24hrs.& min. 1500 psi @ 7 days	n/a	min. 1000 psi @ 24hrs.& min. 1500 psi @ 7 days
Linear Coefficient of Thermal Expansion ¹ (for bagged mortar only, without extension aggregate)	ASTM C531	n/a	n/a	4 – 8 X 10-6 in/in/deg F
Resistance to Rapid Freezing & Thawing	AASHTO T161 or ASTM C666	80% min. using Procedure B ³ (300 Cycles)	80% min. using Procedure B ³ (300 Cycles)	n/a
Compressive Strength	AASHTO T22 or ASTM C39	1500 psi @ 3 hr & 3000 psi @ 24 hr	1500 psi @ 3 hr & 3000 psi @ 24 hr	n/a
Rapid Chloride Permeability	AASHTO T277 or ASTM C1202	1000 coulombs @ 28 days	1000 coulombs @ 28 days	1000 coulombs @ 28 days
Length Change	AASHTO T 160 or ASTM C157	In water Storage (+0.15) In air storage (-0.15)	In water storage (+0.15) In air storage (-0.15)	n/a
Color		gray	gray	gray

¹ Not required for extended mixtures if the mortar passes this requirement.

² ASTM C882 shall be performed on non-water based materials. ASTM C928 shall be performed on water-based materials.

³ Procedure A may be used in lieu of Procedure B

3.1.2 Construction Requirements. The manufacturer shall provide with the bagged mixture, specifications for the mixing procedure, amount and kind of liquid to be added, and the amount of aggregate extension allowed, if any. All mixing, handling and curing practices recommended by the manufacturer shall be followed and will be considered a part of these specifications.

3.1.3 Removal from Qualified List. All mixtures shall be approved before use. Reoccurring failures of any mixture for any reason will be cause for removal from the qualified list.

3.2 Vertical Repair. A qualified rapid set concrete patching material approved for vertical use may be used when specified on the plans and as approved by the engineer. The engineer will make field cylinders to verify the 1500 psi (10 MPa) minimum strength. The material shall adhere to the concrete surface without sagging.

3.3 Overhead Repair. A qualified rapid set concrete patching material approved for overhead use may be used when specified on the plans and as approved by the engineer. The material shall be placeable in layers of at least 1 inch on overhead applications without the use of formwork or anchoring devices. The material shall adhere to the concrete surface without sagging. The engineer will make field cylinders to verify the 1500 psi (10 MPa) minimum strength.

4.0 Construction Requirements.

4.1 Mixing. Rapid set concrete patching material shall be mixed and finished according to the manufacturer's recommendation.

4.2 Preparation of Repair Area. Deteriorated, damaged or defective concrete as shown on the plans, required by the specifications or as directed by the engineer, shall be removed. All exposed reinforcement shall be thoroughly cleaned as shown on the plans, required by the specifications or as directed by the engineer. Unless otherwise specified by the commercial mixture manufacturer, the existing surface shall be damp and all free water shall be removed prior to placement of the required material.


4.3 Bonding Agent. A bonding agent may be used if recommended by the rapid set concrete patching material manufacturer.


5.0 Method of Measurement. No measurement will be made for rapid set concrete patching material.

6.0 Basis of Payment. Rapid set concrete patching material will be paid for at the contract unit price for other items and will be considered full compensation for all labor, equipment and material to complete the described work.

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- K. Kansas City Terminal Railway Requirements – Bridge A16866
- L. Union Pacific Railroad Requirements – Bridge A16866

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65101 Phone (888) 275-6636
	Burns & McDonnell Engineering Company, Inc. 9400 Ward Parkway Kansas City, Missouri 64114
	Certificate of Authority # 000165 Consultant Phone # (816) 333-9400
	If a seal is present on this sheet, JSP's has been electronically sealed and dated.
	JOB NO. J4I3028B Jackson County, MO Date Prepared: 6/10/2015
Only the following items of the Job Special Provisions (Bridge) are authenticated by this seal: A, B, C, D, E, F, G, H, I	

 <p style="text-align: center;">THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p>	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone (888) 275-6636
	If a seal is present on this sheet, JSP's has been electronically sealed and dated.
	JOB NO. J4I3028B Jackson County, MO Date Prepared: 6/18/2015
Only the following items of the Job Special Provisions (Bridge) are authenticated by this seal: J, K, L	

A. CONSTRUCTION REQUIREMENTS

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

2.0 Construction Requirements. Plans for the existing structure(s) are included in the contract in the bridge electronic deliverables zip file.

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 Qualified special mortar shall be a qualified rapid set concrete patching material in accordance with [Sec 704](#). A qualified rapid set concrete patching material will not be permitted for repairing concrete deck (half-soling), deck repair with void tube replacement, full depth repair, modified deck repair and substructure repair (formed) unless a note on the bridge plans specifies that a qualified special mortar may be used.

2.3 The following bridge(s) are being re-decked, the slab was constructed as non-composite or composite which is mentioned in the following table.

Not Applicable

2.4 Provisions shall be made to prevent any debris and materials from falling into the stream, lake, onto the roadway or onto the railroad tracks. Any debris and materials that falls below the bridge outside the limits mentioned previously and if determined necessary by the engineer, the debris shall be removed as approved by the engineer at the contractor's expense. Traffic under the bridge shall be maintained in accordance with the contract documents.

2.5 Any damage sustained to the remaining structure as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

2.6 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.

2.7 A washer shall be required under head and nut when any reaming is performed for bolt installation.

2.8 SSPC-SP2 and SSPC-SP3 surface preparation shall be in accordance with the environmental regulations in [Sec 1081](#) and collection of residue shall be in accordance with [Sec 1081](#) for collection of blast residue.

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.

B. STAGE CONSTRUCTION JOINTS

1.0 Description. This provision contains requirements for the stage construction joints on the bridges that are using staged construction to maintain traffic.

2.0 Construction Requirements. Approximate location of stage construction joints are shown on the plans. The contractor may revise the location of the stage construction joints with prior approval from the engineer. The contractor shall verify the location of all stage construction joints before ordering reinforcing steel.

3.0 Method of Measurement. No measurement will be made for any adjustments to stage construction joint locations. Contractor will be responsible for any additional work or materials necessary for relocation of stage construction joints.

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. No payment or adjustments will be made for relocation of stage construction joints.

C. REMOVE AND REPLACE BARRIER CURB

1.0 Description. This work shall consist of removing and replacing portions of the existing concrete barrier curb to allow for replacement of the expansion joints.

2.0 Construction Requirements. Removal and replacement limits are shown on the plans. Existing reinforcing steel shall be cleanly stripped and reused. Contractor shall verify dimensions of existing barrier curb and form replacement barrier curb to match existing.

3.0 Method of Measurement. Final measurement will not be made except for authorized changes during construction, or where appreciable errors are found in the contract quantity.

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 unit price for "Remove and Replace Barrier Curb".

D. CONCRETE WEARING SURFACE REPAIR – BRIDGE A16866

1.0 Description. This work shall consist of repairing designated areas of the bridge deck with an existing concrete wearing surface (low slump, latex modified, or silica fume concrete). All work shall be in accordance with Sec 704 except as herein modified.

2.0 Construction Requirements.

2.1 A boundary perimeter with vertical sides shall be established outside the delaminated and deteriorated concrete wearing surface repair areas by saw cutting full depth of wearing surface. The contractor shall use caution to not saw into the underlying bridge deck. Any remaining wearing surface around the perimeter of the saw cut shall be chipped vertically and all wearing surface material within the perimeter removed. Upon removal of the deteriorated wearing

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surface, the engineer will sound the underlying bridge deck to determine areas of deteriorated concrete. The engineer may require removal of additional areas of wearing surface to determine the extent of deteriorated underlying bridge deck.

2.2 Wearing surface repairs shall be performed the same as deck repairs except no exposed reinforcing steel is required. Deck repairs shall be in accordance with Sec 704. Concrete to replace the wearing surface, with or without deck repairs below, shall be the same as that required for deck repairs. Concrete for the wearing surface repairs with deck repairs below shall be placed monolithically up to the top surface of the wearing surface. Finishing and curing the repair area shall be in accordance with Sec 704.

3.0 Method of Measurement. The extent of repair may vary from the estimated quantities but the contract unit price shall prevail regardless of the variation. No duplication of measurement will be made for repairing concrete deck (half-soling), full depth repair or concrete wearing surface repair. Areas of concrete wearing surface repair will be measured to the nearest square foot. Deck repairs will be measured and paid for in accordance with Sec 704.

4.0 Basis of Payment. Accepted quantities of repairing concrete deck (half-soling), full depth repair or concrete wearing surface repair will be paid for at the contract unit price for each of the pay items included in the contract.

E. RAPID SET CONCRETE PATCHING MATERIAL – VERTICAL AND OVERHEAD REPAIRS

1.0 Description. This specification covers cementitious concrete, polymer-modified concrete and polymer concrete that are suitable for repairing concrete surfaces on bridges or concrete structures, particularly under fast setting or special conditions. The repairs would involve vertical or overhead applications. The work shall consist of removing, furnishing, preparing, and placing materials at locations as shown on the plans or as directed by the engineer.

2.0 Material. All materials shall be in accordance with MoDOT specifications and as noted herein.

2.1 Aggregate For Extending Commercial Mixture. Coarse and fine aggregates shall be in accordance with [Sec 1005](#), except the requirements for gradation and percent passing the No. 200 sieve shall not apply. Coarse aggregate meeting Gradation E requirements shall be used for repairs greater than one inch (25 mm) in depth. Fine aggregate will be allowed for repairs less than one inch (25 mm). Aggregate specified, bagged, labeled and furnished by the rapid set concrete patching material manufacturer may also be used for mortar extension.

2.2 Material Applications. The contractor shall select and use the product most suitable for the work and field conditions in accordance with these specifications.

2.3 Curing. Rapid set concrete patching material shall be cured until the minimum compressive strength 1500 psi is attained using standard curing specifications, unless otherwise specified by the manufacturer.

2.4 Qualification and Project Acceptance.

2.4.1 Inspection. All materials shall be subject to inspection and sampling by MoDOT at the source of manufacture, intermediate shipping terminal or destination. MoDOT will be allowed free access to all facilities and records as required to conduct inspection and sampling.

2.4.2 Qualification. Prior to use, rapid set concrete patching materials need to be qualified.

2.4.2.1 Requested Information. The manufacturer shall submit with samples of the materials, a written request to Construction and Materials with the following information:

- (a) New Products Evaluation Form
- (b) Brand name of the product.
- (c) Certification that the material meets this specification.
- (d) Certified test results from an independent laboratory showing compliance with this specification.
- (e) Specific preparation instructions of repair area.
- (f) Specific mixing, handling and curing instructions.
- (g) Application type (i.e., vertical or overhead).

2.4.2.2 Field Evaluation. Final approval will be granted when the following requirements are met:

- (a) MoDOT report documenting two years of field performance on MoDOT system. The report will contain the placement date, field observations (semi annual), description of field performance and photographs of in-place material.
- (b) A manufacturer's representative shall be present during placement of the material to provide technical expertise.

2.4.2.2.3 Disqualification. If during the two year observation period the repair area(s) fails the product will not be added to the qualified list.

2.5 Qualified List. The listing of qualified products are available from Construction and Materials or on MoDOT's web site. New certified test results and samples shall be submitted any time the manufacturing process or the material formulation is changed. The material will be subject to removal from the qualified list if there is evidence of unsatisfactory performance or a change in manufacturing process or formulation, or when random sampling and testing of material offered for use indicates nonconformity with any of the requirements herein specified.

2.6 Certification. The contractor shall supply a manufacturer's certification to the engineer for each lot of material furnished. The certification shall include the name of the manufacturer, a manufacturer certification statement that the material supplied is the same as that qualified and listing the date of qualification.

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2.7 Acceptance. Acceptance of the material will be based on the use of a qualified product, the manufacturer's certification that the material supplied is the same as that approved and upon the results of such tests as may be performed by the engineer.

3.0 Mixture. Unless otherwise specified, rapid set concrete patching material shall be approved commercial mixtures meeting [Sections 3.1 – 3.1.3](#). Rapid set concrete patching materials shall be specifically designed for the application needed.

3.1 Commercial Mixtures. Rapid set concrete patching material in its sacked form and mixtures when properly prepared in accordance with the manufacturer's specifications, shall meet the minimum test requirements given in Table 1. Mixtures may be supplied, as required, as a patching mortar or as a patching mortar with aggregate extension. If the material is to be supplied with extender aggregate, this shall also pass the required tests in Table 1 using the maximum allowed amount of extender aggregate.

3.1.1 Mixture Requirements. Rapid set concrete patching material shall be single packaged dry mix requiring the addition of water or other liquid component just prior to mixing. The material shall not contain soluble chlorides as an ingredient of manufacture. The material shall be placed in accordance to the manufacturer's recommendations.

Table 1 (English Unit)				
Physical Test Property	Specification	Requirement for cementitious concrete	Requirement for polymer-modified concrete	Requirement for polymer concrete
Bond Strength by Slant Shear	ASTM C882/C928 ²	min. 1000 psi @ 24hrs.& min. 1500 psi @ 7 days	n/a	min. 1000 psi @ 24hrs.& min. 1500 psi @ 7 days
Linear Coefficient of Thermal Expansion ¹ (for bagged mortar only, without extension aggregate)	ASTM C531	n/a	n/a	4 – 8 X 10-6 in/in/deg F
Resistance to Rapid Freezing & Thawing	AASHTO T161 or ASTM C666	80% min. using Procedure B ³ (300 Cycles)	80% min. using Procedure B ³ (300 Cycles)	n/a
Compressive Strength	AASHTO T22 or ASTM C39	1500 psi @ 3 hr & 3000 psi @ 24 hr	1500 psi @ 3 hr & 3000 psi @ 24 hr	n/a
Rapid Chloride Permeability	AASHTO T277 or ASTM C1202	1000 coulombs @ 28 days	1000 coulombs @ 28 days	1000 coulombs @ 28 days
Length Change	AASHTO T 160 or ASTM C157	In water Storage (+0.15) In air storage (-0.15)	In water storage (+0.15) In air storage (-0.15)	n/a
Color		gray	gray	gray

¹ Not required for extended mixtures if the mortar passes this requirement.

² ASTM C882 shall be performed on non-water based materials. ASTM C928 shall be performed on water-based materials.

³ Procedure A may be used in lieu of Procedure B

3.1.2 Construction Requirements. The manufacturer shall provide with the bagged mixture, specifications for the mixing procedure, amount and kind of liquid to be added, and the amount of aggregate extension allowed, if any. All mixing, handling and curing practices recommended by the manufacturer shall be followed and will be considered a part of these specifications.

3.1.3 Removal from Qualified List. All mixtures shall be approved before use. Reoccurring failures of any mixture for any reason will be cause for removal from the qualified list.

3.2 Vertical Repair. A qualified rapid set concrete patching material approved for vertical use may be used when specified on the plans and as approved by the engineer. The engineer will make field cylinders to verify the 1500 psi (10 MPa) minimum strength. The material shall adhere to the concrete surface without sagging.

3.3 Overhead Repair. A qualified rapid set concrete patching material approved for overhead use may be used when specified on the plans and as approved by the engineer. The material shall be placeable in layers of at least 1 inch on overhead applications without the use of formwork or anchoring devices. The material shall adhere to the concrete surface without sagging. The engineer will make field cylinders to verify the 1500 psi (10 MPa) minimum strength.

4.0 Construction Requirements.

4.1 Mixing. Rapid set concrete patching material shall be mixed and finished according to the manufacturer's recommendation.

4.2 Preparation of Repair Area. Deteriorated, damaged or defective concrete as shown on the plans, required by the specifications or as directed by the engineer, shall be removed. All exposed reinforcement shall be thoroughly cleaned as shown on the plans, required by the specifications or as directed by the engineer. Unless otherwise specified by the commercial mixture manufacturer, the existing surface shall be damp and all free water shall be removed prior to placement of the required material.

4.3 Bonding Agent. A bonding agent may be used if recommended by the rapid set concrete patching material manufacturer.

5.0 Method of Measurement. No measurement will be made for rapid set concrete patching material.

6.0 Basis of Payment. Rapid set concrete patching material will be paid for at the contract unit price for other items and will be considered full compensation for all labor, equipment and material to complete the described work.

F. RAPID SET CONCRETE PATCHING MATERIAL – HORIZONTAL REPAIRS

1.0 Description. This specification covers cementitious concrete, polymer-modified concrete and polymer concrete that are suitable for repairing concrete surfaces on bridges or roadways, particularly under fast setting or special conditions. The repairs would involve horizontal applications. The work shall consist of removing, furnishing, preparing, and placing materials at locations as shown on the plans or as directed by the engineer. Polymer modified concrete and

polymer concrete shall not be permitted as a substitute for cement in Class B1 and Class B2 concrete used for concrete adjacent to expansion joint replacements and new slabs for redecking bridges. It also shall not be permitted in the low slump concrete overlays.

2.0 Material. All materials shall be in accordance with MoDOT specifications and as noted herein.

2.1 Aggregate For Extending Commercial Mixture. Coarse and fine aggregates shall be in accordance with [Sec 1005](#), except the requirements for gradation and percent passing the No. 200 sieve shall not apply. Coarse aggregate meeting Gradation E requirements shall be used for repairs greater than one inch (25 mm) in depth. Fine aggregate will be allowed for repairs less than one inch (25 mm). Aggregate specified, bagged, labeled and furnished by the rapid set concrete patching material manufacturer may also be used for mortar extension.

2.2 Material Applications. The contractor shall select and use the product most suitable for the work and field conditions in accordance with these specifications.

2.3 Curing. Rapid set concrete patching material shall be cured until the minimum compressive strength 3200 psi is attained using standard curing specifications, unless otherwise specified by the manufacturer.

2.4 Qualification and Project Acceptance.

2.4.1 Inspection. All materials shall be subject to inspection and sampling by MoDOT at the source of manufacture, intermediate shipping terminal or destination. MoDOT will be allowed free access to all facilities and records as required to conduct inspection and sampling.

2.4.2 Qualification. Prior to use, rapid set concrete patching material shall be qualified. In order to become qualified, a material shall have completed testing through AASHTO's National Transportation Product Evaluation Program (NTPEP). The manufacturer shall contact the AASHTO/NTPEP coordinator to obtain the testing location for the rapid setting concrete patching material.

2.4.2.1 Requested Information. The manufacturer shall submit with samples of the materials, a written request to Construction and Materials with the following information:

- (a) Brand name of the product.
- (b) Certification that the material meets this specification.
- (c) NTPEP test results showing compliance with this special provision.
- (d) Specific mixing, handling and curing instructions.
- (e) Application type (i.e., bridge or roadway).

2.4.2.2 Qualified List. Upon approval by the engineer, the brand name and manufacturer will be placed on a qualified list of rapid set concrete patching materials. The listing of qualified materials is available from Construction and Materials or on MoDOT's web site. New certified test results and samples shall be submitted any time the manufacturing process or the material formulation is changed. The material will be subject to removal from the qualified list if there is

evidence of unsatisfactory performance or a change in manufacturing process or formulation, or when random sampling and testing of material offered for use indicates nonconformity with any of the requirements herein specified.

2.4.3 Provisional Approval. Provisional approval may be granted provided the following requirements have been met:

- (c) New Products Evaluation Form
- (d) Certified test results from an independent laboratory showing compliance with this special provision.
- (e) Documentation prepared by MoDOT covering two years of field performance on MoDOT's system. MoDOT will need to approve the location of the test site. Documentation will contain the placement date, field observations (semi annual), description of field performance and photographs of in-place material.
- (f) During placement the manufacturer's representative shall be present on the project to provide technical expertise.

2.4.3.1 Disqualification. If during the two year observation period the repair area(s) fails provisional approval will not be granted. Repair area(s) experiencing any cracking, debonding or spalling will be considered a failure.

2.4.3.2 Length of Provisional Approval. Provisional approval will be granted for three years or until NTPEP testing is completed.

2.5 Certification. The contractor shall supply a manufacturer's certification to the engineer for each lot of material furnished. The certification shall include the name of the manufacturer, a manufacturer certification statement that the material supplied is the same as that qualified and listing the date of qualification.

2.6 Acceptance. Acceptance of the material will be based on the use of a qualified or provisionally approved material, the manufacturer's certification that the material supplied is the same as that approved and upon the results of such tests as may be performed by the engineer.

3.0 Mixture. Unless otherwise specified, rapid set concrete patching material shall be approved commercial mixtures meeting [Sections 3.1 – 3.1.3](#) or deck repair cementitious mortar meeting [Section 3.2](#). Rapid set concrete patching materials shall be specifically designed for the application needed.

3.1 Commercial Mixtures. Rapid set concrete patching material in its sacked form and mixtures when properly prepared in accordance with the manufacturer's specifications, shall meet the minimum test requirements given in Table 1. Mixtures may be supplied, as required, as a patching mortar or as a patching mortar with aggregate extension. If the material is to be supplied with extender aggregate, this shall also pass the required tests in Table 1 using the maximum allowed amount of extender aggregate.

3.1.2 Mixture Requirements. Rapid set concrete patching material shall be single packaged dry mix requiring the addition of water or other liquid component just prior to mixing. The

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material shall be capable of ½ inch (13 mm) to full depth repair and require no bonding agent. The material shall not contain soluble chlorides as an ingredient of manufacture. The material shall be placed in accordance to the manufacturer's recommendations.

Table 1 (English Unit)				
Physical Test Property	Specification	Requirement for cementitious concrete	Requirement for polymer-modified concrete	Requirement for polymer concrete
Bond Strength by Slant Shear ¹	ASTM C882/C928 ³	min. 1000 psi @ 24hrs.& min. 1500 psi @ 7 days	n/a	min. 1000 psi @ 24hrs.& min. 1500 psi @ 7 days
Linear Coefficient of Thermal Expansion ¹ , ² (for bagged mortar only, without extension aggregate)	ASTM C531	n/a	n/a	4 – 8 X 10-6 in/in/deg F
Resistance to Rapid Freezing & Thawing ¹	AASHTO T161 or ASTM C666	80% min. using Procedure B ⁵ (300 Cycles)	80% min. using Procedure B ⁵ (300 Cycles)	n/a
Compressive Strength ¹	AASHTO T22 or ASTM C39	3200 psi @ 3 hr & 4000 psi @ 7 days	3200 psi @ 3 hr & 4000 psi @ 7 days	n/a
Rapid Chloride Permeability ¹	AASHTO T277 or ASTM C1202	<u>Bridge Decks</u> 1000 coulombs @ 28 days <u>Roadway</u> 2000 coulombs @ 28 days	<u>Bridge Deck</u> 1000 coulombs @ 28 days <u>Roadway</u> 2000 coulombs @ 28 days	<u>Bridge Deck</u> 1000 coulombs @ 28 days <u>Roadway</u> 2000 coulombs @ 28 days
Length Change ^{1,4}	AASHTO T 160 or ASTM C157	In water Storage (+0.15) In air storage (-0.15)	In water storage (+0.15) In air storage (-0.15)	n/a
Color		gray	gray	gray

¹The commercial mix test values can be located in the AASHTO's National Transportation Product Evaluation Program (NTPEP) reports for Laboratory Evaluations of Rapid Set Concrete Patching Materials. Data for provisionally approved materials is located at the Construction and Materials Division.

²Not required for extended mixtures if the mortar passes this requirement.

³ ASTM C882 shall be performed on non-water based materials. ASTM C928 shall be performed on water-based materials.

⁴ As modified by ASTM C928.

⁵ Procedure A may be used in lieu of Procedure B

3.1.2 Construction Requirements. The manufacturer shall provide with the bagged mixture, specifications for the mixing procedure, amount and kind of liquid to be added, and the amount of aggregate extension allowed, if any. All mixing, handling and curing practices recommended by the manufacturer shall be followed and will be considered a part of these specifications.

3.1.3 Removal from Qualified List. All mixtures shall be approved before use. Reoccurring failures of any mixture for any reason will be cause for removal from the qualified list.

3.2 Deck Repair Concrete. A qualified rapid set concrete patching material indicated for horizontal use and intended for patching concrete bridge decks may be used when specified on the plans and as approved by the engineer. If this option is selected, the contractor shall provide a trial mix to determine the total cure time needed to achieve a compressive strength of 3200 psi (22 MPa). Compressive specimens shall be prepared in accordance with current MoDOT test methods and cured to simulate actual field conditions. Testing of compressive specimens shall be performed by methods and at facilities acceptable to the engineer. The repaired deck shall not be opened to traffic until at least 4 hours after the last placement of deck repair concrete, the established cure time has elapsed and until such concrete has achieved a compressive strength of 3200 psi (22 MPa). A new trial mix may be required if the engineer determines the field conditions vary substantially from trial mix conditions. The engineer will make field cylinders to verify the 3200 psi (22 MPa) minimum strength.

4.0 Construction Requirements.

4.1 Mixing. Rapid set concrete patching material shall be mixed and finished according to the manufacturer's recommendation.

4.2 Preparation of Repair Area. Deteriorated, damaged or defective concrete as shown on the plans, required by the specifications or as directed by the engineer, shall be removed. All exposed reinforcement shall be thoroughly cleaned as shown on the plans, required by the specifications or as directed by the engineer. Unless otherwise specified by the commercial mixture manufacturer, the existing surface shall be damp and all free water shall be removed prior to placement of the required material.

4.3 Bonding Agent. A bonding agent may be used if recommended by the rapid set concrete patching material manufacturer.

5.0 Method of Measurement. No measurement will be made for rapid set concrete patching material.

6.0 Basis of Payment. Rapid set concrete patching material will be paid for at the contract unit price for other items and will be considered full compensation for all labor, equipment and material to complete the described work.

G. CURING CONCRETE ADJACENT TO EXPANSION DEVICE

1.0 Description. This special provision covers construction requirements for curing concrete adjacent to the expansion device.

2.0 Construction Requirements.

2.1 Type III cement may be used to accelerate the set of the concrete. Accelerating additives containing chlorides will not be permitted. Modified polymer and polymer concrete additives and substitutes shall not be permitted.

2.2 Following texturing, fresh concrete shall be sprayed immediately with a curing compound in accordance with [Sec 703](#).

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2.3 The concrete surface shall be covered with clean curing mats as soon as the curing compound has dried sufficiently to prevent adhesion and the concrete surface will support the curing mat without marring or distorting the finish, but not more than 90 minutes after the concrete is textured. The mats shall be sufficiently wet at the time of placement to prevent moisture absorption from the finished surface. The curing mats shall be kept continuously wet for minimum of 4 hours following the concrete placement. The contractor shall control the water runoff so as not to cause a traffic hazard.

2.4 The continuous wet cure shall be maintained a minimum of 4 hours and until the concrete has attained a minimum compressive strength of 3,200 psi. The Contractor shall not reopen the structure to any public vehicular traffic until the concrete has attained a compressive strength of 3,200 psi. Plates shall not be placed over each repair area or joint being repaired during the concrete curing time.

3.0 Basis of Payment. No direct payment will be made for curing the concrete as specified by this special provision.

H. SURFACE SEALING CONCRETE

1.0 Description. This provision allows surface sealing concrete to be applied as last order of work.

2.0 Construction Requirements. The surface of the new concrete shall be surface sealed in accordance with these bridge special provisions except that lanes may be opened to traffic after the concrete has properly cured in accordance with [Sec 703](#) and the sealant applied as a last order of work. Any lanes open to traffic prior to surface sealing shall have foreign materials removed. Surfaces that are sealed after each stage of construction shall have all vertical construction joints between stages protected from the surface sealant. If asphalt roadway surface is adjacent to the new concrete, the asphalt surface shall be protected from spillage of the sealant.

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.

I. PENETRATING CONCRETE SEALER

1.0 Description. This work shall consist of preparing and treating the new concrete surfaces with a penetrating concrete sealer meeting this specification. These surfaces include the bridge deck, concrete approach slabs (if present) and roadway face and top of sidewalks, curbs, parapets, medians and barrier curbs. The sealer shall also be applied to new low slump concrete overlays. This type of sealer shall be used in lieu of the normal surface sealing for concrete in accordance with Sec 703.

2.0 Materials. The sealer shall meet the requirements of this job special provision. The sealer selected by the contractor shall be submitted to the engineer for approval two weeks before application and shall be listed on MoDOT's Pre-Qualified Product List. If the contractor chooses to submit a new product for possible inclusion on MoDOT's Pre-Qualified Product List, the

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product shall be submitted to the engineer 30 days prior to application of the product on a MoDOT job. New submittals shall include certified test data from an independent test laboratory and the concrete mix design and curing procedure on the test specimens in which sealer was tested.

2.1 The sealer shall be a alkyltrialkoxysilane, with low oligomer and polymer compound content. The chemical composition shall meet the following requirements:

Property	Specification
Purity	95% minimum monomer by weight
Solvent	Less than 5% by weight
Residue	Less than 2% by weight
Density	Per the manufacturer's recommendation
Flash Point	ASTM D93: greater than 125 degrees F
Dry Time	ASTM D1640 Sec 7.5.1: One hour or less

2.1.1 The ASTM D1640 test shall be performed on a concrete surface. This concrete shall be a mix design called for in section 2.2 of this job special provision. The application rate shall be the same rate called for in section 3.4 of this job special provision.

2.2 The sealer shall meet the following performance criteria based on a single application at the application rate specified in Section 3.4 of this specification. MoDOT reserves the right to verify any qualification tests at their expense on any field application. Test specimens shall be produced using either the MoDOT Class B-2 concrete in accordance with Section 501 or the concrete mix specified by the test being performed.

Test	Test Method	Duration	Max Absorption / Cl⁻
Water Immersion	ASTM C642	48 hours	0.5 percent by weight (mass)
Water Immersion	ASTM C642	50 days	1.5 percent by weight (mass)
Salt Water Ponding (based on non-abraded specimen)	AASHTO T 259	90 days	80% min reduction in Cl ⁻ absorption & 0.50 lbs/cu yd Cl ⁻ at a depth of 1/2" - 1" max

2.3 The sealer shall not permanently stain, discolor or darken the concrete. Application of the sealer shall not alter the surface texture or form a coating on the concrete surfaces.

2.4 The sealer shall not leave residue on glass, painted metal or automobiles.

2.5 The sealer shall not reduce the bond of pavement markings or reduce the skid resistance of the surface being sealed. Any sealer determined to have these adverse effects will be removed from the pre-qualified list.

2.6 The sealer shall be delivered to the project in unopened containers with the manufacturer's label identifying the product and with the seal(s) intact. Each container shall be clearly marked by the manufacturer with the following information:

- Manufacturer's name and address.
- Product name.
- Date of manufacture and expiration date.
- Lot identification.
- Storage requirements.

3.0 Construction Requirements.

3.1 Equipment. Application equipment shall be as recommended by the manufacturer. The spray equipment, tanks, hoses, brooms, rollers, coaters, squeegees, etc. shall be thoroughly clean, dry, free of foreign matter, oil residue and water prior to applying the treatment.

3.2 Cleaning and Surface Preparation. Surfaces which are to be treated shall meet the approved product's requirements for surface condition. Sealing shall not be done until all concrete construction or repair has been completed and cured to the requirements of the manufacturer. The contractor shall furnish the engineer with written instructions for the surface preparation requirements.

3.2.1 Sealing shall be done after the bridge deck has been textured.

3.2.2 At a minimum, the surface shall be thoroughly cleaned to remove dust, dirt, oil, wax, curing components, efflorescence, laitance, coatings and other foreign materials. The manufacturer or manufacturer's representative shall approve the use of chemicals and other cleaning compounds to facilitate the removal of these foreign materials before use. The treatment shall be applied within 48 hours following surface preparation.

3.2.3 Cleaning equipment shall be fitted with suitable traps, filters, drip pans and other devices to prevent oil and other foreign material from being deposited on the surface.

3.3 Test Application. Prior to final application, the contractor shall treat a measured test coverage area on horizontal and vertical surfaces of the different components of the structure to be treated for the purpose of demonstrating the desired physical and visual effect on an application or of obtaining a visual illustration of the absorption necessary to achieve the specified coverage rate. In the latter case, the applicator shall use at least ½ gallon (1.9 liter) of treatment following the manufacturer's recommended method of application for the total of the test surfaces. Horizontal test surfaces shall be located on the deck and on the curb or sidewalk, and vertical test surfaces shall be located on a parapet or safety barrier curb so that the different textures are displayed.

3.4 Application. The sealer shall be applied by thoroughly saturating the concrete surfaces so that one gallon of material shall not be spread over more than 200 square feet. A low pressure, high volume method of application shall be used that will not atomize the silane. Hand pump sprayer shall not be used.

3.4.1 The concrete surface temperature shall be between 35°F and rising and 100°F and falling.

3.4.2 At a minimum, the wet cure must be complete and the moisture content of the concrete must be at or below 8 percent as measured by a moisture meter.

3.4.3 Allow concrete to dry a minimum of 48 hours after any measurable precipitation.

3.4.4 The treatment shall be spread from puddles to dry areas.

3.4.5 If the applicator is unable to complete the entire application continuously, the location where the application was stopped shall be noted and clearly marked.

3.5 Protection of Adjoining Surfaces and the Public.

3.5.1 When applying the sealer, the contractor shall protect adjoining surfaces of the structure that are not to be sealed. The contractor shall also make provision to protect the public from overspray.

3.5.2 Asphalt and mastic type surfaces shall be protected from spillage and overspray. Any asphalt pavement damaged by the sealer will result in removal and replacement at the contractor's expense. Joint sealants, traffic paints and asphalt overlays may be applied to the treated surfaces 48 hours after the treatment has been applied. Adjoining and nearby surfaces of aluminum or glass shall be covered where there is possibility of the treatment being deposited on the surfaces. Plants and vegetation shall be protected from overspray by covering with drop cloths. Precautions shall be followed as indicated on the manufacturer's product and material safety data sheet.

3.6 Opening to Traffic. Traffic maybe allowed on a deck when the material is tack free. Dried coating shall not leave residue on glass, painted metal or automobiles.

4.0 Method of Measurement. The contractor will provide the engineer with material delivery tickets verifying how much sealer was supplied to the site and verification of how much was applied.

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

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J. PROTECTION OF CANADIAN PACIFIC RAILWAY INTEREST

To Report an Emergency on the railroad call: (800) SOO-HELP (776-4357).

Canadian Pacific's Call Before You Dig: (866) 291-0741

The project is located upon Canadian Pacific Railway, Kansas City Subdivision near Milepost 498.50 (DOT#375 403A)

1.0 Introduction. The right of way of the Canadian Pacific Railway (herein called "Railroad") is located within this Project. The contractor shall perform its work within the Railroad's Property in accordance with these Railroad Requirements and the Railroads Minimum Safety Requirements for Contractors Working on Railway Property, which can be accessed on Railroad website: <http://www.cpr.ca/en/about-cp/selling-products-and-services-to-cp/policies-and-guidelines/Documents/safety-requirements-contractors-US.pdf>

1.1 Contractor's indemnity Obligations to the Railroad. The term "contractor" as used in this special provision includes any and all subcontractors. The Commission's contractor shall indemnify, defend and hold harmless the Railroad, and Railroad affiliated companies, partners, successors, assigns, legal representatives, officers, directors, shareholders, employees and agents (collectively, "Indemnitees(s)") from and against any and all loss, damage, claims, demands, causes of action, costs and expenses of whatsoever nature arising out of injury to or death of persons whomsoever, or out of damage to or destruction of or environmental contamination of property whatsoever, (including, without limitation, damage to fiber optic, communication and other cable lines and systems), where such injury, death, damage, contamination, or destruction results from any cause arising out of, or in any way connected to, contractor's (or its agents' representatives" use of the Railroad's right-of-way, or work performed by the contractor (or its agents or representatives) pursuant to the agreement between Railroad and the Commission for the project. The Commission's contractor shall also release the Railroad from and shall waive any claims for injury or damage to equipment or other property, which may result from the construction, maintenance and operation of railroad tracks, wire lines, fiber optic cable, pipe lines and other facilities on said right of way of the Railroad by the contractor. **THE LIABILITY ASSUMED BY THE CONTRACTOR WILL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DAMAGE, DESTRUCTION, INJURY, DEATH, CAUSE OF ACTION OR CLAIM WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF THE RAILROAD, THE RAILROAD'S AGENTS, SERVANTS, EMPLOYEES OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROVEN BY ANY CLAIMANT TO HAVE BEEN PROXIMATELY CAUSED BY THE INTENTIONAL MISCONDUCT OR SOLE OR GROSS NEGLIGENCE OF THE RAILROAD.** The contractor's indemnity shall include loss of profits or revenue arising from damage or destruction to fiber optic, communication and other cable lines and systems. To the fullest extent permitted by law, the Commission shall require its contractors, upon written notice from Railroad, to assume the defense of any lawsuit or other proceeding brought against any indemnitee by any entity, relating to any matter covered by this easement agreement for which the contractor has an obligation to assume liability for an/or save and hold harmless any indemnitee.

1.2 In addition to the indemnity obligations contained in the preceding paragraph, the contractor shall indemnify, defend and hold harmless the Railroad from any claims, expenses, costs, actions, demands, losses, fines, penalties, and fees, of whatsoever nature arising from, related to or connected, in whole or in part, with the following:

- a) The removal of the contractor's agents, servants, employees or invitees from the Railroad's property for safety reasons.
- b) Contractor's compliance or failure to comply with the provision of applicable law in connection with the performance of contractor's work.

2.0 Notice of Starting Work. The Contractor shall not commence any work on Railroad's right of way until the contractor has complied with the following conditions:

- a) Give the Railroad written notice to the address below with copy to the Engineer who has been designated to be in charge of the work, at least 30 days in advance of the date contractor proposes to begin work on Railroad's right of way.

Mr. Edward Oom
Manager Public Works
SOO Line Railroad Company
120 South 6th Street, #9126
Minneapolis, MN 55402
Office (612) 330 4552
Cell (630) 701-5882
E-mail: Edward_Oom@cpr.ca

- b) Obtain written authorization from the Railroad to begin work on Railroad's right of way, such authorization to include an outline of specific conditions with which contractor shall comply.
- c) Obtain written approval from the Railroad of Railroad Protective coverage as required by paragraph (12).

2.1 The Railroad's written authorization to proceed with the work with a copy to the Engineer shall include the names, addresses, and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

2.2 Right of Entry. The contractor shall enter into a Right of Entry Agreement with Railroad prior to working on Railroad property.

2.3 Safety. All Contractor employees and supervisors who will routinely perform work within the Railroad ROW, except any personnel employed or assigned by a Railroad-qualified flagging contractor, shall be required to complete the E-Rail Safe Program located at: <http://www.e-railsafe.com/>. Contractor must also provide contact information to James Vaughan with CP Police Services, 563-441-5917 James_Vaughan@cppoliceservice.com.

3.0 Track Clearances.

3.1 The minimum track clearances to be maintained by the Contractor during construction are shown on the Project plans. However, before undertaking any work within Railroad's right of way, or before placing any obstruction over any track, the Contractor shall:

- a) Notify the Railroad Engineer at least seventy-two (72) hours in advance of the work.
- b) Receive assurance from the Railroad Engineer that arrangements have been made for flagging service as may be necessary.
- c) Receive permission from the Railroad Engineer to proceed with the work.
- d) Ascertain that the Engineer has received copies of notice to the Railroad and of the Railroad's response.

4.0 Construction Requirements.

4.1 Interference with Railroad's Operations. The contractor shall take special precaution and care to prevent any debris or material from falling on the Railroad's Property. In conducting its work the contractor shall avoid causing any interference with the Railroad's operations or causing any damage to the Railroad's Property. Whenever the contractor's work upon the Railroad's Property will unavoidably interfere with the Railroad's operations, such as requiring the use of runaround tracks or reduced train speed, the contractor shall schedule and conduct these operations in a manner that minimizes this interference.

4.2 Contractor Plans and Procedures. Before performing any excavation, demolition, blasting, or construction of falsework on Railroad's Property the contractor shall obtain review by the Engineer, and review and approval by the Railroad Representative, of the contractor's relevant plans and procedures. However, such approval shall not relieve the contractor from any liability relating to this project. The contractor shall only submit shoring, demolition and falsework plans that are signed and sealed by a professional engineer licensed in the State of Missouri in accordance with the Chapter 327, RSMo.

4.3 Excavation. The contractor shall maintain the subgrade of an operated track with the beam edge at least 12 feet from centerline of track and not more than 26 inches below top of rail, unless the existing section fails to meet this specification, in which case the contractor shall maintain the existing section. The contractor shall not disturb track alignment when driving piles adjacent to tracks, and shall provide adequate lateral support for the tracks and live loads when excavating shoring pits.

4.3.1 Excavation for Structures. The Contractor will be required to take special precaution and care in connection with excavating and shoring pits, and in driving piles for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which they carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material. The procedure for doing such work, including need of and plans for shoring, shall first be approved by the Railroad Engineer, but such approval shall not relieve the Contractor from liability. Before submission of plans to the Railroad Engineer for approval, such plans shall first be reviewed by the Engineer in accordance with the Standard Specifications.

4.4 Construction Clearances. The contractor shall provide a minimum vertical clearance 21 feet above top of rail and a minimum lateral clearance of 12 feet from the centerline of track to nearest temporary construction falsework.

4.5 Blasting.

4.5.1 The Contractor shall obtain advance approval of the Railroad Engineer and the Engineer for use of explosive on or adjacent to Railroad property. If permission for use of explosives is granted, the Contractor shall be required to comply with the following:

- a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Contractor.
- b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.
- c) No blasting shall be done without the presence of the Railroad Engineer. At least seventy-two (72) hours advance notice to the person designated in the Railroad's notice of authorization to proceed (see paragraph (2)(B)) will be required to arrange for the presence of an authorized Railroad Engineer and such flagging as the Railroad may require.
- d) Have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting at contractor's expense any track misalignment or other damage to Railroad property resulting from the blasting as directed by the Railroad Engineer. If contractor's actions result in delay of trains, the Contractor shall bear the entire cost thereof.

4.5.2 The Railroad Engineer will:

- a) Determine the approximate location of trains and advise the Contractor the approximate amount of time available for the blasting operation and clean-up.
- b) Have the authority to order discontinuance of blasting if blasting is too hazardous or is not in accordance with these special provisions.

4.6 Maintenance of Railroad Facilities. The Contractor shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from contractor's operations; to promptly repair eroded areas within Railroad's right of way and to repair any other damage to the property of the Railroad or its tenants. All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

4.7 Storage of Materials and Equipment. The contractor shall obtain permission from the Railroad Representative before storing any materials or equipment anywhere on Railroad's Property. The contractor shall not leave unattended any grading or construction machinery parked upon Railroad's Property, unless the contractor effectively immobilizes it so that unauthorized persons cannot move the machinery. If the contractor does not comply with the Railroad's storage requirements, then the Railroad may move this material and equipment or require the contractor to move it at the contractor's expense.

4.8 Temporary Haul Road Across Railroad Tracks. Where the plans show or imply that materials of any nature must be hauled across the Railroad's tracks, the contractor shall be required to make all necessary arrangements directly with the Railroad regarding means of transporting such materials across the Railroad's tracks, except for the contractor's use of existing public crossings. Should the contractor and the Railroad agree to the installation of a temporary at-grade crossing, the contractor shall reimburse the Railroad for all of the Railroad's

costs incidental to the construction and removal of the crossing and the required flagging service.

4.9 Inspection and Cleanup. The Contractor shall at the end of each work day, when performing work near the Railroad's tracks, inspect the track area and clean up any debris that may have inadvertently been dropped. When the project is completed, the contractor shall remove any debris or discarded material from the Railroad's Property.

5.0 Damages. If the contractor's acts or omissions result in any delay of trains, misalignment of track, or any other damage to Railroad's Property, then the contractor shall bear the entire cost resulting from the delay or corrective actions. The contractor shall directly reimburse the Railroad for any cost the Railroad reasonably incurs for repairing damages to the Railroad's Property or to property of the Railroad's tenants, caused by or resulting from the operations of the contractor relating to this project.

6.0 Flagging Services.

6.1 When Required. Whenever the Railroad determines that flagging services are needed to protect the Railroad's operations, the contractor shall be responsible for arranging these flagging services to accomplish the highway improvement. In general, the Railroad may require flagging services whenever the contractor's personnel or equipment are, or are likely to be, working on the Railroad's Property within 25 feet of the centerline of any track, or working across, over, adjacent to, or under a railroad track, or whenever the contractor's work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track, to such an extent that the movement of trains must be controlled by flagging to prevent an unreasonable risk of accident or hazard to Railroad's operations or personnel. Normally, the Railroad will assign one flagger to a Project; but in some cases, more than one flagger may be necessary, such as yard limits where up to three flaggers may be required. However, if the contractor works within distances that violate instructions given by the Railroad Engineer or performs work that has not been scheduled with the Railroad's Representative, flaggers may be required full time until the contractor's work on the project has been completed. Whenever the Railroad requires flagging services for any of the contractor's work on this project, the contractor shall not perform that work until all required flaggers are present at the job site.

6.2 Scheduling and Notification.

6.2.1 Not later than the time that approval is initially requested to begin work on the Railroad's right of way (30 days), contractor shall furnish to the Railroad and the Commission a schedule for all work required to complete the portion of the Project within Railroad's right of way and arrange for a job site meeting between the contractor, the Engineer, and the Railroad's Representative. Flaggers may not be provided until the job site meeting has been conducted and the contractor's work scheduled.

6.2.2 The contractor shall be required to give the Railroad's Representative at least 10 days of advance written notice of intent to begin work within Railroad's right of way in accordance with this special provision. Once begun, if such work is then suspended at any time, or for any reason, the contractor shall be required to give the Railroad's Representative at least 5 working days of advance notice before resuming work on Railroad's right of way. Such notices shall include sufficient details of the proposed work to enable the Railroad's Representative to determine if flagging will be required. If such notice is in writing, the contractor shall furnish the

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Engineer a copy; if notice is given verbally, the notice shall be confirmed in writing with copy to the Engineer. Obtaining a flagger or flaggers may take up to 30 days to obtain initially from the Railroad. When flagging begins, the flagger is usually assigned by the Railroad to work at the Project site on a continual basis until no longer needed and cannot be called for on a spot basis. If flagging becomes unnecessary and is suspended, obtaining a flagger or flaggers may take an additional 30 days. Due to Railroad labor agreements, 10 working days notice may be necessary before flagging services may be discontinued and responsibility for payment stopped.

6.2.3 At least 5 days before commencing work on Railroad's Property, the contractor shall arrange the necessary flagging services with Railroad's Manager of Maintenance identified below:

Mr. Otis Goodman
Supervisor Public Works
SOO Line Railroad Company
120 South 6th Street, #9128
Minneapolis, MN 55402
Office: (612) 330-4554
Cell: (630) 335-3116
E-mail: Otis_Goodman@cpr.ca

6.2.4 Every Railroad flagger assigned to this Project will be responsible for notifying the Engineer as soon as possible after arrival at the job site on the first day, that flagging services have begun, and shall give notice to the Engineer on the last day that the flagger performs flagging services at the job site, for each separate period when the Railroad provides flagging services for the Project. The Engineer will document such notification in the Project records.

6.2.5 If emergencies arise after the flagger is assigned to the Project site which require the flagger's presence elsewhere, then the contractor shall delay work on the Railroad's right of way until such time as the flagger is again available. Any additional costs resulting from such delay shall be borne by the contractor and not the Railroad.

6.2.6 The contractor shall provide a temporary structure to provide shelter from weather conditions for the person(s) providing flagging protection service on behalf of the Railroad as described herein. The structure shall be provided in an area immediately accessible to the Railroad's main track and the construction site, and be equipped with telephone service, lighting and desk.

6.3 Payment.

6.3.1 The Commission will pay the Railroad directly for the cost of flagging services associated with the Project by deducting the amount from the normal contractor payments.

6.3.2 The Railroad shall submit progress invoices to the Engineer during the time the Railroad requires flagging services. The Railroad shall submit its final invoice for flagging services to the Engineer within one hundred eighty days after the contractor has notified the Railroad and the Commission that all its work on the Railroad's Property is complete. If the Commission does not receive the Railroad's final flagging invoice within this period, then the Railroad shall obtain payment directly from the contractor.

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6.3.3 If a dispute arises concerning the amount charged for flagging service, then the Commission may deduct the full or partial amount of the Railroad's invoice from the contractor's payment, until the dispute is resolved. The Commission will make a corrected payment after the Railroad, the Commission and the contractor have settled the dispute.

6.3.4 The estimated cost of flagging service is approximately \$850 per day based on an 8-hour work day and a 40-hour work week. The Railroad shall charge not more than its actual cost of providing these flagging services, including the current base pay for the flaggers actually used on the Project, the Railroad's reasonable overhead costs (including the costs of preparing and handling the invoices for flagging services), and costs the Railroad reasonably and actually incurs for the flaggers' travel expenses, meals and lodging. The Railroad may bill for a flagger's services at a minimum of 8 hours worked for each day the flagger reports for duty at this job site, unless the Railroad assigns the flagger to other Railroad work during that workday. Work by a flagger in excess of 8 hours per day or 40 hours per week but not more than 12 hours a day will result in overtime pay at 1 1/2 times the flagger's regular pay rate. Work by a flagger in excess of 12 hours per day will result in overtime pay at 2 times the flagger's regular pay rate. If a flagger is required to perform flagging services on a holiday, the flagging rate is 2 1/2 times the flagger's regular pay rate. The Railroad may charge a maximum of one hour travel time each way per day per flagger, for travel to and from the job site. The Railroad's charges for flagging services shall comply with applicable provisions of the current Federal-Aid Policy Guide issued by the Federal Highway Administration.

6.4 Flagging Complaints. The contractor and the Railroad shall attempt to resolve any complaints concerning flagging services in a timely manner. If the contractor disputes the need for a flagger, the contractor shall notify the Railroad Engineer and the Engineer. The contractor shall confirm any verbal complaints in writing within five working days, by sending a copy to the Railroad Representative and to the Engineer.

7.0 Coordination of Railroad Work. The contractor shall coordinate the scheduling of its work with any construction work by the Railroad or its tenants.

8.0 Insurance. The contractor shall, at its own expense, procure and continuously maintain in force during this Project all the insurance coverage required in this section (including all subsections) until the contractor has completed all project work on the Railroad's Property, has removed all equipment and materials from the Railroad's Property, and has cleaned and restored the Railroad's Property to the satisfaction of the Engineer and the Railroad Representative. The amount of work to be performed upon, over or under Railroad's right of way is estimated to be one percent (1 %) of the contractor's total bid for the Project.

8.1 Commercial General Liability Insurance. The contractor shall maintain commercial general liability Insurance, including contractual liability and products completed/operations, against claims arising out of bodily injury, illness and death and from damage to or destruction of property of other, including loss of use thereof, and including liability of Railroad, with minimum limits for bodily injury and property damage of \$2,000,000 for each occurrence, with an aggregate limit of \$5,000,000.

8.1.1 The definition of insured contract shall be amended to remove any exclusion or other limitation for any work being done within 50 feet of railroad property.

8.1.2 Any exclusions related to the explosion, collapse and underground hazards shall be removed.

JOB SPECIAL PROVISIONS (BRIDGE)

8.1.3 No other endorsements limiting coverage as respects obligations under this special provision shall be included on the policy with regard to the work being performed under the contract between the contractor and the Commission.

8.2 Business Automobile Policy Insurance. The contractor shall maintain business automobile policy insurance, including owned, non-owned, and hired vehicles with minimum limits for bodily injury and property damage of \$1,000,000 per occurrence, on all vehicles used on Railroad's property during the term of the contract between the contractor and the Commission.

8.3 Worker's Compensation Insurance. The contractor shall maintain worker's compensation insurance or coverage as required under the Worker's Compensation Act of the state of Missouri. The policy shall include occupational disease to required statutory limits, employer's liability of \$1,000,000 to include FELA, if appropriate, and an "all states" endorsement.

8.4 Railroad Protective Liability Insurance. The contractor shall maintain a railroad protective liability policy issued in the name of the Railroad with limits of \$2,000,000 for bodily injury and property damage per occurrence, with an aggregate of \$6,000,000.

8.4.1 The railroad protective liability insurance policy shall include the following endorsements:

8.4.1.1 Pollution Exclusion Amendment (ISO form CG 28 31 10 93).

8.4.1.2 Limited Seepage and Pollution Endorsement.

8.4.1.3 Where allowable by law, the policy shall delete any exclusion for punitive damages.

8.4.1.4 Evacuation Expense Coverage Endorsement.

8.4.1.5 No other endorsements restricting coverage may be added.

8.5 Umbrella or Excess Policies. If the contractor utilizes umbrella or excess policies, these policies shall "follow form" and afford no less coverage than the primary policy. The contractor shall not use umbrella policies for the Railroad Protective Liability coverage.

8.6 Additional Insurance Requirements.

8.6.1 It is understood and agreed that these insurance policies are primary and not contributory and shall release the Railroad as to payments of any earned premium. All insurance certificates provided by the contractor shall be satisfactory to the Railroad as to insurance carriers covering the risk. The fact that insurance, including, without limitation, self-insurance, is obtained by the contractor shall not be deemed to release or diminish the liability of the contractor including, without limitation, liability under the indemnity provisions of these Railroad Requirements. Damages recoverable by the Railroad shall not be limited by the amount of the required insurance coverage.

8.6.2 With the exception of Workers Compensation and Railroad Protective Liability, the Railroad shall be named an additional insured under the above mentioned policies.

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8.6.3 The policies described above shall contain a "Waiver of Transfer Rights" endorsement to waive any right of recovery that the insurance company may have against Railroad because of payments made for bodily injuries or property damage.

8.6.4 Railroad will not accept binders as evidence of insurance. Before entering upon the Railroad's Property, the contractor shall furnish the original certificate of insurance, the original insurance policy, or other acceptable evidence that the contractor is maintaining all the insurance required under the foregoing provisions, for approval by the Railroad, and shall furnish copies thereof for review by the Commission, at the following addresses:

Railroad:

Mr. Edward Oom
Manager Public Works
SOO Line Railroad Company
120 S. 6th Street, #9126
Minneapolis, MN 55402

Commission:

Mr. Dave Ahlvers
State Construction and Materials Engineer
MoDOT
P.O. Box 270
Jefferson City, MO 65102

8.6.5 The named insured, description of the work and designation of the job site to be shown on the Policy are as follows:

Named Insured: Dakota, Minnesota and Eastern Railroad Company doing business as Canadian Pacific

Description and Designation:

Route I-435, Jackson County Bridge improvements (MoDOT bridge A1683 & A2249)
Job No. J413028B
Near Milepost 498.50
DOT# 375 403A

8.6.6 If any part of the contractor's work is sublet, the contractor shall submit to the Railroad and Commission similar insurance and evidence thereof in the same amounts as required of the contractor, to cover the subcontractor's operations. Endorsements to the contractor's policies specifically naming subcontractors and describing their operations will be acceptable for this purpose.

8.7 Cancellation of Insurance. Neither the contractor nor its insurers shall cancel any of the required insurance coverage, except by permission of the Engineer and the Railroad, or after thirty days' written notice to the Commission and the Railroad at the addresses shown elsewhere in this section. All insurance policies and certificates submitted by the contractor shall bear a cancellation clause or endorsement, which provides that the insurer shall not cancel, amend, or allow the coverage to lapse for at least thirty days after the insurer has provided to the Railroad and to the Commission written notice of the cancellation, amendment or lapse.

8.0 Completion of Work on Railroad's Property. The contractor shall notify Engineer and Railroad's Representative when the contractor has completed its work on Railroad's Property.

9.0 Failure to Comply. If the contractor violates or fails to comply with any of the requirements of these Railroad Requirements, then the Railroad Engineer may require that the contractor vacate the Railroad's Property and the Engineer may withhold all monies due to the contractor

until the contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

10.0 Payment for Cost of Compliance. The contractor is not entitled to any separate payment for any extra cost it may incur on account of compliance with these Railroad Requirements. The contractor shall include all such costs in the contract unit price for items properly authorized in the contract.

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K. KANSAS CITY TERMINAL RAILWAY REQUIREMENTS**1.0 Introduction.**

1.1 These requirements set forth terms and conditions agreed between the Kansas City Terminal Railway (Railroad) and the Missouri Highways and Transportation Commission (Commission), under which the Railroad will allow the Commission's contractor to enter in and upon the Railroad's real property, right of way, tracks and other facilities to perform the contractor's work relating to this project.

1.2 To report an emergency on the Railroad, call: (913) 551 2179

1.3 The project is located over the Kansas City Terminal Railway System at the I-435 Viaduct over tracks 1, 405, 2 & 3. .

2.0 Right of Entry.

2.1 The Commission has secured an easement from the Railroad where the highway crosses over the Railroad's right of way. Should the contractor need to enter any part of the Railroad's right of way outside of this easement the contractor shall be required to secure a Right of Entry Agreement from the Railroad (Example of the form follows below in Section 2.3). Further, if the Contractor does not need to enter the Railroad's Right of Way but merely has the *potential* to foul the Railroad tracks (by working over or near the tracks, using an extended crane or other equipment near the tracks, etc.), the Contractor shall be required to secure a Right of Entry Agreement. The contractor shall complete the form including Exhibit A, secure all insurance requirements in Exhibit D, secure the Railroad's execution of the form, and pay the associated fee before entering any portion of the Railroad's property. If the contractor does not need additional property rights from the Railroad and all work can be performed within the existing easement granted to the Commission, and there is no potential for the Contractor's employees or equipment to intentionally or unintentionally come near the railroad tracks, then the contractor does not need to secure a Right of Entry from the Railroad, but the contractor shall comply with all of the procedures, terms and conditions detailed in Railroad's Right of Entry agreement.

2.2 Payment for Cost of Compliance. The contractor is not entitled to any separate payment for any extra cost it may incur on account of compliance with these Railroad Requirements. The contractor shall include all such costs in the contract unit price for items properly authorized in the contract.

2.3 Example of Right of Entry:

This Right of Entry Agreement ("**Agreement**") is entered into by and between Kansas City Terminal Railway Company ("**KCT**") and [**Name of Permittee**], a _____ [**corporation/limited liability company/limited partnership**] ("**Permittee**") effective on the last date indicated on the signature pages as the date of execution of this Agreement (the "**Effective Date**").

KCT is the owner of certain real property legally described and/or depicted on **Exhibit A** (the "**Property**"). Permittee desires a right of entry from KCT to enter upon the Property for the sole and exclusive purpose of performing the following professional and/or construction activities:

[Describe with specificity the activities to be allowed]

(together or collectively, as applicable, the “**Permitted Activities**”).

NOW, THEREFORE, for other good and valuable consideration and the promises, covenants and representations in this Agreement, the parties agree as follows:

GRANT OF RIGHT OF ENTRY. KCT hereby grants Permittee a non- exclusive, limited right of entry to the Property solely for the purpose of performing the Permitted Activities and for no other purpose. The performance of the Permitted Activities shall at all times be subject to the reasonable requirements of the Railroad Representative (as defined below) and shall be performed and completed with commercially reasonable dispatch.

Conditions to Entry on the Property. Prior to entering on the Property or the commencement of the Permitted Activities:

Permittee shall contact the Sr. Manager Contracts & Real Estate of KCT, [Mr. Shawn Lauby], at (913) 551-2127, or such other person as may be designated by KCT or [Mr. Lauby] (the “**Railroad Representative**”) at least fifteen (15) days prior to commencing any Permitted Activities on the Property in order for the Railroad Representative to arrange for one or more flaggers at various locations throughout the Property,

Permittee shall be in compliance with the insurance requirements of **Section 8** below,

Permittee and the Authorized Personnel (as defined below) shall be safety trained in the manner required by 49 CFR 214 (c) of the FRA Rules and Regulations for Roadway Worker Protection and must be familiar with and abide by the safety requirements set forth set forth on **Exhibit B** (the “**Permittee Safety Requirements**”),

Permittee and the Authorized Personnel shall be familiar with and abide by the requirements set forth on **Exhibit C** (collectively, the “**Protection of Railroad Facilities Requirements**”), and,

Permittee shall request that KCT locate and mark, at Permittee’s cost and expense, all buried cable, air lines, communication lines and other buried or below grade systems or facilities of KCT on the Property and KCT shall have so marked such system or facilities, and

Permittee shall have paid the Right of Entry Fee (as defined below) to KCT.

AUTHORIZED PERSONNEL. Permittee represents and agrees that the Permitted Activities shall be performed solely by Permittee or (i) persons within the direct employ of Permittee or (ii) subcontractors and agents of Permittee, all of which have been approved in advance by KCT, which approval shall not be unreasonably withheld (“**Authorized Personnel**”).

JOB SPECIAL PROVISIONS (BRIDGE)

TERM. The term of this Agreement (“**Term**”) shall commence upon the Effective Date and shall continue, unless earlier terminated, to the earlier of (i) _____ (____) [days/months/year] following the Effective Date; or (ii) _____, 20_____.

FEES. In consideration of this Agreement and as a condition precedent to entering onto the Property, Permittee shall pay to KCT a one-time, non-refundable fee in the amount of \$ _____ (the “**Right of Entry Fee**”). Permittee shall also reimburse KCT within thirty (30) days of receipt of bill therefore for all costs of KCT’s flagman (which, upon the Effective Date is [**\$800.00**] per eight hour basic day, with time and one-half or double time for overtime, rest days and holidays).

RESTORATION OF PROPERTY. After the expiration or earlier termination of the Term, Permittee agrees that all rights of entry granted by KCT to Permittee by this Agreement shall cease and be no longer in effect. Prior to the expiration or earlier termination of the Term, unless otherwise authorized by KCT in writing, Permittee shall (i) remove from the Property all equipment, tools, vehicles, items or property of Permittee or Permittee’s Authorized Personnel of any kind whatsoever used in connection with its Permitted Activities, and (ii) at Permittee’s sole cost and expense, restore the Property to substantially the same condition that existed prior to the Effective Date, if such change in condition was caused by Permittee’s exercise of its rights under this Agreement.

KCT Right to Cure. In the event Permittee shall fail to remove its equipment, tools, vehicles, items or property or shall fail to restore the Property to the same condition that existed prior to the Effective Date, then KCT may, but shall not be required to, perform such acts at the cost of Permittee. In such event, KCT shall not be liable to Permittee for any damage to such equipment, tools, vehicles or property incurred during such removal, nor shall KCT be required to secure or safeguard such equipment, tools, vehicles or property either while located on the Property or following the removal thereof.

Recovery of Losses. KCT shall have the right to recover from Permittee and Permittee agrees to pay to KCT any loss or damage sustained by KCT due to Permittee’s breach of its agreements contained in this Section. KCT shall provide Permittee a written accounting of such loss or damage and Permittee shall pay such amount to KCT not later than thirty (30) days following receipt of such accounting. Permittee agrees to and shall withhold from final payment due any of Permittee’s Authorized Personnel such amount(s) as may be reasonable and necessary to reimburse KCT for such loss or damage arising from the actions or inactions of the Permittee’s Authorized Personnel. The term “loss or damage” as used in this section shall mean all of the costs incurred by KCT to perform such acts as may be required to repair or restore the Property to its condition prior to the Effective Date, including without limitation, costs associated with repairing damage from erosion, silting, water and the accidental or intentional placement of objects on the Property. Permittee’s obligations under this **Section 5** shall survive the expiration or earlier termination of this Agreement.

Notwithstanding the foregoing, in the event KCT executes this Agreement with a Permittee acting on behalf of a political subdivision, rather than entering into such Agreement directly with a political subdivision (as an accommodation to such political subdivision), the Permittee hereby agrees that such political subdivision, upon receipt of

written demand from KCT (i) may withhold from final payment due its Permittee and its Authorized Personnel, such amount(s) as may be reasonable and necessary to reimburse KCT for such loss or damage arising from the actions or inactions of the Permittee or its Authorized Personnel, and (ii) shall pay such amount directly to KCT.

SAFETY. Safety is of prime importance in performing the Permitted Activities. Nothing shall be done or suffered to be done by Permittee and the Authorized Personnel at any time that would in any manner impair the safety of the personnel, tracks, property and facilities of KCT or its lessees, licensees or others. Permittee and the Authorized Personnel shall take all reasonably necessary precautions so as not to suffer or permit any unreasonably dangerous condition to be created, exist or continue on or near the Property. Permittee shall incorporate the Permittee Safety Requirements into any subcontract or subservice agreement relating to the Permitted Activities to which Permittee is a party.

NO INTERFERENCE. No Permitted Activities performed by Permittee in connection with this Agreement shall cause any interference with the constant, continuous and uninterrupted use of the tracks, property and facilities of KCT or its lessees, licensees or others, unless specifically permitted under this Agreement or specifically authorized in writing in advance by the Railroad Representative. The Permittee shall incorporate the Protection of Railroad Facilities Requirements into any subcontract or subservice agreement relating to the Permitted Activities to which Permittee is a party.

INSURANCE. Permittee shall procure and maintain during the continuance of this Agreement, at its sole cost and expense, all such insurance coverage as is set forth on **Exhibit D**, which insurance coverage shall include without limitation, coverage for each and all of Permittee's contractual indemnity obligations set forth in this Agreement.

CONDITION OF THE PROPERTY. KCT makes no representation concerning the condition of the Property and Permittee expressly accepts the use of the Property pursuant to this Agreement in the Property's current condition. Permittee specifically waives and disclaims any and all claims related to damage to property, personal injury or death resulting from the performance of the Permitted Activities on or near the Property by Permittee and the Authorized Personnel.

Subsurface Conditions. In the event Permittee or the Authorized Personnel shall damage any of KCT's property (including the Property), including without limitation, any property, equipment or systems which are buried or below grade (such as cables, air lines, communication lines gas, water, sewer or other utility lines) or any other property, systems or facilities of KCT (and KCT's owner railroads) arising out of or related to Permittee's and the Authorized Personnel's Permitted Activities or any other action or inaction of Permittee and the Authorized Personnel, Permittee shall be liable for and pay for all such damage. Permittee shall be responsible for and pay such damages, regardless of the accuracy or completeness of any markings by KCT of the location of any subsurface conditions.

Modifications to Property. In the event the Permittee shall make any modifications, alterations or improvements to the Property, Permittee shall promptly provide KCT with written notice thereof and shall provide KCT with as-built drawings and surveys of any such modifications, alterations or improvements. The foregoing notwithstanding, nothing in

JOB SPECIAL PROVISIONS (BRIDGE)

this Agreement shall be construed to grant the Permittee the right to make any modifications, alterations or improvements to the Property unless such modifications, alterations or improvements are expressly provided for in the Permitted Activities. Permittee acknowledges that any such modifications, alterations or improvements to the Property shall (at the option of KCT) become the sole property of KCT and that KCT may require the Permittee to remove any such unauthorized modifications, alterations or improvements at Permittee's sole cost and expense.

COMPLIANCE WITH LAWS. Permittee shall be responsible for determining and complying with all federal, state and local statutes, laws and regulations applicable to the Permitted Activities, including, but not limited to (i) environmental laws and regulations (including but not limited to the Oil Pollution Act, the hazardous Materials Transportation Act and CERCLA), and (ii) the location, contact, excavation and protection regulations of the Occupational Safety and Health Act ("**OSHA**") (20 CFR 1926.651(b), et al.), and applicable state "One Call"—"Call Before You Dig" requirements. Prior to performing any Permitted Activities, Permittee shall secure any and all necessary permits, if any, and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the acts covered by the right of entry granted by this Agreement. Permittee assumes sole responsibility for failure to obtain any permit(s) and approval(s) required for the performance of the Permitted Activities and for any violations thereof or for costs or expenses of compliance or remedy. If any failure by Permittee to comply with any such laws, regulations, and enactments shall result in any fine, penalty, cost or charge being assessed, imposed or charged against KCT, Permittee shall reimburse and indemnify KCT for any such fine, penalty, cost, or charge, including without limitation attorneys' fees, court costs and expenses. Permittee further agrees in the event of any such action, upon notice thereof being provided by KCT, to defend such action free of cost, charge, or expense to KCT. Permittee's obligations under this **Section 10** shall survive the expiration or earlier termination of this Agreement.

LIENS. Permittee shall not allow any mechanic's lien to be filed against the Property by reason of Permitted Activities, labor, or services performed or furnished to Permittee or the Authorized Personnel. If any such lien shall at any time be filed against the Property, Permittee may contest the same in good faith but notwithstanding such contest, Permittee shall, within fifteen (15) days after the filing thereof, cause such lien to be released of record by payment, bond, order of a court of competent jurisdiction, or otherwise. If Permittee fails to remove said lien within fifteen (15) days after the filing thereof, KCT may (but shall not be obligated to) satisfy and remove said lien by payment or otherwise, without investigation of the validity of said lien, and Permittee shall reimburse KCT upon demand all amounts paid by KCT, including KCT's costs and expenses, including attorneys fees. Permittee's obligations to KCT pursuant to this **Section 11** shall survive the expiration or earlier termination of this Agreement.

DEFAULT; REMEDIES.

Default. Permittee shall be in default if Permittee or the Authorized Personnel fail to timely comply with any material term or provision of this Agreement, and KCT has provided Permittee written notice of such failure. Material terms or provisions of this Agreement include, without limitation **Sections 6, 7 and 8**. Upon the date of such notice of default, Permittee shall have twenty-four (24) hours in which to cure any such default (or such longer period of time as may be provided by KCT in the notice of default), provided that such default is

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of the nature which can be reasonably cured within twenty-four (24) hours. For any failure which cannot reasonably be cured within twenty-four (24) hours, the cure period shall be extended for a reasonable period so long as Permittee commences to cure the failure within such twenty-four (24) hour period and thereafter continues diligently and in a professional manner to cure such failure. KCT shall have the right to suspend Permittee's or the Authorized Personnel's access to the Property during any such cure period.

Remedies. In the event of an uncured default, KCT may, in its sole discretion, terminate this Agreement, and

seek such other remedies available to KCT at law or in equity, including injunctive relief.

All rights and remedies under this Agreement are cumulative and no one of them shall be exclusive of any other, and each party shall have the right to pursue any one or all of such rights and remedies or any other remedy which may be provided by law, whether or not stated in this Agreement, except to the extent expressly provided to the contrary in this Agreement.

RELEASE OF LIABILITY; INDEMNITY.

Indemnification. Permittee hereby expressly **waives, releases and discharges and does hereby expressly agree to defend, indemnify and save harmless** KCT, its owner railroads and their respective agents, representatives and employees from all judgments, awards, liability, loss, cost, demands or claims (including attorneys' fees) for:

injury or death to all persons, including KCT's, Permittee's or the Authorized Personnel's officers and employees, which occurs as a result of, or arises in any manner from Permittee's and/or the Authorized Personnel's acts, omissions, presence or activities on and/or about the Property;

for loss of or damage to any property (regardless of who owns said property) which occurs as a result of, or arises in connection with, Permittee's and/or the Authorized Personnel's acts, omissions, presence or activities on and/or about the Property; and

any other damage, liability, loss, cost or claim which occurs as a result of, or arises in connection with Permittee's and/or the Authorized Personnel's acts, omissions, presence or activities on and/or about the Property.

THE LIABILITY ASSUMED BY PROVIDER SHALL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DESTRUCTION, DAMAGE, DEATH OR INJURY WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF KCT, ITS AGENTS, SERVANTS, EMPLOYEES, OWNERS OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROXIMATELY CAUSED BY THE INTENTIONAL MISCONDUCT OR GROSS NEGLIGENCE OF KCT. THE INDEMNIFICATION OBLIGATION ASSUMED BY PROVIDER INCLUDES ANY CLAIMS, SUITS OR JUDGMENTS BROUGHT AGAINST KCT UNDER THE FEDERAL EMPLOYEE'S

LIABILITY ACT, INCLUDING CLAIMS FOR STRICT LIABILITY UNDER THE SAFETY APPLICATION ACT OR THE BOILER INSPECTION ACT, WHENEVER SO CLAIMED.

Defense and Settlement of Claims. KCT shall give notice to Permittee, in writing, of the receipt of notice or pendency of any claim or cause of action against KCT arising or growing out of or in any manner connected with the Permitted Activities and any other liability assumed by Permittee under this Agreement. Upon receipt of such notice, Permittee must proceed (at its sole cost and expense) to adjust and handle to a conclusion such claims. In the event of a suit being brought against KCT, KCT shall forward the summons and complaint or other process in connection therewith to Permittee. At KCT’s discretion, either (i) Permittee (at its sole cost and expense) shall defend, adjust or settle such suits and protect, indemnify, and save harmless KCT from and against all damages, judgments, decrees, attorney’s fees, costs and expenses growing out of or resulting from or incident to any such claims or suits, or (ii) KCT may elect to defend, adjust and settle such suit and Permittee shall reimburse KCT for any and all costs and expenses (including without limitation, attorneys fees) incurred by KCT as well as all damages, judgments, awards and settlements associated with such suit. Permittee shall not settle any claim or suit without the express written consent of KCT.

Survival. Permittee expressly acknowledges and agrees that Permittee’s obligations under this Section shall survive the termination or expiration of this Agreement.

NOTICES. Any notice to be given by either party in connection with or required by this Agreement shall be delivered either by hand delivery, via certified United States mail or for next business day delivery by a reputable overnight delivery service (e.g., FedEx or UPS). All such notices shall be postage prepaid to the following addresses or to such other address as either party may specify for itself by written notice given pursuant to this Section :

To KCT: Kansas City Terminal Railway Company
4501 Kansas Avenue
Kansas City, Kansas 66106
Attention: General Manager

To Permittee: At the address shown beneath Permittee’s signature on the execution page

A notice which is delivered (i) by hand shall be deemed received on the date delivered, (ii) by US Mail shall be deemed received three (3) days following deposit with the US Postal Service, and (iii) by overnight delivery service shall be deemed received on the next business day following deposit with the overnight delivery service.

MISCELLANEOUS.

Savings Clause. To the maximum extent possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be prohibited by, or held to be invalid under applicable law, such provision shall be ineffective solely to the extent of such prohibition or invalidity, and this shall not invalidate the remainder of such provision, or any other provision of this Agreement.

State Law: Venue. This Agreement shall be governed by, and construed in accordance with, the laws of the State of [Missouri / Kansas]. The [Circuit Court of Jackson County, Missouri / Wyandotte County Kansas District Court] shall have exclusive jurisdiction of any litigation between the parties arising out of or related to this Agreement.

Expenses. Permittee shall bear any and all costs and expenses associated with this Agreement or any costs or expenses incurred by KCT relating to this Agreement or the enforcement of KCT's rights under the Agreement (including, but not limited to cost for flaggers and any reasonable and necessary attorneys fees or expenses incurred by KCT in enforcing this Agreement).

Waiver of Breach. The waiver by KCT of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by Permittee shall in no way impair the right of KCT to avail itself of any remedy for any subsequent breach thereof.

Counterparts. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

Integration. This Agreement constitutes the entire agreement between KCT and Permittee and there are no other oral or written agreements between them with respect to the Permitted Activities.

Exhibits. Each Exhibit to this Agreement is attached hereto and is incorporated into this Agreement by this reference. Capitalized terms used in the Exhibits shall, unless expressly stated to the contrary in such Exhibit, have the same meaning as in this Agreement.

Authority. Each person executing this Agreement in a representative capacity warrants and represents that such person has the authority to do so and, upon request, proof of such authority in customary form shall be furnished to the requesting party.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties have entered into this Right of Entry on the date last written below.

KCT:

KANSAS CITY TERMINAL RAILWAY COMPANY

BY: _____

NAME: **[Shawn Lauby]**
TITLE: Sr. Manager, Contracts & Real Estate
ADDRESS: 4501 Kansas Avenue
Kansas City, Kansas 66106
PHONE: (913) 551-2127

Executed by KCT this _____ day of _____, 20_____.

- Attach: **Exhibit A:** Legal Depiction/Description of Property
- Exhibit B:** Permittee Safety Requirements
- Exhibit C:** Protection of Railroad Facilities
- Exhibit D:** Insurance Requirements

[PERMITTEE'S SIGNATURE APPEARS ON NEXT PAGE]

Signature Page for Right of Entry between KCT and [_____].

JOB SPECIAL PROVISIONS (BRIDGE)

PERMITEE:

BY: _____
NAME: _____
TITLE: _____
ADDRESS: _____
PHONE: _____

Executed by Permittee this _____ day of _____, 20_____.

And if Permittee desires that a notice be sent to a second party, with a copy to:

EXHIBIT A to Right of Entry

Depiction and/or Legal Description of Property

EXHIBIT B to Right of Entry**Permittee Safety Requirements****SAFETY ORIENTATION**

Orientation and Training. Neither Permittee nor any of the Authorized Personnel may enter the Property without first having completed the railroad contractor safety courses (the “**Permittee Safety Orientation**”) on the website located at www.ers-shortline.com (the “**Safety Web Site**”). Before entering the Property, Permittee must ensure that Permittee and each and every one of its Authorized Personnel (i) completes the Permittee Safety Orientation through the Safety Web Site, and (ii) possesses a card certifying completion of the Permittee Safety Orientation before entering the Property. Permittee is responsible for the cost of \$55 per person for the Permittee Safety Orientation. Permittee must renew the Permittee Safety Orientation annually, in the event the term of the Agreement exceeds one year. Further clarification regarding the Permittee Safety Orientation may be found on the Web Site or obtained from the Railroad Representative.

PERMITTEE ROADWAY WORKER ON TRACK SAFETY PROGRAM AND SAFETY ACTION PLAN

Development of Safety Program. Permittee and each of the Authorized Personnel that will perform Permitted Activities within 25 feet of the centerline of a railroad track must develop and implement a Roadway Worker Protection/On Track Safety Program (a “**RW Safety Program**”) for the Permitted Activities with the Railroad Representative in order to develop an on track safety strategy as described in the guidelines listed in the on track safety portion of the Permittee Safety Orientation. This RW Safety Program must provide training for the Permittee and the Authorized Personnel. Permittee shall reinforce this training at the job site through job safety briefings. During the performance of the Permitted Activities, Permittee must audit the performance of the Permitted Activities to ensure RW Safety Program compliance. Permittee must designate one on-site supervisor to serve as the contact person for KCT and who will be responsible to maintain a copy of the RW Safety Program, safety audits, and Material Safety Datasheets (“**MSDS**”), at the site of the Permitted Activities. All Permitted Activities performed by Permittee or the Authorized Personnel within 25 feet of any track must be in compliance with Federal Railroad Administration (“**FRA**”) Roadway Worker Protection Regulations.

PERMITTEE GENERAL SAFETY REQUIREMENTS

Moving Trains. Permitted Activities in the proximity of KCT’s railroad track(s) is potentially hazardous where movement of trains and equipment can occur at any time and in any direction. When any Permitted Activities are in progress in the vicinity of railroad tracks located on or near the Property, Permittee and the Authorized Personnel should always be alert for approaching trains or engines, and should expect the movement of trains, engines or cars on any track at any time. Upon the approach of a train or engine, Permittee and the Authorized Personnel shall stop all Permitted Activities and station themselves not closer than twenty five feet (25’0”) from the centerline of the track on which the train is operating. Because the performance of the Permitted

JOB SPECIAL PROVISIONS (BRIDGE)

Activities on and around railroad tracks can be hazardous, safety precautions and KCT's instructions must be followed at all times.

Protective Equipment/Clothing. All personnel protective equipment ("**PPE**") used on the Property must meet applicable OSHA and American National Standards Institute ("**ANSI**") specifications. Such specifications require that Permittee and the Authorized Personnel performing the Permitted Activities in and around train operations shall wear suitable clothing and other personal protective equipment as may be required by KCT. Current KCT PPE is set forth on the Safety Web Site, however, a partial list of the requirements include: (i) safety glasses with permanently affixed side shields (no yellow lenses); (ii) hard hats; (iii) safety shoes with hardened toes, above-the ankle lace-up and a defined heel; and (iv) high visibility retro-reflective work wear. Hearing protection, fall protection, gloves, and respirators must be worn as required by State and Federal regulations. In the event of a discrepancy between the information contained on the Safety Web Site and the information in this section, the Safety Web Site shall govern.

Report Injuries. Permittee and the Authorized Personnel shall report to KCT, in writing, any personal injury of Permittee, any of the Authorized Personnel or any other person, occurring on the Property or relating to the Permitted Activities, within 24 hours of the injury or as soon as practicable.

Safety Briefings. Before commencing any of the Permitted Activities on the Property, a thorough job safety briefing must be conducted with all Authorized Personnel involved with the Permitted Activities. Such job safety briefing shall be repeated when the Authorized Personnel or task involved with the Permitted Activities changes. If the Permitted Activities or a particular task of the Permitted Activities is within 25 feet of the centerline of any railroad track, the job safety briefing must include KCT's flagger, as applicable, and include the procedures Permittee shall use to protect the Authorized Personnel when moving any equipment adjacent to or across any railroad track(s).

Safety Strategy. Permittee and the Authorized Personnel shall not perform Permitted Activities within 25 feet of the centerline of any track without an on-track safety strategy approved by the Railroad Representative. When authority is provided, each of the Authorized Personnel must know: (i) the identity of KCT flagger and how to contact KCT flagger, (ii) limits of the authority, (iii) the method of communication to stop and resume Permitted Activities, and (iv) location of the designated place of safety. Persons or equipment entering flag/Permitted Activities limits that were not previously job briefed must notify the flagger immediately and be given a job briefing when Permitted Activities are within 25 feet of the centerline of track.

Activities After Hours. When Permittee or the Authorized Personnel are to perform Permitted Activities on the Property after normal business hours or on weekends, the Railroad Representative must be notified prior to conducting such activities. A minimum of two employees must be present at all times such Permitted Activities are conducted.

Drugs, Alcohol, Weapons. For safety reasons, while conducting Permitted Activities on the Property no person shall (i) have in their possession any pocket knives, firearms or other deadly weapons, and (ii) be under the influence of drugs or alcohol or be in possession of drugs or alcohol. Any Authorized Personnel under suspicion of being under the influence of drugs or

JOB SPECIAL PROVISIONS (BRIDGE)

alcohol, or in the possession of same, shall be immediately removed from the Property by Permittee or KCT, and if removed by KCT, such Authorized Personnel shall be subsequently released to the custody of a representative of Permittee. Future access to the Property will be denied to any Authorized Personnel found to have violated this Section.

Report Damage. The Permittee and any of the Authorized Personnel must immediately report to the Railroad Representative any damage to the Property, or any hazard noticed on passing trains. In the event any vehicle or machine comes in contact with any track, signal equipment, or structure (bridge) and such contact could result in a train derailment, the Permittee and any of the Authorized Personnel shall report such contact immediately to the KCT representative in charge of the project and to KCT's Operations Center at [(913) 551-2179]. Local emergency numbers are to be obtained from the Railroad Representative prior to the start of any Permitted Activities and Permittee shall post such emergency numbers at the job site.

Storage. **NEITHER PERMITTEE NOR ANY OF THE AUTHORIZED PERSONNEL SHALL PILE OR STORE ANY MATERIALS, MACHINERY OR EQUIPMENT CLOSER THAN 25'-0" TO THE CENTER LINE OF THE NEAREST KCT TRACK ON THE PROPERTY. MATERIALS, MACHINERY OR EQUIPMENT MUST NOT BE STORED OR LEFT WITHIN 250 FEET OF ANY HIGHWAY/RAIL AT-GRADE CROSSINGS, WHERE STORAGE OF THE SAME WILL OBSTRUCT THE VIEW OF A TRAIN APPROACHING THE CROSSING. PRIOR TO BEGINNING OF THE PERMITTED ACTIVITIES, PERMITEE MUST ESTABLISH A STORAGE AREA WITH CONCURRENCE OF KCT'S GENERAL MANAGER.**

Unattended Equipment. Machines or vehicles must not be left unattended with the engine running. Parked machines or equipment must be in gear with brakes set and if equipped with blade, pan or bucket, they must be lowered to the ground. All machinery and equipment left unattended on the Property must be left inoperable and secured against movement. (See Safety Web Site for more detailed specifications).

Drainage. Neither Permittee nor the Authorized Personnel shall create and leave any conditions on the Property where the Permitted Activities have been/are being performed that would interfere with water drainage. Any Permitted Activities performed near and over water or which may impact a water way must meet all Federal, State and Local regulations.

Power Lines. All power line wires must be considered dangerous and of high voltage unless informed to the contrary by proper authority. For all power lines the minimum clearance between the lines and any part of the equipment or load must be: (i) 200 KV or below – 15 feet; (ii) 200 to 350 KV – 20 feet; (iii) 350 to 500 KV – 25 feet; (iv) 500 to 750 KV – 35 feet; and (v) 750 to 1000 KV – 45 feet. If capacity of the line is not known, a minimum clearance of 45 feet must be maintained. A person must be designated to observe clearance of the equipment and give a timely warning for all operations where it is difficult for an operator to maintain the desired clearance by visual means.

EXHIBIT C to Right of Entry**Protection of Railroad Facilities****1. GENERAL.**

No Interference. Permittee must plan, schedule and conduct all Permitted Activities so as not to interfere with the movement of any trains on the Property.

Cooperation of KCT. Subject to the movement of KCT's trains, KCT will cooperate with the Permittee such that the Permitted Activities may be handled and performed in an efficient manner.

Cease Activities. KCT shall have the absolute right to cause the Permitted Activities on the Property to cease if, in the opinion of KCT, Permittee's activities create a hazard to the Property, or any of KCT's other property, employees, and/or operations. Permittee shall have no claim whatsoever for any type of damages or for extra or additional compensation in the event the Permitted Activities are delayed by KCT.

False Work or Excavations. The Permittee shall furnish KCT with five (5) sets of drawings showing details of construction affecting the Property and tracks, if the Permitted Activities involve (i) any false work above any tracks or (ii) any excavations (A) located within twenty-five (25) feet of the centerline of the nearest track or (B) intersecting a slope from the plane of the top of rail on a 1 ½ horizontal to 1 vertical slope beginning at eleven (11) feet from centerline of the nearest track, both measured perpendicular to the centerline of the track. The drawings of the Permitted Activities must include the proposed method of installation and removal of false work, shoring or cribbing, not included in the contract plans and two (2) sets of structural calculations of any false work, shoring or cribbing. All calculations must take into consideration railway surcharge loading and must be designed to meet American Railway Engineering and Maintenance of Way Association (previously known as American Railway Engineering Association) Coopers E-80 live loading standard. All drawings and calculations must be stamped by a registered professional engineer licensed to practice in the state the project is located. Permittee shall not begin Permitted Activities until notified by KCT that the plans for false work have been approved. Permittee shall be required to use lifting devices such as, cranes and/or winches to place or to remove any false work over KCT's tracks. In no case will the Permittee be relieved of responsibility for results obtained by the implementation of said approved plans.

FLAGGER SERVICES.

Prior Notice. Permittee must give the Railroad Representative a minimum of thirty (30) calendar days advance notice when flagging services will be required so that the Railroad Representative may make appropriate arrangements (i.e., bulletin the flagger's position). If flagging services are scheduled in advance by the Permittee and it is subsequently determined by the parties hereto that such services are no longer necessary, Permittee must give the Railroad Representative five (5) business days advance notice so that appropriate arrangements can be made to abolish the position, pursuant to union requirements.

JOB SPECIAL PROVISIONS (BRIDGE)

When Required. Unless determined otherwise by the Railroad Representative, a KCT flagger and protective services and devices will be required and furnished when (i) Permittee's Permitted Activities are located over, under and/or within twenty-five (25) feet measured horizontally from centerline of the nearest track, and (ii) cranes or similar equipment positioned beyond 25-feet from the track centerline could foul the track in the event of tip-over or other catastrophic occurrence, resulting from (but not limited to) the following conditions:

When in the opinion of the Railroad Representative it is necessary to safeguard the Property, and KCT's employees, trains, engines and facilities.

When any excavation is performed below the bottom of tie elevation, if, in the opinion of the Railroad Representative, track or other KCT facilities may be subject to movement or settlement.

When Permitted Activities in any way interfere with the safe operation of trains at timetable speeds.

When any hazard is presented to KCT track, communications, signal, electrical, or other facilities either due to persons, material, equipment or blasting in the vicinity.

Heavy Equipment/Objects. Special permission must be obtained from KCT before moving heavy or cumbersome objects or equipment which might result in making the track impassable.

Flagging Services. All flagging services will be performed by qualified KCT flaggers. A flagging crew generally consists of one employee. However, additional personnel may be required to protect the Property and KCT operations, if deemed necessary by the Railroad Representative.

Each time a flagger is called, the minimum period for billing will be the eight (8) hour basic day.

The cost of flagger services provided by KCT, when deemed necessary by the Railroad Representative, will be borne by Permittee. The estimated cost for one (1) flagger is [**\$800.00**] for an eight (8) hour basic day with time and one-half or double time for overtime, rest days and holidays. The estimated cost for each flagger includes vacation allowance, paid holidays, KCT and unemployment insurance, public liability and property damage insurance, health and welfare benefits, transportation, meals, lodging and supervision. Negotiations by appropriate Federal authorities may increase actual or estimated flagging rates. The flagging rate in effect at the time services are performed will be used to calculate the actual costs of flagging pursuant to this Section.

EXCAVATION.

Underground Structures. In the event the Permitted Activities involve excavation, prior to performing any such excavation, Permittee must determine whether any underground structures, equipment or facilities (including without limitation, utility lines, pipe lines, electric wires or cables, fiber optic cable systems) (any of which may be referred to as an “**Underground Structure**”) are present and located within the portion of the Property where such Permitted Activities may be performed. Permittee must determine whether excavation on the Property could cause damage to any Underground Structure. Damage to an Underground Structure may result in delays to KCT traffic and disruption of service to other users. Delays and disruptions to service may cause business interruptions involving loss of revenue and profits. Before commencing excavation, Permittee must contact the Railroad Representative. All underground and overhead wires will be considered HIGH VOLTAGE and dangerous until verified with the company having ownership of the line. It is Permittee’s responsibility to notify any other companies that have underground utilities on the Property and arrange for the location of all underground utilities before performing any excavation activity.

Location of Underground Structures. If there is any doubt about the location of Underground Structure of any kind, no Permitted Activities must be performed until the exact location of such Underground Structure has been determined. There will be no exceptions to these instructions. Permittee must cease all Permitted Activities and notify the Railroad Representative immediately before continuing excavation in the area if obstructions (including Underground Structure) are encountered which do not appear on drawings. If the obstruction is a utility and the owner of the utility can be identified, then Permittee must also notify the owner immediately.

OSHA Standards. All excavations must be conducted in compliance with applicable OSHA regulations and, regardless of depth, must be properly shored where there is any danger to tracks, structures or personnel.

Excavations Secured. Any excavations, holes or trenches on the Property must be covered, guarded and/or protected at all times including when work thereon is not being performed. When leaving the Property at night and over weekends, the Permittee shall secure the Property and leave it in a condition that will ensure that KCT employees and other personnel who may be working or passing through the Property are protected from all hazards. All excavations must be back filled as soon as possible and to such specifications as may be required by KCT.

PROTECTIVE MEASURES.

Protection of Facilities. Permittee must take protective measures as are necessary to keep KCT’s facilities, including track ballast, free of sand, debris, and other foreign object and materials resulting from Permittee’s operations. Any damage to KCT’s facilities resulting from Permittee’s Permitted Activities shall be repaired or replaced by KCT and Permittee agrees to promptly reimburse KCT for all costs of such repairs or replacement.

Blasting. Permittee must notify the Railroad Representative at [(913) 551-2596] and provide blasting plans to KCT for review not less than seven (7) calendar days prior to conducting any blasting operations adjacent to or on the Property.

JOB SPECIAL PROVISIONS (BRIDGE)

Temporary Clearances. Permittee must abide by the following temporary clearances during construction and the performance of all Permitted Activities:

15' Horizontally from center line of nearest track

21'-6" Vertically above top of rail

27'-0" Vertically above top of rail for electric wires carrying less than 70 volts

28'-0" Vertically above top of rail for electric wires carrying 750 volts to 15,000 volts

30'-0" Vertically above top of rail for electric wires carrying 15,000 volts to 20,000 volts

34'-0" Vertically above top of rail for electric wires carrying more than 20,000 volts

Permanent Clearances. Upon completion of construction, the following clearances shall be maintained:

25' Horizontally from centerline of nearest track

23'-3 ½" Vertically above top of rail

Clearance Infringement. If any infringement of State statutory clearances due to the Permitted Activities is anticipated, details of such infringement must be submitted to KCT and, if the Permittee is working on behalf of a political subdivision of the State, to such political subdivision. No Permitted Activities involving such infringement may be undertaken until (i) approved in writing by KCT, and (ii) the applicable political subdivision has obtained any necessary authorization from the State Regulatory Authority for the infringement. No extra compensation will be allowed in the event the Permitted Activities are delayed pending KCT approval and/or the State Regulatory Authority's approval.

Tell-Tale. In the case of impaired vertical clearance above top of rail, KCT may install "tell-tale" or other protective devices KCT deems necessary for protection of KCT operations. The cost of tell-tale or protective devices shall be borne by Permittee.

Additional Details. The details of Permitted Activities affecting the Property and tracks not included in the contract plans must be submitted to KCT for approval before Permitted Activities may be undertaken.

Temporary Crossing. Other than at public road crossings, Permittee shall not move any equipment or materials across the Property or tracks until permission has been obtained from KCT. Permittee must obtain a "Temporary Private Crossing Right of Entry" from KCT prior to moving such equipment or materials across KCT's tracks. The temporary crossing must be gated and locked at all times when not required for use by Permittee. The temporary crossing for use of the Permittee will be at the sole expense of Permittee.

Hazardous Materials. Permittee shall not allow the Property to become a treatment, storage or transfer facility for hazardous materials or substances as those terms are defined in the Resource Conservation and Recovery Act or any state analogue. The discharge, release or spill on the

Property of any hazardous substances, oil, petroleum, constituents, pollutants, contaminants, or any hazardous waste is prohibited.

REPORTING REQUIREMENTS.

Environmental Laws. If, while performing any Permitted Activities under this Agreement, Permittee or any of the Authorized Personnel (i) discover any hazardous waste, hazardous substance, petroleum or other deleterious material, including but not limited to any non-containerized commodity or material, (A) on or adjacent to the Property, or (B) in or near any surface water, swamp, wetlands or waterways, or (ii) cause any discharge, release or spills of such materials in excess of a reportable quantity, then Permittee shall immediately:

notify KCT's Operations Center at [(913) 551-2179], of such discovery or release;

take safeguards necessary to protect its Authorized Personnel and/or third parties; and

exercise due care with respect to the discovery or release, including the taking of any appropriate measure to minimize the impact of such release.

Personal Injuries. KCT is required to report certain injuries as a part of compliance with FRA reporting requirements. Any personal injury sustained by Permittee or the Authorized Personnel while on KCT's property must be reported immediately (by phone mail if unable to contact in person) to the Railroad Representative. The Individual Incident Report form [**contained herein**] is to be completed and sent by fax to KCT at [(913) 551-2167] and to the Railroad Representative no later than the close of shift on the date of the injury.

TRAIN DELAY.

Permittee Liable for Delays. Permittee is responsible for and hereby indemnifies and holds harmless KCT (including its owner roads and its tenants) for, from and against all damages arising from any unscheduled delay to a freight or passenger train which affects KCT's ability to fully utilize its equipment and to meet customer service and contract obligations which are caused by Permittee, or the Authorized Personnel, subcontractors or subservice providers performing Permitted Activities under the Agreement. Permittee will be billed, as further provided below, for all of the economic losses arising from such delay, including without limitation (i) loss of use of equipment, (ii) contractual loss of incentive pay and bonuses and (iii) contractual penalties resulting from train delays.

For loss of use of equipment, Permittee will be billed the current freight train hour rate per train as determined from KCT's records. Any disruption to train traffic may cause delays to multiple trains at the same time for the same period.

Additionally, the parties acknowledge that passenger, U.S. mail trains and certain other grain, intermodal, coal and freight trains operate under incentive/penalty contracts between KCT and its customer(s). Under these arrangements, if KCT does not meet its contract service commitments, KCT may suffer loss of performance or incentive pay and/or be subject to penalty payments. Permittee is responsible for any train performance and incentive penalties or other

contractual economic losses actually incurred by KCT which are attributable to a train delay caused by Permittee, the Authorized Personnel or its subcontractors.

The contractual relationship between KCT and its customers is proprietary and confidential. In the event of a train delay covered by the Agreement, KCT will share information relevant to any train delay to the extent consistent with KCT confidentiality obligations. Damages for train delay for certain trains may be as high as \$50,000.00 per incident.

Work Windows. If absolutely required for the Permitted Activities, Permittee may request work windows from KCT and KCT may, in its sole discretion, grant Permittee and its subcontractors permission for such work windows provided that Permittee provide KCT's Railroad Representative thirty (30) days advance notice of the times and dates for proposed work windows. KCT and Permittee will establish mutually agreeable work windows for the Permitted Activities. KCT has the right at any time to revise or change the work windows due to train operations or service obligations. KCT will not be responsible for any additional costs or expenses resulting from a change in work windows. Additional costs or expenses resulting from a change in work windows shall be accounted for in Permittee's expenses for the Permitted Activities.

[Permittee may request that Permittee, the Authorized Personnel and subcontractors must plan, schedule, coordinate and conduct all Permitted Activities so as to not cause any delays to any trains.]

EXHIBIT D to Right of Entry

Insurance Provisions

Permittee must, at its sole cost and expense, procure and continuously maintain during the Term of the Agreement the following insurance coverages:

Commercial General Liability Insurance.

Coverage. Commercial General Liability Insurance must contain broad form contractual liability with a combined single limit of a minimum of \$5,000,000 each occurrence and an aggregate limit of at least \$10,000,000 applying to each annual period. Coverage must be purchased on a post 1997 ISO occurrence form or equivalent and include coverage for, but not limited to the following:

Bodily Injury and Property Damage

Personal and Advertising Injury

Fire legal liability

Products and completed operations

Other coverage Requirements. The Commercial General Liability Insurance policy must also contain the following provisions, which must be indicated on the certificate of insurance:

It is agreed that any workers' compensation exclusion does not apply to KCT's payments related to the Federal Employers Liability Act or a Railroad Wage Continuation Program or similar programs and any payments made are deemed not to be either payments made or obligations assumed under any workers' compensation, disability benefits, or unemployment compensation law or similar law.

The definition of insured contract must not include any exclusion, exception or other limitation for any Permitted Activities being done within 50 feet of KCT's Property (Form CG 24 17).

Any exclusions related to the explosion, collapse and underground hazards must be removed.

No other endorsements limiting coverage as respects obligations under the Agreement may be included on the policy.

Business Automobile Insurance.

Coverage. Business Automobile insurance must contain a combined single limit of at least \$1,000,000 per occurrence applying to each annual period, and include coverage for, but not limited to the following:

Bodily injury and property damage

Any and all vehicles owned, used or hired

Workers Compensation and Employers Liability Insurance.

Coverage. Workers Compensation and Employees Liability Insurance shall include coverage for, but not limited to:

Permittee's statutory liability under the worker's compensation laws of the state(s) in which the Permitted Activities are to be performed. If optional under State law, the insurance must cover all employees.

Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.

Railroad Protective Liability Insurance. Railroad Protective Liability Insurance shall name "Kansas City Terminal Railway (KCT)" as the insured with coverage of at least \$5,000,000 per occurrence and \$10,000,000 in the aggregate applying to each annual period.

Endorsements. The Railroad Protective Liability Insurance policy must be issued on a standard ISO form CG 00 35 10 93 and include the following:

Endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93)

Endorsed to include the Limited Seepage and Pollution Endorsement.

Endorsed to remove any exclusion for punitive damages.

No other endorsements restricting coverage may be added.

The original policy must be provided to KCT prior to the Permittee or any Authorized Personnel performing any Permitted Activities under the Agreement.

Other Requirements.

No Punitive Damage Exclusions. All policies (applying to coverage listed above) must not contain an exclusion for punitive damages and certificates of insurance must reflect that no exclusion exists.

Waivers of Recovery and Subrogation. Permittee agrees to waive its right of recovery against KCT for all claims and suits against KCT. In addition, its insurers, through the terms of the policy or policy endorsement, must waive their right of subrogation against KCT for all claims and suits. The certificate of insurance must reflect the waiver of subrogation. Permittee further waives its right of recovery, and its insurers also must waive their right of subrogation against KCT for loss of its owned or leased property or property under Permittee's care, custody or control.

Primary and Non-Contributing. Permittee's insurance policies through policy endorsement, must include wording which states that the policy is primary and non-contributing

with respect to any insurance carried by KCT. The certificate of insurance must reflect that the above wording is included in evidenced policies.

Separation of Insureds. All policy(ies) required above (excluding Workers Compensation and if applicable, Railroad Protective) must include a separation of insureds provision. Separation of insureds must be indicated on the certificate of insurance.

Self Insurance. Permittee is not allowed to self insure without the prior written consent of KCT. If granted by KCT, any deductible, self-insured retention or other financial responsibility for claims must be covered directly by Permittee in lieu of insurance. Any and all KCT liabilities that would otherwise, in accordance with the provisions of the Agreement, be covered by Permittee's insurance will be covered as if Permittee elected not to include a deductible, self-insured retention or other financial responsibility for claims.

Certificates of Insurance. Prior to commencing the Permitted Activities, Permittee must furnish to KCT an acceptable certificate(s) of insurance including an original signature of the authorized representative evidencing the required coverage, endorsements, and amendments and referencing the contract audit/folder number if available. The policy(ies) must contain a provision that obligates the insurance company(ies) issuing such policy(ies) to notify KCT in writing at least 30 days prior to any cancellation, non-renewal, substitution or material alteration. This provision must be indicated on the certificate of insurance. Upon request from KCT, a certified duplicate original of any required policy must be furnished. Permittee should send the certificate(s) to the following address:

[**Mr. Shawn Lauby**]
Sr. Manager, Contracts & Real Estate
Kansas City Terminal Railway Company
4501 Kansas Avenue
Kansas City, Kansas 66106

Approved Insurance Providers. Any insurance policy must be written by a reputable insurance company acceptable to KCT or with a current Best's Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the service is to be provided.

Broker's Review. Permittee represents that the Agreement has been thoroughly reviewed by Permittee's insurance agent(s)/broker(s), who have been instructed by Permittee to procure the insurance coverage required by the Agreement.

Modification of Required Coverages. Attorneys fees and necessary litigation expenses must be in addition to all policy limits for the insurance coverages referenced above. Not more frequently than once a year, KCT may reasonably modify the required insurance coverage to reflect then-current risk management practices in the railroad industry and underwriting practices in the insurance industry. In such event, such modifications will be set forth in a written notice delivered to Permittee and Permittee shall modify its insurance coverage in compliance with such modifications within thirty (30) days of the receipt of such notice.

Subcontractors. If any portion of the Permitted Activities are to be subcontracted by Permittee, Permittee must require that the subcontractor provide and maintain the insurance

coverages set forth herein, naming KCT as an additional insured, and requiring that the subcontractor release, defend and indemnify KCT to the same extent and under the same terms and conditions as Permittee is required to release, defend and indemnify KCT herein.

Remedies. Failure to provide evidence as required by this section will entitle, but not require, KCT to terminate the Agreement immediately. Acceptance of a certificate that does not comply with this section will not operate as a waiver of Permittee's obligations hereunder.

No Limits. The fact that insurance (including, without limitation, self-insurance) is obtained by Permittee will not be deemed to release or diminish the liability of Permittee including, without limitation, liability under the indemnity provisions of the Agreement. Damages recoverable by KCT will not be limited by the amount of the required insurance coverage.

Definition of KCT. For purposes of this Exhibit, KCT includes the owner railroads of KCT.

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L. UNION PACIFIC RAILROAD REQUIREMENTS

1.0 Introduction.

1.1 These Railroad Requirements set forth terms and conditions agreed between the Union Pacific Railroad Company (Railroad) and the Missouri Highways and Transportation Commission (Commission), under which the Railroad will allow the Commission's contractors to enter in and upon the Railroad's real property, right of way, tracks and other facilities (Railroad's Property) to perform the contractor's work relating to this project.

1.2 To report an emergency on the Railroad, call: (888) 877-7267.

1.3 The project location is Railroad Milepost 277.27 on Railroad's KC Metro (Neff Yard) Subdivision, designated as USDOT Crossing # 334 418C.

1.4 Definitions of terms set forth in the current edition of the Missouri Standard Specifications for Highway Construction shall be applicable to those terms as used in these Railroad Requirements.

2.0 Authority of Railroad Representative and Engineer.

2.1 The authorized representative of the Railroad, herein called "Railroad Representative", shall have final authority in all matters affecting the safe maintenance and operation of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks.

2.1.1 The Railroad designates the following individual as the Railroad Representative for this project. Except as otherwise provided in these Railroad Requirements, the contractor shall address all notices concerning this project to the Railroad Representative, as follows:

Mr. Mike Benjamin,
Manager of Special Projects, Industry and Public
Union Pacific Railroad Company
600 Broadway
Kansas City, MO 64105
Telephone: (816) 399-1703
E-mail: mbenjamin@up.com

2.1.2 The Railroad, or the individual identified above, may designate a different individual to act as the Railroad Representative for this project, and may change the address information stated above, by giving written notice of the changes to the contractor and to the Engineer, as provided in these Railroad Requirements.

2.2 The authorized representative of the Commission (Engineer) shall have authority over all other matters as prescribed herein and in the project specifications.

3.0 Contractor's Indemnity Obligations to the Railroad.

3.1 The contractor agrees to indemnify, defend and hold harmless the Railroad from and against any injury or death of persons whomsoever, or from any loss or damage to the Railroad's Property, caused by acts or omissions of the contractor in performing work on this project, whether on, over, under or in the vicinity of the Railroad's Property. In the event the

JOB SPECIAL PROVISIONS (BRIDGE)

contractor shall fail to restore the Railroad's Property immediately to a condition acceptable to the Railroad when any such loss or damage to the Railroad's Property is called to the contractor's attention by the Railroad, then the Railroad may perform such corrective work at the cost of the contractor. The Railroad shall have the right to bring an action directly against the contractor to recover any loss or damage sustained by the Railroad by reason of the contractor's breach of agreements contained in these Railroad Requirements. In addition to such remedies of the Railroad, the Commission will withhold from final payment due to the contractor the amount reasonably necessary to reimburse the Railroad for such loss or damage or for performing such work. The term "loss or damage" as used herein shall include, but not be limited to, the erosion and silting of, water damage to, and the accidental or intentional placing or dropping of objects on the Railroad's Property.

4.0 Notice of Starting Work.

4.1 The contractor shall not commence any work on the Railroad's right of way until contractor has complied with the following conditions:

4.1.1 At least thirty (30) days in advance of the date the contractor proposes to begin work on the Railroad's Property, the contractor has given written notice of the contractor's proposed start date and time to the Railroad Representative, and Railroad's Manager of Track Maintenance (see paragraph 12.2.3 below), with a copy to the Engineer.

4.1.2 The Commission has obtained written approval from the Railroad's Representative for the contractor's insurance coverage as required by Section 17 of these Railroad Requirements, and authorization for the contractor to begin work on the Railroad's Property.

4.1.3 The contractor has determined whether fiber optic cable systems are buried on the Railroad's Property. If fiber optic cable systems are buried on the Railroad's Property, then the contractor has contacted the Railroad at the 24 hour number, 800-336-9193, has contacted the telecommunications company involved, has arranged for a cable locator, and has made arrangements for relocation or other protection of the fiber optic cable system on the Railroad's Property.

4.1.4 The contractor's employees, representatives or agents who are regularly assigned to perform work on the Railroad's Property have been certified as having completed the Internet Safety Orientation available at www.contractororientation.com. This certification shall be renewed annually. In addition the contractor shall require that every employee, representative or agent who is not regularly assigned to perform work on the Railroad's Property has received appropriate safety training before performing any work on the Railroad's property. The cost of the Internet Safety Orientation, which is subject to change, is currently \$11 per person per year.

4.2 Right of Entry. At least thirty (30) days in advance of the date the contractor proposes to begin work on the Railroad's Property, the contractor shall enter into a Contractor's Right of Entry Agreement (CROE) with Railroad prior to working on Railroad property. Submit the following information to the Railroad Representative:

- a. MoDOT manager contact information
- b. Contractor contact information
- c. Site location (include address, DOT#)
- d. Site map
- e. Brief description of scope of work

f. Proposed schedule for work on UP right of way

4.2.1 After reviewing the information, the Railroad Representative will send all of the information to UP Real Estate for processing. UP Real Estate will draft the CROE agreement and send it to the contractor for signature. The signed contract and administrative fee must then be returned to UP Real Estate.

4.2.2 Administrative Fee. Upon the execution and delivery of this CROE agreement, Contractor shall pay the Railroad Five Hundred Forty-Five Dollars (\$545) as reimbursement for clerical, administrative and handling expenses in connection with the processing of this CROE agreement.

5.0 Interference with Railroad's Operations.

5.1 The Railroad's right of way is located within the limits of this project. The contractor shall take care to insure that it will not drop any debris or material on the Railroad's Property.

5.2 The contractor shall arrange and conduct all of the contractor's work so that it causes no interference with the Railroad's operations, including train, signal, telephone, telegraphic services, damage to the Railroad's Property, poles, wires and other facilities of tenants on the Railroad's Property. Whenever the contractor's work may directly affect the operations or safety of trains, the contractor shall submit a written description of the method of doing such work to the Railroad Representative for approval, but such approval shall not relieve the contractor from liability resulting from the contractor's work. Any work to be performed by the contractor that requires flagging service shall be deferred by the contractor until the flagging services are available at the job site.

5.3 Whenever the contractor's work upon the Railroad's Property will unavoidably cause an impediment to the Railroad's operations, such as requiring the use of runaround tracks or reduced train speed, the contractor should schedule and conduct these operations so that this impediment is reduced to the absolute minimum.

5.4 If conditions arising from, or in connection with the work require immediate and unusual provisions to protect the Railroad's operations and property, the contractor shall make such provisions. If in the judgment of the Railroad Representative, or the Engineer if the Railroad Representative is absent, such provision is insufficient, then the Railroad Representative or Engineer may require or provide such provisions as he/she deems necessary. In any event, the contractor shall make such provisions at the contractor's expense, and without cost to the Railroad or the Commission.

6.0 Track Clearances.

6.1 During construction, the contractor shall maintain not less than the minimum track clearances as shown on the project plans. However, before undertaking any work within the Railroad's Property and before placing any obstruction over any track, the contractor shall:

6.1.1 Notify the Railroad Representative and the Railroad's Manager of Track Maintenance at least ten (10) days in advance of the proposed work.

6.1.2 Receive assurance from the Railroad's Manager of Track Maintenance that arrangements have been made for flagging service as may be necessary.

6.1.3. Receive permission from the Railroad Representative to proceed with the work, as provided in section 4.0.

6.1.4. Confirm that the Engineer has received copies of the contractor's notice to the Railroad, and of the Railroad's response.

6.1.5 Note that temporary Work Zone traffic control must not circumvent the active warning devices at this location.

6.1.6 Temporary traffic control must comply with MUTCD standards. Any time work is within 25' of the track, the potential to foul the track exists or a pilot car is used traversing the crossing will require a Railroad flagperson to be present. Traffic control must be returned to normal operations through the crossing area before releasing the Railroad's flagperson.

7.0 Construction Procedures.

7.1. General. The contractor's work on the Railroad's property shall be:

7.1.1 Subject to the Railroad's inspection and review.

7.1.2 Performed in accordance with these Railroad Requirements.

8.0 Maintenance of Railroad Facilities. Within the project limits, the contractor shall maintain Railroad's Property, including all ditches and drainage structures, free of silt or other obstructions that may result from contractor's operations. The contractor shall promptly repair eroded areas within the Railroad's Property and repair any other damage to the Railroad's Property or the Railroad's tenants. The contractor shall perform all such maintenance and repair of damages due to the contractor's operations at the contractor's expense.

9.0 Storage of Materials and Equipment.

9.1 The contractor shall obtain permission from the Railroad Representative before storing any materials or equipment anywhere on Railroad's Property. The Railroad will not be liable for damage to such material and equipment from any cause, and the Railroad Representative may move such material and equipment or require the contractor to move it, at the contractor's expense.

9.2 The contractor shall not leave unattended any grading or construction machinery parked upon Railroad's Property, unless it is effectively immobilized so that unauthorized persons cannot move such machinery.

10.0 Cleanup. Upon completion of the work, the contractor shall remove from within the limits of the Railroad's Property all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the contractor's and shall leave Railroad's Property in a neat condition satisfactory to the Railroad Representative.

11.0 Damages. The Railroad shall not assume liability for any damages to the contractor, contractor's work, employees, servants, equipment and materials caused by the Railroad's traffic. However, the preceding sentence shall not exempt the Railroad from liability for any loss, damage or injury proximately caused by the Railroad's intentional misconduct or sole or

JOB SPECIAL PROVISIONS (BRIDGE)

gross negligence. The contractor shall directly reimburse the Railroad for any cost the Railroad reasonably incurs for repairing damages to the Railroad's Property or to property of the Railroad's tenants, caused by or resulting from the operations of the contractor relating to this project.

12.0 Flagging Services.

12.1 When Flagging is Required. The Railroad has sole authority to determine the need for flagging to protect the Railroad's operations. Whenever the Railroad requires flagging services with reference to any of the contractor's work on this project, the contractor shall not perform any such work until all required flaggers are present at the job site.

12.1.1 In general, the Railroad may require flagging services whenever the contractor's personnel or equipment are, or are likely to be, working on the Railroad's Property, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging, to prevent unreasonable risks of accidental hazard to the Railroad's operations or personnel.

12.1.2 Normally, the Railroad will assign one flagger to a project; but in some cases, more than one may be necessary, such as yard limits where the Railroad may assign up to three flaggers. However, if the contractor works within distances that violate instructions given by the Railroad Representative, or performs work upon or adjacent to Railroad's Property that has not been scheduled with the Railroad Representative, the Railroad may require flagging services full time until the project is completed.

12.2 Scheduling and Notification of Flagging Services.

12.2.1 The contractor shall arrange with the Railroad all flagging services required by the Railroad to accomplish the contractor's work on this project.

12.2.2 Before the contractor begins work on the Railroad's Property, the contractor shall furnish to the Railroad Representative and the Engineer a schedule for all work required to complete the contractor's portion of the project within the Railroad's Property, and shall arrange for a job site meeting between the contractor, the Engineer, and the Railroad Representative. Until the contractor has provided its work schedule and met on-site with the Railroad Representative and the Engineer, the Railroad may withhold all flagging services from the contractor's proposed job site.

12.2.3 Before the contractor first begins any work upon or adjacent to the Railroad's Property, the contractor shall give not less than thirty (30) days advance notice to the Railroad, and to the Engineer, of its intent to begin such work. The contractor shall address all notices relating to flagging as instructed in the fully executed CROE agreement.

Shane Mapes - Manager of Track Maintenance
600 Broadway, Ste. 500
Kansas City, MO 64105
816-399-1374 (O)
402-889-6631 (C)
smapes@up.com

JOB SPECIAL PROVISIONS (BRIDGE)

12.2.4 The Railroad usually assigns one flagger to work at the job site on a continuous basis until the contractor no longer needs flagging services. The contractor shall not call for flagging services on a spot basis. The Railroad's assigned flagger shall notify the Engineer when flagging services have begun and ended. The flagger shall give these notices immediately upon arrival at the job site on the first day, and before departing from the job site on the last day of each separate period when the Railroad provides flagging services, or as soon as possible thereafter. The Engineer shall document these notifications in the project records.

12.2.5 After the contractor has begun work that requires flagging services, the contractor shall give not less than ten (10) day's advance written notice to the Railroad before discontinuing flagging services and terminating the obligation to pay for flagging services. The contractor shall simultaneously provide a copy of this notice to the Engineer. If the contractor's work on or adjacent to the Railroad's Property is suspended at any time, or for any reason, then before the contractor resumes any work on or adjacent to the Railroad's Property, the contractor shall give advance, written notice to the Railroad and to the Engineer of its intent to resume such work. This notice shall provide sufficient details of the contractor's proposed work to enable the Railroad Representative to determine whether flagging services will be required before the contractor resumes its work on or adjacent to the Railroad's Property. The contractor shall give this required notice at least three (3) working days' before it intends to resume such work; however, The Railroad may take up to thirty (30) days after the contractor has given this notice before resuming flagging services at the job site. The requirements of this paragraph 12.2.5 shall not apply if the suspension and resumption of the contractor's work were previously scheduled with the Railroad pursuant to paragraph 12.2.2 of these Railroad Requirements, or the suspension was caused by an emergency as provided in paragraph 12.2.6 of these Railroad Requirements.

12.2.6 If, after the Railroad has assigned a flagger to the project site in accordance with section 12.0, any emergency requires the flagger's presence elsewhere, then the contractor shall suspend work on the Railroad's Property until the flagger is again available. Any additional costs to the contractor resulting from such delay shall be borne by the contractor and not by the Railroad.

12.3 Payment for Flagging Services.

12.3.1 The Commission will pay the Railroad directly for the cost of flagging services associated with this project by deducting the amount from the Commission's payments to the contractor.

12.3.2 The estimated cost of flagging services is approximately \$1300 per day, based on an 8-hour work day and a 40-hour work week. The Railroad shall charge not more than its actual cost of providing these flagging services, which includes the base pay for the flagger or flaggers who actually performed the required flagging services, the Railroad's reasonable overhead costs, and the reasonable costs actually incurred for the flagger's travel expenses, meals and lodging if required. The Railroad may charge a maximum of one hour of travel time each way per day per flagger, for travel to and from the job site. A flagger's work in excess of 8 hours per day or 40 hours per week, but not more than 12 hours per day, will result in overtime pay at 1.5 times that employee's regular hourly rate. A flagger's work in excess of 12 hours per day will result in overtime pay at 2.0 times that employee's regular hourly rate. If a flagger performs required flagging services on a holiday, then the overtime pay rate shall be 2.5 times that employee's regular hourly rate. The Commission also shall reimburse the Railroad for its actual expenses reasonably incurred in preparing and handling invoices to the Commission for the

cost of these flagging services. The Railroad's charges to the Commission shall comply with applicable provisions of the current Federal Aid Policy Guide issued by the Federal Highway Administration.

12.3.3 The Railroad shall submit progress invoices to the Engineer during the time the Railroad requires flagging services. The Railroad shall submit its final invoice for flagging services to the Engineer within one hundred eighty (180) days after the contractor has notified the Railroad and the Commission that all its work over the Railroad's Property is complete, in accordance with section 18.0 below. If the Commission does not receive the Railroad's final flagging invoice within this time period, then the Railroad shall obtain payment directly from the contractor.

12.3.4 If a dispute arises between the Railroad, the Commission and the contractor concerning the amount charged for flagging service, then the Commission may deduct the full amount of the Railroad's invoice from the contractor's payment until the dispute is resolved.

12.4 Flagging Complaints. The contractor and the Railroad shall attempt to resolve any complaints concerning flagging services in a timely manner. If the contractor disputes the need for a flagger, the contractor shall notify the Railroad Representative and the Engineer. The contractor shall confirm any verbal complaints in writing within five (5) working days, by sending a copy to the Railroad Representative and to the Engineer.

13.0 Haul Across Railroads.

13.1 Where the plans show or imply that the contractor must haul materials of any nature across a Railroad, unless the plans clearly show that the Commission has included arrangements for such haul in the agreement with the Railroad, the contractor shall make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad. The Railroad need not construct a haul road for the contractor unless no other alternate means is available to the contractor. The contractor shall bear all costs incidental to such crossings, including flagging, whether services are performed by contractor's own forces or by the Railroad's personnel. The contractor shall execute the Railroad's standard Road Crossing Agreement covering terms and conditions for the temporary crossing.

13.2 Neither the contractor nor the Railroad shall construct any crossing for use by the contractor for transporting materials or equipment across the tracks of the Railroad until the Railroad Representative specifically authorizes the installation, maintenance, necessary watching and flagging thereof and removal, which shall be done at the contractor's expense.

14.0 Work for the Benefit of the Contractors. The project plans show all temporary or permanent changes in wire lines or other facilities that are necessary to complete the project, or these changes will be covered by appropriate plan revisions approved by the Commission and the Railroad. If the contractor desires any further changes, the contractor shall make separate arrangements with the Railroad for those changes, at the contractor's expense.

15.0 Cooperation and Delays. The contractor shall arrange a schedule with the Railroad for accomplishing staged construction involving work by the Railroad or tenants of the Railroad. In arranging a schedule, the contractor shall request information from the Railroad, and the Railroad shall promptly provide information, concerning the minimum lead time required for assembling crews and materials. The contractor shall schedule adequate time for those activities. The contractor shall not make any claim against the Railroad for hindrance or delay on account of railway traffic for:

15.1 Any work the Railroad performs.

15.2 Other delay incident to or necessary for the safe maintenance of railway traffic.

15.3 Any delays due to compliance with these Railroad Requirements.

16.0 Trainman's Walkways. The contractor shall maintain along the outer side of each exterior track of multiple operated tracks, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than 12 feet from the centerline of the track. Before the close of each work day, the contractor shall remove all temporary impediments to walkways and track drainage encroachments or obstructions that were allowed during work hours when flagging services were available. Whenever the contractor excavates or maintains any excavation near the walkway, the contractor shall install a handrail with 12 feet minimum clearance from the centerline of the track.

17.0 Insurance.

17.1 General Insurance Provisions. The contractor shall, at its sole cost and expense, procure and continuously maintain in force during this project, the insurance coverage required under this section 17 until the contractor has completed all project work on the Railroad's Property, has removed all equipment and materials from the Railroad's Property, and has cleaned and restored the Railroad's Property to the satisfaction of the Engineer and the Railroad Representative. The amount of work to be performed upon, over or under the Railroad's Property is estimated to be one percent (1 %) of the contractor's total bid for the project.

17.2 Commercial General Liability Insurance. The contractor shall maintain commercial general liability ("CGL") insurance with a limit of not less than \$5,000,000 for each occurrence and an aggregate limit of not less than \$10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage). The policy must contain the following endorsement, which must be stated on the certificate of insurance: "Contractual Liability Railroad's" ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

17.3 Business Automobile Coverage Insurance. The contractor shall maintain business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less than \$5,000,000 for each accident. The policy must contain the following endorsements, which must be stated on the certificate of insurance: "Coverage For Certain Operations In Connection With Railroad's" ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site; and Motor Carrier Act Endorsement - Hazardous Materials Clean Up (MCS-90) if required by law.

17.4 Alternate Liability Insurance Limits. Instead of the minimum limits of insurance coverage described above in subsections 17.2 and 17.3, Railroad will accept CGL insurance limits of at least \$2,000,000 for each occurrence or claim and an aggregate limit of at least \$2,000,000, and will accept Business Automobile Insurance containing a combined single limit of at least \$2,000,000 per occurrence or claim, if the contractor will secure Railroad Protective

Liability Insurance coverage with a combined single limit of \$5,000,000 per occurrence and an aggregate limit of \$10,000,000. The contractor's election to maintain these alternate liability insurance limits shall not affect the applicability of any other terms and conditions set forth in these Railroad Requirements.

17.5 Workers' Compensation and Employers' Liability Insurance. The contractor shall maintain workers' compensation insurance coverage, with not less than the minimum statutory liability required under the workers' compensation laws of the State of Missouri. The contractor shall maintain Employers' Liability (Part B) insurance coverage with limits of at least \$500,000 for each accident, a \$500,000 disease policy limit, and \$500,000 for each employee. If the contractor is self-insured, then the contractor shall provide evidence of state approval and excess workers' compensation coverage, which must include coverage for liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable. The policy must contain the following endorsement, which must be stated on the certificate of insurance: "Alternate Employer Endorsement" ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing the Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

17.6 Railroad Protective Liability Insurance. The contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of the Railroad as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate limit of \$6,000,000. Before commencing any work on the Railroad's Property, the contractor shall submit the original insurance policy to the Railroad, or may submit a binder stating that the required Railroad Protective Liability policy is in place until the contractor delivers the original policy to the Railroad. The contractor shall cause the Railroad Protective Liability Insurance policy to include a description of the named insured, the work, and the job site, as follows:

17.6.1 Named Insured: Union Pacific Railroad Company.

17.6.2 Description and Designation:
Bridge improvements over purrs (MoDOT bridge # A1686)
Route I-435 in Jackson County
Job No. J413028B
USDOT # 334 418C
MP 277.27 KC Metro (Neff Yard) Subdivision

17.7 Umbrella or Excess Insurance. If the contractor utilizes umbrella or excess insurance policies, these policies must "follow form" and afford no less coverage than the primary policy.

17.8 Pollution Liability Insurance. The contractor shall maintain pollution liability insurance coverage, which must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least \$5,000,000 per occurrence and an aggregate limit of \$10,000,000. If the scope of work as defined in this Project includes the disposal of any hazardous or non-hazardous materials from the job site, the contractor must furnish to the Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of \$1,000,000 per loss, and an annual aggregate of \$2,000,000.

17.9 Other Insurance Requirements.

JOB SPECIAL PROVISIONS (BRIDGE)

17.9.1. Each policy required above (except workers' compensation and employers' liability) must include the Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to the Railroad as an additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26 and CA 20 48, provide coverage for the Railroad's negligence whether sole or partial, active or passive.

17.9.2 Where allowable by law, the punitive damage exclusion shall be deleted, and the deletion shall be indicated on the certificate of insurance.

17.9.3 The contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against the Railroad and its agents, officers, directors and employees, except that these waivers shall not apply to punitive damages, nor to any loss, damage or injury proximately caused by the Railroad's intentional misconduct or sole or gross negligence. The certificate of insurance shall acknowledge these waivers.

17.9.4 Prior to commencing any work on the Railroad's Property, the contractor shall furnish the Railroad with one or more certificates of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth in this Section 17.

17.9.5 The contractor shall only obtain insurance policies written by a reputable insurance company acceptable to the Railroad, or which currently has a Best's Insurance Guide Rating of A- and Class VII or better, and which is authorized to do business in the State of Missouri.

17.9.6 The fact that insurance is obtained by the contractor or by the Railroad on behalf of the contractor will not be deemed to release or diminish the liability of the contractor, including, without limitation, liability under the indemnity provisions contained in Section 1.4 of these Railroad Requirements. Damages recoverable by the Railroad from the contractor or any third party will not be limited by the amount of the required insurance coverage, except to the extent of any payments the Railroad has received pursuant to that insurance coverage.

17.10 Evidence of Insurance. The contractor shall provide evidence of insurance as required above to the addresses shown below, for review by the Commission and transmittal to the Railroad.

Railroad
Ms. Kathy Nesser
Manager, Real Estate
Union Pacific Railroad Company
1400 Douglas St., MS 1690
Omaha, NE 68179

Commission
Mr. Dave Ahlvers
State Construction and Materials Engineer
Missouri Department of Transportation
P.O. Box 270
Jefferson City, MO 65102

17.11 Except as otherwise specifically provided in these Railroad Requirements, the Railroad will not accept binders as evidence of insurance, and the contractor shall provide the Railroad with the original insurance policy.

17.12 Insurance Required of Subcontractors. If any part of the work is sublet, the contractor shall maintain and provide evidence of similar insurance, in the same amounts as required of the prime contractor, to cover the subcontractor's operations. The Railroad will accept

endorsements to the prime contractor's policies specifically naming subcontractors and describing the subcontractor's operations, for this purpose.

17.13 Cancellation of Insurance. The contractor and its insurers shall not cancel any of the required insurance coverage, except by permission of the Commission and the Railroad, or after thirty (30) days' written notice to the Commission and the Railroad at the addresses shown in subsection 17.10.

18.0 Completion of Work on Railroad's Property. The contractor shall notify Engineer and Railroad's Representative when the contractor has completed its work on Railroad's Property.

19.0 Failure to Comply. If the contractor violates or fails to comply with any of the requirements of these Railroad Requirements, then the Railroad Engineer may require that the contractor vacate the Railroad's property and the Engineer may withhold all monies due to the contractor until the contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

20.0 Payment for Cost of Compliance. The contractor is not entitled to any separate payment for any extra cost it may incur on account of compliance with these Railroad Requirements. The contractor shall include all such costs in the contract unit price for items properly authorized in the contract.