



MISSOURI
HIGHWAYS and TRANSPORTATION
COMMISSION
JEFFERSON CITY, MISSOURI

REQUEST FOR BID

BID OF

Vendor Number _____

Name _____

Address _____

Phone Number _____

E-mail _____

FOR
CONSTRUCTING OR IMPROVING
Contract I.D. SL17-040-R6

STATE PROJECT

Route I-64 Slide Repair
Located on I-64 at Chesterfield Parkway
St. Louis County, MO

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 Sections 101-103 of the Missouri Standard Specifications for Highway Construction, and Rule 7 CSR 10-15.900, "Prequalification's to Bid of Certain Contractors". Questionnaire and Contact information are provided on MoDOT's website.
- ☐ 2. 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 by one or more persons legally qualified to execute papers in the name of said firm or corporation.
- ☐ 3. The bidder shall submit a Bid Guaranty meeting the requirements of Section 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 bid bond form is included in the request for bid. Annual bid bonds (both paper and electronic) shall be executed by June 15th of each year. Bid bonds should be mailed to: Cheryl Sprogoe, Procurement Unit, Operations Complex, 2309 Barrett Station Rd, Ballwin, MO 63021.

All questions concerning the bid document preparation shall be directed to Cheryl Sprogoe – Procurement Division at (314) 205-7308.

Rev. 03-13

TABLE OF CONTENTS

Notice to Contractors

Proposed Work.....	item (1)
Compliance With Contract Provisions.....	item (2)
Period of Performance.....	item (3)
Liquidated Damages.....	item (4)
Construction Safety Program.....	item (5)
Personal Protective Equipment.....	item (6)
Prevailing Wage.....	item (7)
Bid Guaranty	item (8)
Certifications for State Jobs.....	item (9)
Antidiscrimination.....	item (10)
Preference to Missouri Firms in Awarding of Contracts.....	item (11)
Signature and Identity of Bidder.....	item (12)
Insurance Requirements.....	item (13)
Invoicing and Payment Requirements.....	item (14)
Prohibition of Employment of Unauthorized Aliens.....	item (15)

Itemized Bid Sheets

Bid Bond

Pricing Page

Worker Eligibility Verification Affidavit

Applicant Affidavit for Sole-Proprietorship or Partnership

Job Special Provisions

Separate Attachments

General Wage Order #60

Sealed Plans

NOTICE TO CONTRACTORS

Each bid must be mailed or hand delivered in a sealed envelope to Ms. Cheryl Sprogoe, Procurement Unit, Operations Complex, 2309 Barrett Station Rd., Ballwin, Mo. 63021.

Bids must be returned to the office of Ms. Cheryl Sprogoe no later **than 10:00 a.m., Local Time, January 4, 2017.**

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

Slide repair of Route I-64 located on I-64 and Chesterfield Parkway West in St. Louis County, MO.

(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, 2016," 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 "Section" and "Sec" references in this RFB shall refer to the Missouri Standard Specifications for Highway Construction. **All questions concerning the bid document preparation shall be directed to Cheryl Sprogoe – Procurement Division at (314) 205-7308.**

(3) **PERIOD OF PERFORMANCE:** If the bid is accepted, the bidder shall continuously and diligently prosecute the work in such order and manner as will ensure the completion of the work within the time specified in the Period of Performance in accordance with Paragraph C 2.0 of the **Job Special Provisions** part of this RFB.

(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 Contract Liquidated Damages in accordance with Paragraph C 3.0 and 4.0 of the **Job Special Provisions** part of this RFB.

(5) **CONSTRUCTION SAFETY PROGRAM:** Missouri law, 292.675 RSMo, requires the awarded Contractor and its subcontractor(s) to provide a ten-hour occupational safety and health administration (OSHA) construction safety program (or a similar program approved by the Missouri Department of Labor and Industrial Relations as a qualified substitute) for their on-site employees (laborers, workmen, drivers, equipment operators, and craftsmen) who have not previously completed such a program and are directly engaged in actual construction of the improvement (or working at a nearby or adjacent facility used for construction of the improvement). The Contractor and its subcontractor(s) shall require all such employees to complete this ten-hour program, pursuant to 292.675 RSMo, unless they hold documentation on their prior completion of said program. Penalties for non-compliance include Contractor forfeiture to the Commission in the amount of \$2,500, plus \$100 per contractor and subcontractor employee for each calendar day such employee is employed beyond the elapsed time period for required program completion under 292.675 RSMo.

(6) **PERSONAL PROTECTIVE EQUIPMENT:** All contractor and subcontractor employees utilized in the performance of work resulting from this request must adhere to OSHA standards and at a minimum shall utilize appropriate head, eye and foot protection in the performance of work.

All workers within highway right of way shall wear approved ANSI/ISEA 107 Performance Class 2 or 3 safety apparel and more specifically as follows:

Daytime Flagger. During daytime activities, flaggers shall wear a high visibility hard hat, safety glasses, a Performance Class 3 top OR a Performance Class 2 top, and safety footwear. Hard hats other than high visibility orange or green shall be covered with a high visibility covering.

Daytime Worker. During daytime activities, workers shall wear a hard hat, safety glasses, a Performance Class 3 top OR a Performance Class 2 top, and safety footwear.

Nighttime Flagger. During nighttime activities, flaggers shall wear a high visibility/reflective hard hat, safety glasses, a Performance Class 3 top AND Class E bottoms, OR Performance Class 2 top AND Class E bottoms, and safety footwear. Hard hats shall be reflective or covered with a high visibility covering.

Nighttime Worker. During nighttime activities, workers shall wear a hard hat, safety glasses, a Performance Class 3 top OR Performance Class 2 top AND Class E bottoms, and safety footwear.

(7) **PREVAILING WAGE:** General Wage order #60 to apply, St. Louis County, MO in accordance with Section 110.

(8) **BID GUARANTY:** The bidder shall submit a Bid Guaranty meeting the requirements of Section 102 of the Missouri Standard Specifications for Highway Construction. The project bid bond form is included in the bid book and the project and annual bid bond forms are also available on MoDOT's website. Paper annual bid bonds shall be submitted to MoDOT by June 15th of each year, and electronic annual bid bonds shall be executed by June 15th of each year. The bidder shall mark the box below to identify the type of Bid Guaranty.

- ☐ Paper Annual Bid Bond
- ☐ Cashier's Check/Paper Project Bid Bond
- ☐ Electronic Bid Bond

(9) **CERTIFICATIONS FOR STATE JOBS:** By signing and submitting this bid, the bidder makes the certifications appearing in Sec. 102.18.2 (regarding disbarment, eligibility, 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.

(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:** 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 domiciliary state. A contractor or bidder domiciled outside Missouri 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

(12) SIGNATURE AND IDENTITY OF BIDDER: The undersigned states that the following provided information is correct and that (if not signing with the intention to bind themselves to become the responsible and sole bidder) they are the agent of, and they are signing and executing this, as the bid of

_____, which is the correct LEGAL NAME as stated on the contractor questionnaire.

a) The organization submitting this bid is a(n) (1) individual bidder, (2) partnership, (3) joint venturer (whether individuals or corporations, and whether doing business under a fictitious name), or (4) corporation. Indicate by marking the appropriate box below.

☐ sole individual

☐ partnership

☐ joint venture

☐ corporation, incorporated under laws of state of _____.

b) If the bidder is doing business under a fictitious name, indicate below by filling in the fictitious name

Executed by bidder this _____ day of _____ 20 ____.

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 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.

THE BIDDER CERTIFIES THAT THE BIDDER'S COMPANY KNOWINGLY EMPLOYS ONLY INDIVIDUALS WHO ARE AUTHORIZED TO WORK IN THE UNITED STATES IN ACCORDANCE WITH 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.

☐ Check this box ONLY if the bidder REFUSES to make any or all of these certifications. The bidder may provide an explanation for the refusal(s) with this submittal.

Signature of Bidder's Owner, Officer, Partner or Authorized Agent

Please print or type name and title of person signing here

Attest:

Secretary of Corporation if Bidder is a Corporation

Affix Corporate Seal (If Bidder is a Corporation)

NOTE: If bidder is doing business under a fictitious name, the bid shall be executed in the legal name of the individual, partners, joint ventures, or corporation, and registration of fictitious name filed with the secretary of state, as required by sections 417.200 to 417.230 RSMo. If the bidder is a corporation not organized under the laws of Missouri, it shall procure a certificate of authority to do business in Missouri, as required by section 351.572 et seq RSMo. A certified copy of such registration of fictitious name or certificate of authority to do business in Missouri shall be filed with the commission, as required by the standard specifications.

(13) **INSURANCE REQUIREMENTS:** The bidder shall maintain or cause to be maintained at bidder's own expense commercial general liability, automobile liability, worker's compensation insurance against negligent acts, errors or omissions of the Contractor, or its subcontractors and anyone directly or indirectly employed by any of them. Any insurance policy required as specified in Section 107.13 shall be written by a company that is licensed and authorized to issue such insurance in the state of Missouri.

(14) **INVOICING AND PAYMENT REQUIREMENTS:** The contractor shall submit an itemized invoice to the following address after the completion of deliverables, as specified herein.

Missouri Department of Transportation
Business & Benefits
1590 Woodlake
Chesterfield, MO. 63017-5712

Each invoice should be itemized in accordance with items listed on the purchase order and/or contract. The statewide financial management system has been designed to capture certain receipt and payment information. Therefore, each invoice submitted must reference the purchase order number and must be itemized in accordance with items listed on the purchase order. Failure to comply with this requirement may delay processing of invoices for payment.

The contractor shall be paid in accordance with the firm, fixed prices stated on the pricing page(s) of this document after completion of deliverables specified herein and acceptance by MoDOT.

MoDOT is exempt from paying Missouri Sales Tax, Missouri Use Tax and Federal Excise Tax. However, the contractor may themselves be responsible for the payment of taxes on materials they purchase to fulfill the contract. A Project Tax Exemption Certificate will be furnished to the successful bidder upon request.

Unless otherwise provided for in the solicitation documents, payment for all equipment, supplies, and/or services required herein shall be made in arrears. The Missouri Highways and Transportation Commission (MHTC) shall not make any advance deposits.

The MHTC assumes no obligation for equipment, supplies, and/or services shipped or provided in excess of the quantity ordered. Any authorized quantity is subject to the MHTC's rejection and shall be returned at the contractor's expense.

Notarized weekly payroll documentation for prime and subcontractors will be required from start to finish of this contract showing compliance with prevailing wage rates. Lien Waivers from materials suppliers shall also be provided. Additional documents shall be furnished as required by other provisions in the bid package.

Payment shall be made per contractor invoice upon satisfactory completion of all work items and the receipt of the required documentation.

(15) PROHIBITION OF EMPLOYMENT OF UNAUTHORIZED ALIENS: Pursuant to Section 285.530, RSMo. No business entity or employer shall knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the State of Missouri. As a condition for the award of any contract or grant in excess of five thousand dollars by the State or by any political subdivision of the State to a business entity, or for any business entity receiving a state-administered or subsidized tax credit, tax abatement, or loan from the state, the business entity shall:

By sworn affidavit and provision of documentation, affirm its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted services. E-Verify is an example of a federal work authorization program. The business entity must affirm its enrollment and participation in the E-Verify federal work authorization program with respect to the employees proposed to work in connection with the services requested herein by providing acceptable enrollment and participation documentation consisting of completed copy of the E-Verify Memorandum of Understanding (MOU). For business entities that are not already enrolled and participating in a federal work authorization program, E-Verify is available at http://www.dhs.gov/files/programs/gc_1185221678150.shtm

By sworn affidavit, affirm that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services. A copy of the affidavit referenced herein is provided within this document.

Proof of Lawful Presence For Sole Proprietorships and Partnerships: If the business entity is a sole proprietorship or partnership, pursuant to Section 208.009, RSMo., each sole proprietor and each general partner shall provide affirmative proof of lawful presence in the United States. Such sole proprietorship or partnership is eligible for temporary public benefits upon submission by each sole proprietor and general partner of a sworn affidavit of his/her lawful presence on the United States until such lawful presence is affirmatively determined, or as otherwise provided by Section 208.009, RSMo. A copy of the affidavit reference herein is provided within this document.

(Revised 08/96)

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we _____

as principal 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 _____
_____ 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 Chesterfield Parkway in St. Louis County, project SL17-040-R6, Slide Repair, 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.

SEAL _____
Principal
By _____
Signature

SEAL _____
Surety
By _____
Signature of Attorney in Fact

NOTE: This bond must be executed by the principal, and by a corporate surety authorized to conduct surety business in the state of Missouri.

PRICING PAGE

The bidder shall provide a firm, fixed price in the table below for the original contract period for providing the deliverables/services in accordance with the provisions and requirements of this RFB. All costs associated with providing the required deliverables/services shall be included in the prices stated below.

Route I64 at Chesterfield Parkway Slide Repair					
ITEM #	DESCRIPTION	EST QTY	U/M	COST U/M	EXTENDED COST
001	Removal of Improvements	1.0	LS		
002	Class A Excavation	760.0	CY		
003	Type I Aggregate for Base (4in. Thick)	105.0	SY		
004	Mobilization	1	LS		
005	Contractor Furnished Surveying and Staking	1	LS		
006	Silt Fence	267	LF		
007	Type 4, Turf Reinforcement Mat	704	SY		
008	Geosynthetic Reinforced Soil Slope System	4980.0	SF		
009	Seeding – Cool Season Mixtures	0.4	ACRE		
010	Traffic Control	1	LS		
TOTAL EXTENDED COST FOR PROJECT					\$

COMPANY: _____ **DATE:** _____

SIGNATURE: _____

PRINTED NAME/ TITLE: _____

**WORKER ELIGIBILITY VERIFICATION AFFIDAVIT FOR ALL
MHTC/MODOT CONTRACT AGREEMENTS IN EXCESS OF \$5,000**
(for joint ventures, a separate affidavit is required for each business entity)

STATE OF _____)
) ss
COUNTY OF _____)

On this _____ day of _____, 20____, before me appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be a person whose name is subscribed to this affidavit, who being by me duly sworn, deposed as follows:

My name is _____, and I am of sound mind, capable of making this affidavit, and personally certify the facts herein stated, as required by Section 285.530, RSMo, to enter into any contract agreement with the state to perform any job, task, employment, labor, personal services, or any other activity for which compensation is provided, expected, or due, including but not limited to all activities conducted by business entities:

I am the _____ of _____, and I am duly authorized, directed, and/or
title
empowered to act officially and properly on behalf of this business entity. I hereby affirm and warrant that the aforementioned business entity is enrolled in a federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, and the aforementioned business entity shall participate in said program with respect to all employees working in connection to work under the within state contract agreement with the Missouri Highways and Transportation Commission (MHTC). I have attached documentation to this affidavit to evidence enrollment/participation by the aforementioned business entity in a federal work authorization program, as required by Section 285.530, RSMo. In addition, I hereby affirm and warrant that the aforementioned business entity does not and shall not knowingly employ, in connection to work under the within state contract agreement with MHTC, any alien who does not have the legal right or authorization under federal law to work in the United States, as defined in 8 U.S.C. § 1324a(h)(3). I am aware and recognize that, unless certain contract and affidavit conditions are satisfied pursuant to Section 285.530, RSMo, the aforementioned business entity may be held liable under Sections 285.525 through 285.550, RSMo, for subcontractors that knowingly employ or continue to employ any unauthorized alien to work within the state of Missouri.

I acknowledge that I am signing this affidavit as a free act and deed of the aforementioned business entity and not under duress.

Affiant Signature

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public

My commission expires:

[documentation of enrollment/participation in a federal work authorization program attached]

APPLICANT AFFIDAVIT FOR SOLE-PROPRIETORSHIP OR PARTNERSHIP

(a separate affidavit is required for each owner and general partner)(*if applicable*)

STATE OF _____)
) ss
COUNTY OF _____)

On this _____ day of _____, 20____, before me appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instruments, who being by me duly sworn, deposed as follows:

My name is _____, and I am of sound mind, capable of making this affidavit, and personally certify the facts herein stated, as required by Section 208.009, RSMo, for failure to provide affirmative proof of lawful presence in the United States of America:

☐ I am the _____ of _____, which is
owner or partner
applying for a public benefit (grant, contract, and/or loan) administered/provided by the Missouri Highways and Transportation Commission (MHTC), acting by and through the Missouri Department of Transportation (MoDOT). I am classified by the United States of America as: (check the applicable box) _ a United States citizen _ an alien lawfully admitted for permanent residence.

I am aware that Missouri law provides that any person who obtains any public benefit by means of a willfully false statement or representation, or by willful concealment or failure to report any fact or event required to be reported, or by other fraudulent device, shall be guilty of the crime of stealing pursuant to Section 570.030, RSMo, which is a Class C felony for stolen public benefits valued between \$500 and \$25,000 (punishable by a term of imprisonment not to exceed 7 years and/or a fine not more than \$5,000 – Sections 558.011 and 560.011, RSMo), and is a Class B felony for stolen public benefits valued at \$25,000 or more (punishable by a term of imprisonment not less than 5 years and not to exceed 15 years – Section 558.011, RSMo).

I recognize that, upon proper submission of this sworn affidavit, I will only be eligible for temporary public benefits until such time as my lawful presence in the United States is determined, or as otherwise provided by Section 208.009, RSMo.

I understand that Missouri law requires MHTC/MoDOT to provide assistance in obtaining appropriate documentation to prove citizenship or lawful presence in the United States, and I agree to submit any requests for such assistance to MHTC/MoDOT in writing.

I acknowledge that I am signing this affidavit as a free act and deed and not under duress.

Affiant Signature

Affiant's Social Security Number or
Applicable Federal Identification Number

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public

My commission expires:

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

A.	GENERAL – STATE JSP-09-03B	1
B.	TABULATION OF QUANTITIES	1
C.	CONTRACT LIQUIDATED DAMAGES JSP-13-01B	2
D.	WORK ZONE TRAFFIC MANAGEMENT PLAN (WZTMP) JSP-02-06D	2
E.	EMERGENCY PROVISIONS AND INCIDENT MANAGEMENT JSP-90-11	4
F.	UTILITIES JSP-93-26E	5
G.	E-CONSTRUCTION NJSP-15-36	7
H.	STORMWATER COMPLIANCE REQUIREMENTS NJSP-15-38	8
I.	GEOSYNTHETIC REINFORCED SOIL SLOPE SYSTEM JSP-97-09C	12
J.	FERTILIZING, SEEDING AND MULCH	19
K.	SUPPLEMENTAL REVISIONS JSP-09-01U	20
L.	PEDESTRIAN FENCE	23

 <p>Expires: 12/31/18</p>	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636
	OATES ASSOCIATES, INC. 720 Olive, Suite 700 St. Louis, MO 63101 Certificate of Authority: 001166 Consultant Phone: 314-588-8381
	If a seal is present on this sheet, JSP's have been electronically sealed and dated.
	JOB NUMBER: WRSL064B COUNTY: ST. LOUIS, MO DATE PREPARED: 10/19/16
	ADDENDUM DATE:
Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: A-L	

A. GENERAL – STATE JSP-09-03B

1.1 Description. The Federal Government is not participating in the cost of construction of this project.

1.2 This contract requires payment of the prevailing hourly rate of wages for each craft or type of worker required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations. The current State Wage Rates can be found on the Missouri Department of Transportation web page at www.modot.org under "Bidding" for the applicable bid opening. This supplemental bidding document has 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.

State Wage Rates

1.3 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 2016 Missouri Standard Plans
For Highway Construction

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

B. TABULATION OF QUANTITIES

NUMBER	PAYITEM NAME	UNIT	QUANTITY
2022010	Removal of Improvements	L SUM	1
2031000	Class A Excavation	CU YD	760
3040143	Type I Aggregate for Base (4 in. Thick)	SQ YD	105
6181000	Mobilization	L SUM	1
6274000	Contractor Furnished Surveying and Staking	L SUM	1
8061019	Silt Fence	LF	267
8064131	Type 4, Turf Reinforcement Mat	SQ YD	704
8065000	Geosynthetic Reinforced Soil Slope System	SQ FT	4,980
805100A	Seeding - Cool Season Mixtures	ACRE	0.4
	Traffic Control	L SUM	1

C. CONTRACT LIQUIDATED DAMAGES JSP-13-01B

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

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

Notice to Proceed: Upon execution of the contract.
Completion Date: June 1, 2017

2.2 Calendar Days. The count of calendar days will begin on the date the contractor starts any construction operations on the project. Intermediate deadlines have been included to limit traffic impacts due to lane closures. Below are the required deadlines for the project:

Scope of Work	Calendar Days	Daily Road User Cost
Total I-64 Ramp Lane Closure	14	\$1,800
Total Contract Completion	30	\$1,800

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 **\$250** 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.

D. WORK ZONE TRAFFIC MANAGEMENT PLAN (WZTMP) JSP-02-06D

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.

2.1 Traffic Management Schedule.

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

2.3 The contractor shall request permission at least two working days prior to lane closures or shifting traffic onto detours, and 14 calendar days prior to the imposition of height, width or weight restrictions. This is to ensure closures do not conflict with other work within the zone of influence and the work zone information on the MoDOT's website can remain real-time.

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

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

2.6 Traffic Congestion. The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of 10 minutes to prevent congestion from escalating to 15 minute or above threshold. If disruption of the traffic flow occurs and traffic is backed up in queues of 15 minute delays or longer, then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone that generate text and/or email notifications where available. The engineer monitoring the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable.

2.6.1 Traffic Safety.

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

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

3.1 Work Hour Restrictions.

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

Memorial Day
Independence Day
Labor Day
Thanksgiving
Christmas
New Year's Day

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

4.1 Detours and Lane Closures.

4.2 The contractor shall provide changeable message signs (CMS) notifying motorists of future traffic disruption and possible traffic delays one week before traffic is shifted to a detour or prior to lane closures. The CMS shall be installed at a location as approved or directed by the engineer. The CMS shall be capable of communication with the Transportation Management Center (TMC), if applicable, prior to installation on right of way. All messages planned for use in the work zone shall be approved and authorized by the engineer or its designee prior to deployment.

4.3 The plans and contract documents indicate the left lane of the I-64 westbound on ramp may be closed for up to 14 days. This is to allow the contractor access to the site for the delivery of materials and general access to the repair area. The contractor may remove two sections of guardrail and the impacted posts to gain access only after the lane is closed. The contract shall have 14 days to complete the necessary work, reinstall the guardrail and reopen the lane. The contract may provide an alternative method to access the site for consideration and approval by the Engineer.

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

E. EMERGENCY PROVISIONS AND INCIDENT MANAGEMENT JSP-90-11

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

2.1 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 (314) 340-4000
City of Chesterfield Police (636) 537-3000
Monarch Fire Protection District (314) 514-0900

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

2.3 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.

F. UTILITIES JSP-93-26E

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

<u>Utility Name</u>	<u>Known Required Adjustment</u>	<u>Type</u>
Terry Rogers AT&T AT&T Distribution 402 N 3rd Street Office: 636.949.1330 Mobile: 636.448.4621 Email: tr5397@att.com	No	Communications
Brian Langenbacher Laclede Gas Company 4118 Shrewsbury Avenue Shrewsbury, MO 63119 Telephone: 314-768-7767 Brian.Langenbacher@spireenergy.com	No	Gas
Dave Pruitt Missouri American Water Company 727 Craig Road St. Louis, MO 63141 Telephone: 314-996-2396 Email: Dave.Pruitt@amwater.com	No	Water
Don Torbett MCI/Verizon Business 6929 N. Lakewood Avenue Tulsa, OK. 74117 Telephone: 918-269-4698 Email: Donald.torbett@verizonbusiness.com	No	Communications

Bruce Larson Ameren Missouri 280 Old State Rd Ellisville, MO 63021-5916 Telephone: 314.992.8902 Email: blarson@ameren.com	No	Power
Kirk Thaelke CenturyLink Company (Lightcore) 11111 Dorsett Road Maryland Heights, MO 63385 Telephone: 636-887-4752 Email: kirk.thaelke@Centurylink.com	No	Communications
James Eckrich City of Chesterfield 690 Chesterfield Parkway West Chesterfield, MO 63017 Telephone: 636- 537-4764 Email: jeckrich.chesterfield.mo.us	No	Lighting

1.2 The City of Chesterfield has lighting facilities along the west side of Chesterfield Parkway West that is within close proximity of the proposed work. The contractor shall protect this facility from damage and shall not disturb. If necessary, the contractor shall temporarily remove and replace the lighting facility meeting the approval of the City of Chesterfield. No direct pay for compliance to this specification.

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

2.2 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 [Sec 105.7.6](#). 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.

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

G. 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.

2.1 Document Submittals.

2.2 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.

2.3 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.

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

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

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

3.1 Digital Signature.

3.2 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.

3.3 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.

H. STORMWATER COMPLIANCE REQUIREMENTS NJSP-15-38

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

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

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

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

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

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

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

3.1 Water Pollution Control Manager (WPCM). Prior to the Pre-Activity meeting for Grading/Land Disturbance, the Contractor shall designate a Water Pollution Control Manager (WPCM) to

fulfill the duties and responsibilities listed in Section 3.1 until final stabilization occurs. The Contractor's on-site project manager may also serve as the WPCM or that role may be assigned to another manager employed by the contractor or a subcontractor. The Contractor shall also maintain a WPCM delegate to temporarily fulfill the WPCM duties in the absence of the primary WPCM (e.g. illness, vacation, other leave).

3.2 Duties of the WPCM:

3.1.1 Be familiar with Stormwater Requirements including the National Pollutant Discharge Elimination System (NPDES), the current MoDOT State Operating Permit for construction stormwater discharges/ land disturbance activities, the Project-specific Stormwater Pollution Prevention Plan (Project SWPPP), the Corps of Engineers Section 404 Permit, when applicable, the Consent Decree, and this provision. The Project SWPPP includes: a title page with project-specific information, the general SWPPP posted on the MoDOT land disturbance website, the Project Erosion & Sediment Control Plan, all applicable special provisions, and all applicable specifications and standard drawings;

3.1.2 Complete the stormwater training set forth in Section 2.0;

3.1.3 Attend the Pre-Activity for Grading/ Land Disturbance Meeting or, if hired after the meeting has occurred, be familiar with the conference decisions;

3.1.4 Review and sign the Project-specific SWPPP and all updates thereto within time periods set out in the Consent Decree;

3.1.5 Visit and review the project site for compliance with Stormwater Requirements at least once per week from the start of any grading operations until final stabilization is achieved and permit is closed;

3.1.6 Be authorized by the Contractor to supervise all work performed by the Contractor and subcontractors that involves compliance with Stormwater Requirements, including the authority to order work be stopped on a Project, implement MoDOT-directed changes in work related to Stormwater Requirements, and order the taking of, measures to cease, correct, prevent, or minimize the consequences of non-compliance with Stormwater Requirements;

3.1.7 Review and certify electronically each MoDOT inspection report for the Project within three (3) days of receiving each report to ensure it conforms with report requirements in the National Pollution Discharge Elimination System Stormwater (NPDES SW) Permit, Project SWPPP and the Consent Decree and ensure that all Stormwater Deficiencies noted on the report are corrected within the time required;

3.1.8 Recommend in writing within three (3) days of discovering any changes in site conditions and Best Management Practices (BMPs) that require an update to the Project-specific SWPPP; and

3.1.9 Be the point of contact relating to Stormwater Requirements and the Consent Decree between the Contractor, Subcontractors and MoDOT.

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

items at the pre-activity meeting shall include a review of the project SWPPP, the planned order of grading operations, proposed areas of initial disturbance, identification of all necessary BMPs that shall be installed prior to commencement of grading operations, and any issues relating to compliance with the Stormwater requirements that could arise in the course of construction activity at the project.

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

4.3 Following the pre-activity meeting for Grading/land disturbance, and subsequent installation of the initial BMPs identified at the pre-activity meeting, a Hold Point shall occur prior to the start of any land disturbance operations to allow the engineer and WPCM the time needed to perform an on-site review of the installation of the BMPs to ensure compliance with the SWPPP is met. Land disturbance operations shall not begin until authorization is given by the engineer.

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

5.1.1 Consulting with the engineer on recommended design revisions to the Project SWPPP to accommodate the Contractor's staging plan, implementation, managing, and maintaining BMPs or other control measures to prevent or minimize sediment and other pollutants in stormwater runoff in accordance with contract specifications or any relevant manufacturer specifications and good engineering practices, including but not limited to the manuals (Note: two manuals cited in the MoDOT permit are "Developing your stormwater pollution prevention plan: A guide for construction activities" and "Protecting Water Quality: A Field Guide to erosion, sediment and stormwater best management practices for development sites in Missouri") and any other applicable standards for sedimentation basins, stabilization, rock dams, brush checks, construction entrances, and other BMPs;

5.1.2 Installing all BMPs at the locations and relative times specified in the Project SWPPP; and

5.1.3 Complying with the Missouri Water Quality Standards and with effluent limitations in Section E.1 of the NPDES SW Permit. Measurement of effluent is not required except as specified in E.2.

5.2 Stormwater Deficiency Corrections. Per terms of the Consent Decree, Stormwater Deficiencies identified on the MoDOT Land Disturbance Inspection Report shall be corrected within 7 days of the inspection date to avoid stipulated penalties, except that more time might be granted by the engineer when weather or field conditions prohibit the corrective work. If the Contractor does not initiate corrective measures within 5 calendar days of the inspection date or any extended period granted by the engineer, all work shall cease on the project except for work to correct these deficiencies, unless otherwise allowed by the engineer. All impact costs related to this halting of work, including, but not limited to stand-by time for equipment, shall be borne by the Contractor. Work shall not resume until the engineer approves the corrective work.

6.1 Inspection Protocol. The Contractor and all subcontractors shall review and adhere to MoDOT's written Stormwater Inspection Protocol, found on the MoDOT Land Disturbance webpage (www.modot.org/LD). The Inspection Protocol is applicable to all Projects under the

consent decree. The MoDOT Resident Engineer will serve the role of Stormwater Resident Engineer, or a delegate will be named in their absence.

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

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

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

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

8.1.1 monitor the progress of activities required under the Consent Decree;

8.1.2 verify any data or information submitted to the United States in accordance with the terms of the Consent Decree;

8.1.3 obtain samples and, upon request, splits of any samples taken by MoDOT or its representatives, contractors, or consultants;

8.1.4 obtain documentary evidence, including photographs and similar data; and

8.1.5 assess MoDOT's compliance with the Consent Decree.

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

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

I. GEOSYNTHETIC REINFORCED SOIL SLOPE SYSTEM JSP-97-09C

1.0 Description. Work shall consist of design, furnishing materials, and construction of geosynthetic reinforced soil slope (GRSS) structure meeting approval of the Engineer. Design and supply of geosynthetic reinforcement, drainage composite, and erosion control materials, and site assistance are all to be furnished by the slope system supplier.

2.0 Prequalification of Reinforced Slope System and Materials. All systems and materials shall be pre-qualified and approved before the contract is awarded. To apply for prequalification or prequalification requirements, the supplier or manufacturer shall submit a request to Construction and Materials. The following systems are pre-qualified and may be used:

Tensar Sierra Slope Retention System:

Tensar Earth Technologies, Inc.
5883 Glenridge Drive
Suite 200
Atlanta, GA 30328-5363

phone 404-250-1290
sales 800-202-4459
fax 404-250-0461

Mirafi Geogrid Reinforced Slope:

Ten Cate Nicolon USA
365 South Holland Drive
Pendergrass, GA 30567

phone 706-693-2226
fax 706-693-4400
email: tc mirafi@rtcusa.net

StrataSlope System:
Strata Systems Inc.
380 Dahlonga Rd, Suite 200
Cumming, GA 30040

phone 770-888-6688
fax 770-888-6680
email: strata@geogrid.com

3.1 Preliminary Design and Plans.

3.2 Prior to any work being done, GRSS design plans and computations shall be submitted to the engineer complete with all details as a separate submittal for each individual reinforced slope structure.

3.3 All drawings shall be clear and complete. Six sets of drawings of the completed wall design plans shall be submitted for distribution. The drawings submitted shall be legible and have distinct details of sufficient contrast to be suitable for microfilming. Drawings which do not have the desired clarity and contrast will be returned for corrective action. The GRSS system manufacturer shall be solely responsible for the content of the design plans.

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

3.5 The minimum factors of safety for slope stability shall be as follows or as required by the contract.

3.5.1 1.5 against horizontal sliding of the reinforced mass along its base

3.5.2 1.3 against external, deep seated failures

3.5.3 1.3 against compound failure surfaces

3.5.4 1.3 against internal failure

3.5.5 1.1 seismic loading for the above failure modes

3.6 Reinforced slopes shall be designed for the appropriate SEISMIC PERFORMANCE CATEGORY A, B, C, or D and additional requirements as may be shown in the plans or this specification.

3.7 Completed GRSS design plans shall also contain all material specifications, fabrication requirements, and all construction requirements for erecting the reinforced slope complete in place. Any requirements on the design plans conflicting with this special provision shall not be used.

3.8 The effect of construction damage test shall be incorporated into the construction damage factor F_c , that is applied to the limit and serviceability state reinforcement tensions. Where construction tests have been made, but with fills or construction procedures other than those representative or site specific on the project, the minimum value of F_c shall be taken as 1.25. Lower values of F_c may be only used if substantiated with damage test using fills and construction procedures specific to the project. A default F_c value of 3.0 shall be used in the absence of any construction tests.

4.1 Backfill Material.

4.2 Backfill material for GRSS shall conform to the following requirements.

4.3 Backfill shall be gravel, stone, sand or any combination, conforming to the following gradation limits:

Sieve Size	Percent Passing
3/4 inch (19 mm)	100-75
No. 4 (4.75 mm)	100-20
No. 40 (425 µm)	0-60
No. 200 (75 µm)	0-50

4.4 The plasticity Index, as determined by AASHTO T-90, shall not exceed 20.

4.5 The material shall substantially be free of shale or other soft, poor durability particles and shall have a magnesium sulfate soundness loss of less than 30 percent after four cycles as determined by AASHTO T-104.

4.6 Backfill materials shall meet the following electrochemical requirements:

Requirements	Test Methods
pH 4.5-9.5	California DOT 643
Organic Content < 1%	California DOT 643
Chlorides < 100 ppm	California DOT 422
Sulfates < 200 ppm	California DOT 417

4.7 The contractor shall furnish to the engineer a Certificate of Compliance certifying the selected granular backfill material complies with this section of the specifications. A copy of test results from an approved laboratory testing the material for all of the above requirements shall also be furnished to the Engineer. Tests shall apply specifically to the material being used and shall not be more than twelve months old, if previously tested for another job and still applicable.

4.8 Acceptance will be based on the Certificate of Compliance, accompanying test reports, and any applicable tests performed by the Engineer.

5.1 Design and Plan Requirements.

5.2 The final design to be submitted after contract award shall include detailed design computations and all details, dimensions, quantities and cross sections necessary to construct the slope(s). The fully detailed plans shall be prepared to MoDOT standards and shall include, but not be limited to, the following items:

5.2.1 An elevation view indicating elevations at top and bottom of slope, beginning and end stations, all horizontal and vertical break points, whole station points, and each level of reinforcement. Location of proposed final ground lines shall be indicated.

5.2.2 Length, size, and type of grade of reinforcement shall be shown.

5.2.3 Internal drainage alignment, elevations, and slope face exit points shall be shown on the elevation, plan, and cross section views.

5.2.4 Plan view shall reflect the horizontal alignment and shall indicate the offset from the horizontal control line to the front face of the slope. All utilities, signs, lights, etc. that effect the reinforced slope shall be shown.

5.2.5 Any general notes required for construction of the reinforced slope.

5.2.6 Cross sections showing limits of construction, fill requirements, and excavations limits.

5.2.7 Limits and extent of reinforced soil fill volume.

5.2 Typical Details of Primary and Secondary Reinforcement.

5.2.1 Facing details for erosion control.

5.2.2 Temporary slope face support (if required).

5.2.3 All details for construction of slope around drainage facilities, overhead sign footings and abutments shall be clearly shown.

5.3 Detailed Design Computations.

5.3.1 Slope stability computations, computer output, and an explanation of analysis details within the program. A copy of the computer program with user documentation if an in-house computer program was used.

5.3.2 Cross section plots showing critical failure planes for internal, compound, and global failure modes; and a summary of the critical failure surface(s) search.

5.3.3 Sliding stability computations.

5.3.4 Seismic stability computations, where applicable.

5.3.5 Tractive shear stress of all erodible surfaces and appropriate anchorage mechanism(s). (Erosion protection requirements to be specified by MoDOT.)

5.3.6 Drainage system design computations including volume of water to be removed by the subsurface drainage system; geotextile retention, permeability, and survivability requirements based upon fill and subgrade characteristics; and maximum long-term flow of the drainage composite. (Maximum drain spacing and flow requirements to be specified by MoDOT.)

5.4 The plans and design computations shall be prepared and sealed by a professional engineer, licensed according to Chapter 327. RSMo. Six sets of design drawings and detail design computations shall be submitted to MoDOT. The computations shall include a detailed explanation of any symbols and computer programs used in the design. All design and construction details will be checked by MoDOT against the preapproved design values and procedures for materials approved for use in that particular system.

6.1 Construction Requirements.

6.2 Delivery, storage, and handling of geosynthetic reinforcement, drainage composite, and geosynthetic erosion mat shall comply with requirements set forth in the Missouri Standards Specifications for Highway Construction.

6.3 Geosynthetic reinforcement material suppliers shall provide a qualified and experienced representative on site, for a minimum of three days, to assist the contractor and MoDOT inspectors at the start of construction. If there is more than one slope on a project, then this criteria will apply to construction of the initial slope only. The representative shall also be available on an as needed basis, as requested by the Engineer, during construction of the remaining slope(s).

6.4 All areas immediately beneath the installation area for the geosynthetic reinforcement shall be properly prepared as detailed on the plans, specified elsewhere within the specifications, or directed by the Engineer. Subgrade surface shall be level, free from deleterious materials, loose or otherwise unsuitable soils. Prior to placement of geosynthetic reinforcement, subgrade shall be proof-rolled to provide a uniform and firm surface. Any soft areas, as determined by the Engineer, shall be excavated and replaced with suitable compacted materials. Foundation surface shall be inspected and approved by the Engineer prior to fill placement. Benching the backcut into competent soil is recommended to improve stability.

6.5 Geosynthetic reinforcement shall be installed within the layers of the compacted soil in accordance with the manufacturer's recommendations and as shown on the plans. Geosynthetic reinforcements are to be placed within 3 inches (75 mm) of the design elevations and extend the length as shown on the elevation view unless otherwise directed by the Engineer. Correct orientation of the geosynthetic reinforcement shall be verified by the contractor.

6.6 Backfill shall be placed, spread, and compacted in such a manner to minimize the development of wrinkles and/or displacement of the geosynthetic reinforcement. Cohesive soils shall be compacted in a maximum loose lift thickness of 8 inches (200 mm), and granular soils in a maximum loose lift thickness of 10 inches (250 mm). Backfill shall be compacted as specified by project specifications or to at least 95 percent of the maximum density determined in accordance with AASHTO T-99, whichever is greater. Backfill shall be graded away from the slope crest and rolled at the end of each work day to prevent ponding of water on surface of the reinforced soil mass. Tracked construction equipment shall not be operated directly upon the geosynthetic reinforcement. A minimum fill thickness of 6 inches (150 mm) is required prior to operation of tracked vehicles over the geosynthetic reinforcement. Turning of tracked vehicles shall be kept to a minimum to prevent tracks from displacing the fill and the geosynthetic reinforcement. If approved by the Engineer and subject to satisfactory performance, rubber-tired equipment may pass over the geosynthetic reinforcement at speeds no greater than 10 mph (16 km/h). Sudden braking and sharp turning shall be avoided.

6.7 Turf Reinforcement Mat Material Installation.

6.7.1 Delivery, Storage, and Handling. Contractor shall check the turf reinforcement mat (TRM) material to ensure that the proper material has been received. During all periods of shipment and storage, the TRM shall be protected from temperatures greater than 140 F (60 C), mud, dirt, and debris. Follow manufacturer's recommendations in regards to protection from direct sunlight. At the time of installation, the TRM shall be rejected if it has defects, tears, punctures, flaws, deterioration, or damage incurred during manufacture, transportation, or storage. If approved by the engineer, torn or punctured sections may be removed by cutting a cross section of the mat out. The remaining ends should be overlapped and secured with ground anchors. Any TRM damaged during storage or installation shall be replaced by the contractor at no additional cost to MoDOT.

6.7.2 On Site Representative. TRM material suppliers shall provide a qualified and experienced representative on site, for a minimum of one day, to assist the contractor and

MoDOT inspectors at the start of construction. If there is more than one slope on a project then this criteria will apply to construction of the initial slope only. The representative shall also be available on an as needed basis, as requested by the engineer, during construction of the remaining slope(s).

6.7.3 Placement. The TRM material shall be placed and anchored on a smooth graded, firm surface approved by the engineer. Anchoring terminal ends of the TRM material shall be accomplished through use of key trenches. The material in the trenches shall be anchored to the soil on maximum 18 inch (450 mm) centers. (Topsoil, if required by construction drawings, placed over final grade prior to installation of the TRM material shall be limited to a depth not exceeding 3 inches (75 mm)).

6.6.3.1 TRM material shall be anchored, overlapped, and otherwise constructed to ensure performance. Anchors shall be as designated by the TRM manufacturer's recommendations, with a minimum length of 12 inches (300 mm) recommended, and shall be spaced with a maximum spacing of 4 feet (1.2 m) recommended.

6.6.4 Soil Filling. Soil filling and seeding will be required. The TRM shall be filled with a fine grained topsoil, seed and fertilizer, as recommended by the manufacturer. Soil shall be lightly raked or brushed on/into the mat to fill mat thickness or to a maximum depth of 1 inch (25 mm).

6.7 Geosynthetic Drainage Composite.

6.7.1 Delivery, Storage, and Handling. Contractor shall check the erosion control material to ensure that the proper material has been received. During all periods of shipment and storage, the erosion mat shall be protected from temperatures greater than 140 F (60 C), mud, dirt, and debris. Follow manufacturer's recommendations in regards to protection from direct sunlight. At the time of installation, the erosion mat/blanket shall be rejected if it has defects, tears, punctures, flaws, deterioration, or damage incurred during manufacture, transportation, or storage. If approved by the engineer, torn or punctured sections may be removed by cutting a cross section of the mat out. The remaining ends should be overlapped and secured with ground anchors. Any erosion mat/blanket damaged during storage or installation shall be replaced by the contractor at no additional cost to MoDOT.

6.7.2 On Site Representative. Geosynthetic drainage composite material suppliers shall provide a qualified and experienced representative on site, for a minimum of one half day, to assist the contractor and MoDOT inspectors at the start of construction with directions on the use of drainage composite in conjunction with the geosynthetic reinforced soil system. If there is more than one slope on a project then this criteria will apply to construction of the initial slope only. The representative shall also be available on an as needed basis, as requested by the engineer, during construction of the remaining slope(s).

6.7.3 A geotextile flap shall be provided along all drainage core edges. This flap shall be of sufficient width for sealing the geotextile to the adjacent drainage structure edge to prevent soil intrusion into the structure during and after installation. The geotextile shall cover the full length of the core.

6.7.4 The geocomposite core shall be furnished with an approved method of constructing and connecting with outlet pipes or weepholes as shown on the plans. Any fittings shall allow entry of water from the core but prevent intrusion of backfill material into the core material.

6.7.5 Placement. The soil surface against which the geosynthetic drainage composite is to be placed shall be free of debris and inordinate irregularities that will prevent contact between the soil surface and the drain.

6.7.6 Seams. Edge seams shall be formed by utilizing the flap of geotextile extending from the geocomposite's edge and lapping over the top of the fabric of the adjacent course. The fabric flap shall be securely fastened to the adjacent fabric by means of plastic tape or non water soluble construction adhesive, as recommended by the supplier. Where vertical splices are necessary at the end of a geocomposite roll or panel, an 8 inch (200 mm) wide continuous strip of geotextile may be placed, centering over the seam and continuously fastened on both sides with plastic tape or non water soluble construction adhesive. As an alternative, rolls of geocomposite drain material may be joined together by turning back the fabric at the roll edges and interlocking the cuspidations approximately 2 inches (50 mm). For overlapping in this manner, the fabric shall be lapped over and tightly taped beyond the seam with tape or adhesive. Interlocking of the core shall always be made with the upstream edge on top in the direction of water flow. To prevent soil intrusion, all exposed edges of the geocomposite drainage core shall be covered by tucking the fabric flap over and behind the core edge. Alternatively, a 12 inch (300 mm) wide strip of fabric may be utilized in the same manner, fastening it to the exposed fabric 8 inches (200 mm) in from the edge and folding the remaining flap over the core edge.

6.7.7 Repairs. Should the fabric be damaged during installation by tearing or puncturing, the damaged section shall be cut out and replaced completely or repaired by placing a piece of fabric that is large enough to cover the damaged area and provide a sufficient overlap on all sides to fasten.

6.7.8 Soil Fill Placement. Structural backfill shall be placed immediately over the geocomposite drain. Care shall be taken during the backfill operation not to damage the geotextile surface of the drain. Care shall also be taken to avoid excessive settlement of the backfill material. The geocomposite drain, once installed, shall not be exposed for more than seven days prior to backfilling.

7.1 Method of Measurement.

7.2 Measurement of Geosynthetic Reinforced Soil Slope Systems is along the slope face on a square foot basis. Measurement of the Turf Reinforcement Mat Type IV is along the slope face on a square yard basis.

7.3 Payment shall cover GRSS design, materials, and installation of geosynthetic reinforcement, backfill, and drainage composites. The geosynthetic Turf Reinforcement Mat Type IV shall be paid under a separate pay item. Any excavation of any unsuitable materials and requirement with select fill, as directed by the Engineer shall be paid under a separate pay item.

7.4 Quantities of reinforced soil slope system as shown on the plans may be increased or decreased at the direction of the Engineer based on construction procedures and actual site conditions.

8.0 Basis of Payment. The accepted quantities of geosynthetic reinforced soil slope system will be paid for per square foot of GRSS in place along the slope face, (Geosynthetic Reinforced Slope System, square feet). The accepted quantities of geosynthetic Turf Reinforcement Mat, Type IV will be paid for per square yard of TRM in place along the slope face.

J. FERTILIZING, SEEDING AND MULCH

1.1 Soil Neutralization. In accordance with Section 801.2.2, application of effective calcium shall be 1,600 lbs. per acre.

1.2 Commercial Fertilizer. In accordance with Section 801.2.3, the following fertilizers shall be applied at the rate specified. No direct payment will be made for fertilizer.

Nitrogen (N)	80 lbs. per acre
Phosphoric Acid (P ₂ O ₅)	160 lbs. per acre
Potash (K ₂ O)	80 lbs. per acre

1.3 In accordance with Section 805.3.2, the following seed mixture shall be applied at the rate specified:

<u>Pounds Per Season</u>	<u>Mixture</u>	<u>Live Seed/Acre</u>
All Year	Little Bluestem	6 lb./Ac.
	Sideoats Grama	6 lb./Ac.
	Canada or Virginia Rye	2 lb./Ac.
	Prairie or Tall Dropseed	0.5 lb./Ac.
	Annual Ryegrass	10 lb./Ac.
	Oats	10 lb./Ac.
	Perennial Rye	10 lb./Ac.
	White Clover	5 lb./Ac.
	Lanceleaf Coreopsis	0.25 lb./Ac.
	Black-Eyed Susan	<u>0.25 lb./Ac.</u>
		50 lb./Ac.

1.4 Vegetative mulch shall be applied to all seeded areas unless otherwise directed by the engineer.

1.5 Areas disturbed by the contractor outside the normal construction limits shall be reshaped, seeded, and mulched as directed by the engineer. No direct payment will be made for this work.

1.6 Acceptance of Seeded Areas. The contractor shall maintain all seeded and mulched areas until vegetative cover, acceptable to the engineer, is established.

1.6.1 An additional amount of 10 percent seeding and mulching has been added to the contract for maintenance of these areas.

1.6.2 All costs incurred will be paid for at the contract unit price for seeding and mulching. No direct pay will be made for any seed and mulch over 10 percent, or additional work or inconvenience to the contractor in complying with this special provision.

K. SUPPLEMENTAL REVISIONS JSP-09-01U

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. 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.

$$A = B \times (0.68 \times 8.58/2000) \times (D - E)$$

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
0.68 = factor to reduce volume of emulsion to AC only
(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. 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. 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.

$$A=B \times (0.9/2000) \times (D - E)$$

Where: A = adjustment for membrane placed during the index period
B = square yards of membrane placed during the index period
D = average index price at the beginning of the period
E = average index price at time of bid

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

Delete Sec 403.2.5.2 and substitute the following:

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

Delete Sec 407 in its entirety and substitute the following:

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

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

Item	Section
Emulsified Asphalt or PG Liquid Asphalt	1015

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

407.4 Construction Requirements.

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

407.4.2 Application. Asphalt emulsion or PG liquid asphalt shall be applied uniformly with a pressure distributor at the minimum rates indicated in the following table. No dilution of the emulsified asphalt material shall be allowed. The tack coat material shall be heated at the time

of application to a temperature in accordance with Sec 1015. The tack coat shall be properly cured and the tacked surface shall be clean of all dirt before the next course is placed.

Tack Coat Application Rates	
Surface Type	Minimum Application Rate (Gal. per 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.

Amend Sec 620.10.3.1.1.1, and 620.10.3.1.1.2 to include the following:

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

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

Delete Sec 606.30.4 & 606.30.5 and substitute the following:

606.30.4 Method of Measurement. Measurement for crashworthy end terminals will be made for each unit assembled, installed and complete in place. Grading for crashworthy end terminals will be measured in accordance with [Sec 203](#) when roadway and drainage excavation is included in the contract, otherwise grading will be measured in accordance with Shaping Slopes, Class III or as directed on plans.

606.30.5 Basis of Payment. The accepted quantities of Type A, B C, D and E crashworthy end terminals, complete in place, will be paid for at the contract unit price. Payment will be considered full compensation for complete installation including any backup assemblies or other items necessary for proper installation of the end terminal or crash cushion as required. Grading for end terminals will be paid for at the contract unit price for roadway and drainage excavation if included in the contract; otherwise it will be paid for as Shaping Slopes, Class III. If the contractor elects to use a flared Type A crashworthy end terminal, additional embankment as shown on the plans shall be provided at the contractor's expense.

Insert Sec 620.80 by to including the following:

SECTION 620.80 CONTRAST PAVEMENT MARKINGS

620.80.1 Description. This work shall consist of furnishing and installing black contrasting pavement marking for intermittent markings (skips), dotted lines and solid intersection lane lines

on new, and newly ground concrete surfaces. This work shall be in accordance with Sec 620 and accompanying provisions except as modified herein

620.80.2 Material. The black contrast marking shall be compatible with the white pavement marking material specified in the plans.

620.80.3 Construction Requirements.

620.80.3.1 The Contrast markings shall be accomplished by placing the black pavement marking according to manufacturer's recommendations.

620.80.3.2 The white marking shall be centered within the black marking such that there will be a 1.5 inch border of black on both sides of the white marking. Tolerances for the width and length of the black and white markings shall be in accordance with Sec 620.2.4.2.

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

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.

L. **PEDESTRIAN FENCE**

1.0 Description. Work shall consist of the removal, offsite storage, protection, delivery, furnishing materials, and reinstalling the pedestrian fence at the location shown on the plans and meeting approval of the Engineer.

1.0 Material. All of the existing pedestrian fence rail and hardware shall be removed and protected until it can be reinstalled. Concrete footings for the posts shall be Class B concrete (3000 psi bag concrete mix is acceptable).

2.0 Construction Requirements. All of the existing pedestrian fence sections and hardware to be removed are to be stored offsite and reused by the contractor. Any portion of the fence damaged or lost during the removal shall be replaced by the contractor. The contractor shall set the posts in concrete in accordance with Section 903.3.1.2 or as approved by the Engineer.

3.0 Method of Measurement. This work will not be measured for payment, but will be considered in the lump sum removal of improvements.

4.0 Basis of Payment. The removal, storage and reinstallation of the pedestrian fence shall be included in the lump sum contract price for Removal of Improvements. No direct payment will be made for the fence removal, storage, reinstallation, concrete footings, post hole excavation or for excavation and embankment necessary to smooth the area under the fence.