

**STATE OF MISSOURI
HIGHWAYS and TRANSPORTATION COMMISSION**

JEFFERSON CITY, MISSOURI

CONSTRUCTING OR IMPROVING
Contract I.D. 181019-D02

THIS JOB SHALL BE CONSTRUCTED UNDER
FEDERAL PROJECT NUMBER(S): FAS S401(55)

Job J5P3258 Route 87 HOWARD County

BIDDER CHECKLIST
FINAL CHECKLIST BEFORE SUBMITTING BID

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

Bid)at the top and it will list any errors in the bid. To view itemized folders, click the Tree View. This will show the status of the individual folders.

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

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

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

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

NOTICE TO CONTRACTORS

Electronic bids submitted through the Bid Express website for the proposed work will be received by the Missouri Highways and Transportation Commission until 11:00 o'clock a.m. (prevailing local time) on 10/19/2018.

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

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

****(1): Job J5P3258 Route 87 HOWARD County. Resurface from Glasgow to Route 40, the total length of improvement being 22.093 miles.

If more than one Job Number is listed for this call, then combination bids will be required on the Jobs listed above.

(2) COMPLIANCE WITH CONTRACT PROVISIONS: The bidder, having examined and being familiar with the local conditions affecting the work, and with the contract, contract documents, including the Missouri Highways and Transportation Commission's "Missouri Standard Specifications for Highway Construction, 2018," and "Missouri Standard Plans for Highway Construction, 2018", their revisions, and the request for bid, including appendices, the special provisions and plans, hereby proposes to furnish all labor, materials, equipment, services, etc., required for the performance and completion of the work. All references are to the Missouri Standard Specifications for Highway Construction, as revised, unless otherwise noted. All questions concerning the bid document preparation shall be directed to the Central Office - Design Division at (573) 751-2876.

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

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

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

| Line Number | Item Number | Quantity | Unit | Unit Price | Extension Price |
|-------------------------|--|-----------|------|------------|-----------------|
| Section 0001 | | | | | |
| Roadway Items - J5P3258 | | | | | |
| 0010 | 2022010 | 1 | LS | | |
| | REMOVAL OF IMPROVEMENTS | | | | |
| 0020 | 2063000 | 553.000 | CUYD | | |
| | CLASS 3 EXCAVATION | | | | |
| 0030 | 2079909 | 2067.100 | STA | | |
| | MISC. MODIFIED LINEAR GRADING, CLASS 2 | | | | |
| 0040 | 2149910 | 4475.200 | TONS | | |
| | MISC. FURNISHING AND PLACING ROCK FILL | | | | |
| 0050 | 2153000 | 13.000 | 100F | | |
| | SHAPING SLOPES, CLASS III | | | | |
| 0060 | 3039905 | 588.200 | SQYD | | |
| | MISC. FURNISHING AND PLACING 12 IN. ROCK BASE | | | | |
| 0070 | 3105002 | 396.000 | TONS | | |
| | GRAVEL (A) OR CRUSHED STONE (B) | | | | |
| 0080 | 4013010 | 17408.700 | TONS | | |
| | BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE WIDENING) | | | | |
| 0090 | 4019905 | 588.200 | SQYD | | |
| | MISC. FULL DEPTH OPTIONAL PAVEMENT - 7.5 IN. BITUMINOUS OR 7 IN. PCCP | | | | |
| 0100 | 4020520 | 21242.200 | TONS | | |
| | BITUMINOUS PAVEMENT MIXTURE PG64-22 (SURFACE LEVELING) | | | | |
| 0110 | 4071005 | 23193.000 | GAL | | |
| | TACK COAT | | | | |
| 0120 | 4099905 | 29519.100 | SQYD | | |
| | MISC. SURFACE SEALING TREATMENT | | | | |
| 0130 | 6097000 | 21.000 | CUYD | | |
| | ROCK LINING | | | | |
| 0140 | 6117000A | 114.000 | CUYD | | |
| | GABIONS | | | | |
| 0150 | 6123000A | 2.000 | EA | | |
| | TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA) | | | | |
| 0160 | 6161005 | 3530.000 | SQFT | | |
| | CONSTRUCTION SIGNS | | | | |
| 0170 | 6161008 | 4.000 | EA | | |
| | ADVANCED WARNING RAIL SYSTEM | | | | |
| 0180 | 6161009 | 20.000 | EA | | |
| | FLAG ASSEMBLY | | | | |
| 0190 | 6161025 | 200.000 | EA | | |
| | CHANNELIZER (TRIM LINE) | | | | |
| 0200 | 6161031 | 6.000 | EA | | |
| | TYPE III MOVEABLE BARRICADE WITH LIGHT | | | | |
| 0210 | 6161040 | 2.000 | EA | | |
| | FLASHING ARROW PANEL | | | | |
| 0220 | 6161098A | 4.000 | EA | | |
| | CHANGEABLE MESSAGE SIGN WITHOUT COMMUNICATION INTERFACE, CONTRACTOR FURNISHED, CONTRACTOR RETAINED | | | | |
| 0230 | 6162004 | 4.000 | EA | | |
| | TEMPORARY SHORT-TERM RUMBLE STRIPS | | | | |

| | | | | | |
|------|--|------------|------|-------------|------------|
| 0240 | 6181000 | 1 | LS | | |
| | MOBILIZATION | | | | |
| 0250 | 6189902 | 4.000 | EA | \$600.00000 | \$2,400.00 |
| | MISC. ADDITIONAL MOBILIZATION FOR SEEDING | | | | |
| 0260 | 6200015 | 56.000 | LF | | |
| | PREFORMED THERMOPLASTIC PAVEMENT MARKING, 24 IN. WHITE | | | | |
| 0270 | 6200033 | 2.000 | EA | | |
| | PREFORMED THERMOPLASTIC PAVEMENT MARKING, R/R CROSSING MARKER | | | | |
| 0280 | 6206000C | 209914.000 | LF | | |
| | 4 IN. WHITE STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS | | | | |
| 0290 | 6206001C | 198021.000 | LF | | |
| | 4 IN. YELLOW STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS | | | | |
| 0300 | 6221001 | 5712.000 | SQYD | | |
| | COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3 IN. THICK OR LESS) | | | | |
| 0310 | 6224010 | 1544.000 | SQYD | | |
| | MODIFIED COLDMILLING (DEPTH TRANSITIONS) | | | | |
| 0320 | 6261000A | 1641.200 | STA | | |
| | BITUMINOUS SHOULDER RUMBLE STRIP | | | | |
| 0330 | 6269909 | 1015.600 | STA | | |
| | MISC. 6 IN. CENTERLINE RUMBLE STRIP | | | | |
| 0340 | 6274000 | 1 | LS | | |
| | CONTRACTOR FURNISHED SURVEYING AND STAKING | | | | |
| 0350 | 7250318A | 131.000 | LF | | |
| | 18 IN. PIPE GROUP B | | | | |
| 0360 | 7250324A | 134.000 | LF | | |
| | 24 IN. PIPE GROUP B | | | | |
| 0370 | 7250330A | 46.000 | LF | | |
| | 30 IN. PIPE GROUP B | | | | |
| 0380 | 7250336A | 60.000 | LF | | |
| | 36 IN. PIPE GROUP B | | | | |
| 0390 | 7320018A | 4.000 | EA | | |
| | 18 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION | | | | |
| 0400 | 7320024A | 4.000 | EA | | |
| | 24 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION | | | | |
| 0410 | 7320030A | 2.000 | EA | | |
| | 30 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION | | | | |
| 0420 | 7320036A | 2.000 | EA | | |
| | 36 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION | | | | |
| 0430 | 8051000A | 19.900 | ACRE | | |
| | SEEDING - COOL SEASON MIXTURES | | | | |
| 0440 | 8061004 | 199.100 | CUYD | | |
| | SEDIMENT TRAP ROCK | | | | |
| 0450 | 8061005 | 5974.000 | LF | | |
| | ROCK DITCH CHECK | | | | |
| 0460 | 8061006 | 398.000 | LF | | |
| | ALTERNATE DITCH CHECK | | | | |
| 0470 | 8061016 | 717.000 | CUYD | | |
| | SEDIMENT REMOVAL | | | | |
| 0480 | 8061019 | 19913.000 | LF | | |
| | SILT FENCE | | | | |

| | |
|--------------------|------------|
| Section 0001 Total | \$2,400.00 |
|--------------------|------------|

Section 0002

Guardrail/Guard Cable Items - J5P3258

| | | | |
|------|---------|----------|----|
| 0500 | 6061060 | 1300.000 | LF |
|------|---------|----------|----|

MGS GUARDRAIL

| | | | |
|------|---------|--------|----|
| 0510 | 6061069 | 17.000 | EA |
|------|---------|--------|----|

MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB)

| | | | |
|------|---------|--------|----|
| 0520 | 6063014 | 19.000 | EA |
|------|---------|--------|----|

TYPE A CRASHWORTHY END TERMINAL (MASH)

Section 0002 Total

Section 0003

Signing Items - J5P3258

| | | | |
|------|---------|-------|------|
| 0530 | 9031010 | 0.800 | CUYD |
|------|---------|-------|------|

CONCRETE FOOTINGS, EMBEDDED

| | | | |
|------|---------|-------|----|
| 0540 | 9031241 | 9.000 | EA |
|------|---------|-------|----|

BREAKAWAY ASSEMBLY (PERFORATED SQUARE STEEL TUBE)

| | | | |
|------|---------|---------|----|
| 0550 | 9031280 | 108.000 | LF |
|------|---------|---------|----|

2.5 IN. PSST POST - 12 GA.

| | | | |
|------|---------|--------|----|
| 0560 | 9031281 | 27.000 | LF |
|------|---------|--------|----|

POST ANCHOR FOR 2.5 IN. PSST - 7 GA.

| | | | |
|------|----------|--------|------|
| 0570 | 9035004A | 27.000 | SQFT |
|------|----------|--------|------|

SH-FLAT SHEET

| | | | |
|------|---------|---|----|
| 0580 | 9039901 | 1 | LS |
|------|---------|---|----|

MISC. ADJUST EXIST. SIGNS

Section 0003 Total

| | |
|------------|------------|
| Item Total | \$2,400.00 |
|------------|------------|

DBE CERTIFICATION

(6) Trainees: (Applies to Federal Projects only) The number of trainee hours provided under this contract will be 0 slots at 1000 hours per slot or 0 hours.

(7) Bidder's Certificaton for DBE Program and Contract Goal

(Applies to Federal Projects only.)

(A) DBE Contract Goal: By submitting this bid, the bidder certifies that the bidder is familiar with the DBE Program Requirements in the General Provisions. The contract goal for the amount of work to be awarded is 8.00 % of the total federal project price. The bidder shall also complete the DBE Identification Submittal form in accordance with the General Provisions. This form is available on MoDOT's Website, www.modot.org on the Bid Opening Info page of the Contractor Resources site.

(B) DBE Participation: The bidder certifies that it will utilize DBE's as follows:

% OF TOTAL FEDERAL CONTRACT

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

The DBE Identification Submittal form will be submitted via

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

CONTRACT PROVISIONS

(8a) ACCEPTANCE OF PROVISION FOR PRICE ADJUSTMENT FOR FUEL: Bidders have the option to accept the provision for Price Adjustment for Fuel in accordance with Sec. 109.14. The bidder must select "Yes" for those items of work in which they choose to accept the provision. No price adjustments will be made, due to fuel price changes, for bidders who do not accept this provision. This provision does not apply to Seal Coat.

EXCAVATION PRODUCTION

ASPHALT PAVING PRODUCTION AND HAULING

CONCRETE PAVING PRODUCTION AND HAULING

AGGREGATE BASE HAULING

(8b) ACCEPTANCE FOR PROVISION FOR ASPHALT CEMENT PRICE INDEX, SEAL COAT PRICE INDEX, ASPHALT UNDERSEAL PRICE INDEX, OR POLYMER MODIFIED EMULSION MEMBRANE PRICE INDEX: Bidders have the option to accept the provision for Asphalt Cement Price Index, Seal Coat Price Index, Asphalt Underseal Price Index, and/or Polymer Modified Emulsion Membrane Price Index (when used in conjunction with an Ultrathin Bonded Asphalt Wearing Surface treatment) in accordance with the General Provisions. The bidder must mark each box below if they choose to accept the provision. No price adjustments will be made, due to asphalt price changes, for bidders who do not accept this provision.

ASPHALT CEMENT

SEAL COAT

ASPHALT UNDERSEAL

POLYMER MODIFIED EMULSION MEMBRANE (UBAWS)

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

MAXIMUM MONETARY VALUE OF AWARDS ACCEPTED THIS BID OPENING

\$

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

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

(11a) CERTIFICATIONS FOR FEDERAL JOBS: (Applies to Federal Projects only.) By signing and submitting this bid, the bidder makes the certifications appearing in Sec. 102.18.1 (regarding affirmative action and equal opportunity), Sec. 102.18.2 (regarding disbarment, eligibility, indictments, convictions, or civil judgments), Sec. 102.18.3 (regarding anti-collusion), and Sec. 102.18.4 (regarding lobbying activities). Any necessary documentation is to accompany the bid submission, as required by these sections. As provided in Sec. 108.13, the Commission may terminate the contract for acts of misconduct, which includes but is not limited to fraud, dishonesty and material misrepresentation or omission of fact within the bid submission.

(11b) CERTIFICATIONS FOR STATE JOBS: (Applies to State Projects only.) By signing and submitting this bid, the bidder makes the certifications appearing in Sec. 102.18.2 (regarding diseligibility, indictments, convictions, or civil judgments), Sec. 102.18.3 (regarding anti-collusion), and Sec. 102.18.5 (regarding Missouri Domestic Products Procurement Act).

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

Does the bidder make certification for the above items listed in 11(a) or 11(b)? **Yes** ☐ **No** ☐

By selecting "No" the bidder REFUSES to make one or more certifications for the above items 11a or 11b. The bidder shall provide a statement of explanation for the refusal in the space below or by fax to the Design Division @ Fax no. 573-522-2281.

(12) ANTIDISCRIMINATION: The Commission hereby notifies all bidders that it will affirmatively ensure 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.

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

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

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

SUBCONTRACTOR DISCLOSURE

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

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

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

Submitted:

SIGNATURE AND IDENTITY OF BIDDER

(15) SIGNATURE AND IDENTITY OF BIDDER

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

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

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

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

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

☐ Yes ☐ No

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

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

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

BID BOND

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

Annual bid bonds shall be submitted to MoDOT by June 15th of each year. If utilizing a paper annual or project specific bid bond as a Bid Guaranty

for this project the bidder shall mark the box below.

**Pay by: ☐ Paper Annual or Project Specific Bid Bond.

If submitting a cashier's/certified check, the Bid Bond folder will not turn green.

ELECTRONIC BID BOND

The bidder shall complete the following bond verification process if utilizing an electronic project bid bond or electronic annual bid bond as a Bid Guaranty for this project.

**Bond ID:

**Surety Registry Agency:

**Bond Pct:

Surety State:

FIELDS WITH THE ** INDICATOR ARE REQUIRED FIELDS IF SUBMITTING YOUR BID VIA BID EXPRESS

Job No.: J5P3258

Route: 87

County: Howard

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)


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

| | | |
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Job No.: J5P3258

Route: 87

County: Howard

| | |
|--|---|
|  <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p> | MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636 |
| | If a seal is present on this sheet, JSP's have been electronically sealed and dated. |
| | JOB NUMBER: J5P3258 HOWARD COUNTY, MO DATE PREPARED: 08/13/2018 |
| | ADDENDUM DATE: <i>R001 October 15, 2018</i> |
| Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All | |

JOB
SPECIAL PROVISION

A. General - Federal JSP-09-02D

1.0 Description. The Federal Government is participating in the cost of construction of this project. All applicable Federal laws, and the regulations made pursuant to such laws, shall be observed by the contractor, and the work will be subject to the inspection of the appropriate Federal Agency in the same manner as provided in Sec 105.10 of the Missouri Standard Specifications for Highway Construction with all revisions applicable to this bid and contract.

1.1 This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations, and requires adherence to a schedule of minimum wages as determined by the United States Department of Labor. For work performed anywhere on this project, the contractor and the contractor's subcontractors shall pay the higher of these two applicable wage rates. State Wage Rates, Information on the Required Federal Aid Provisions, and the current Federal Wage Rates are available on the Missouri Department of Transportation web page at www.modot.org under "Bidding". Effective Wage Rates will be posted 10 days prior to the applicable bid opening. These supplemental bidding documents have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

1.2 The following documents are available on the Missouri Department of Transportation web page at www.modot.org under "Business"; "Standards and Specifications". The effective version shall be determined by the letting date of the project.

General Provisions & Supplemental Specifications

Supplemental Plans to July 2018 Missouri Standard Plans
For Highway Construction

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

B. Contract Liquidated Damages

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

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

Job No.: J5P3258
Route: 87
County: Howard

Notice to Proceed: January 2, 2019
Completion Date: November 1, 2019

2.1 Calendar Days. The count of calendar days will begin on the date the contractor starts any construction operations on the project.

| Job Number | Calendar Days | Daily Road User Cost |
|------------|---------------|----------------------|
| J5P3258 | 150 | \$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 **\$1,000** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified completion date or calendar days.

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

C. Work Zone Traffic Management

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

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

1.2 Work Zone Conflict Resolution. Any conflict resolution shall be in accordance with Sec 616.4. Failure to make corrections on time may result in the engineer suspending work. The suspension will be non-excusable and non-compensable regardless if road user costs are being charged for closures.

2.0 Traffic Management Schedule.

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

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

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

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

2.5 Traffic Congestion. The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of 10 minutes to prevent congestion from escalating 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.

2.5.1 Traffic Safety.

2.5.1.1 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.

2.5.1.2 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.

3.0 Work Hour Restrictions.

3.1 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 unless approved by the Engineer.

Memorial Day
Independence Day and July 5
Labor Day
Thanksgiving
Christmas
New Year's Day

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

4.0 Detours and Lane Closures.

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

4.2 At least one lane of traffic in each direction shall be maintained at all times except for brief intervals of time required when the movement of the contractor's equipment will seriously hinder the safe movement of traffic. Periods during which the contractor will be allowed to interrupt traffic will be designated by the engineer.

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

D. Utilities

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

| <u>Utility Name</u> | <u>Known Required Adjustment</u> | <u>Type</u> | <u>Specific Location</u> |
|--|---|--------------------|---------------------------------------|
| Ameren Missouri – Electric Contact: Derek Wekenborg Phone: (573) 681-7526 dwekenborg@ameren.com | None | Electric | Guardrail |
| Ameren Missouri – Gas Contact: Jake Martin Phone: (573) 681-7550 Jmartin7@ameren.com | None | Gas | |
| Howard Electric Cooperative Contact: Richard Colvin Phone: (660) 248-3311 rcolvin@howardelectric.com | None | Electric | |
| City of Glasgow Contact: Vic Suttner Phone: (660) 672-9409 vicsuttner@yahoo.com | None | Water | Guardrail |
| Kansas City Power & Light Contact: Tony Bachtel Phone: (816) 225-6670 tony.bachtel@kcpl.com | None | Electric | Guardrail |
| ATT Distribution Contact: Tim Bregenzer Phone: (618) 210-2425 Tb6879@att.com | Unknown – see 2.0 | Communications | Guardrail, Culvert Replacements |
| Panhandle Eastern Pipeline Contact: Nathan Hlavaty Phone: (713) 857-5479 Nathan.hlavaty@energytransfer.com | None | Gas | |
| Howard County CPWSD 1 Contact: Robbey Harvey Phone: (660) 621-1600 robbeyharvey@yahoo.com | None – see 3.0 | Water | Guardrail, Culvert Replacements |
| Howard County PWSD 2 Contact: Jeff Meyer Phone: (660) 728-1942 Jdmeyer493@gmail.com | None – see 4.0 | Water | Guardrail, Culvert Replacements |

| | | | |
|--|------|----------------|-----------|
| Bluebird Network Contact: David Frazier Phone: (816) 237-2125 David.frazier@bluebirdnetwork.com | None | Communications | |
| Liberty Utilities (Empire Gas) Contact: Ben Spurgeon Phone: (660) 646-6869 Ben.spurgeon@libertyutilities.com | None | Gas | Guardrail |
| MoDOT Signals and Lighting Contact: Jason Morff Phone: (573) 526-3207 Jason.morff@modot.mo.gov | None | Electric | Guardrail |

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

2.0 AT&T Distribution. The Contractor is advised that AT&T has buried lines in close proximity to the culvert replacements from LM 1.978 to LM 15.087. It is unknown at this time if the facilities are in conflict and will require relocation. If in conflict, AT&T will have the facilities adjusted prior to the culvert replacement work. The Contractor shall directly contact AT&T to verify the status of the adjustments and if not complete, shall not work in the area until such time that the relocations are complete. There will be no direct pay for compliance to the above specification.

3.0 Howard County CPWSD#1. The Contractor is advised that Howard County CPWSD#1 has a water line in close proximity to the culvert replacement at LM 15.087. The water line will not be relocated. The Contractor shall use caution while working near the water line and will be responsible for any damage to the facilities. There will be no direct pay for compliance to the above specification.

4.0 Howard County PWSD#2. The Contractor is advised that Howard County PWSD#2 has a water line in close proximity to the culvert replacements from LM 1.978 to LM 3.595. The water lines will not be relocated. The Contractor shall use caution while working near the water line and will be responsible for any damage to the facilities. There will be no direct pay for compliance to the above specification.

E. Emergency Provisions and Incident Management

1.0 The contractor shall have communication equipment on the construction site or immediate access to other communication systems to request assistance from the police or other

emergency agencies for incident management. In case of traffic accidents or the need for police to direct or restore traffic flow through the job site, the contractor shall notify police or other emergency agencies immediately as needed. The area engineer's office shall also be notified when the contractor requests emergency assistance.

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

| |
|---|
| Missouri Highway Patrol 573-751-1000 (cell - *55) |
| Howard County Sheriff 660-248-2477 |

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

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

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

F. Project Contact for Contractor/Bidder Questions

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

Jason Vanderfeltz, Project Contact
MoDOT – Central District
1511 Missouri Blvd., PO Box 718
Jefferson City, MO 65102

Telephone Number: 573-526-6998
Email: Jason.Vanderfeltz@modot.mo.gov

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

G. Liquidated Damages Specified

1.0 Description. To remove and replace various crossroad culvert pipes on Route 187 and Route 87, the contractor will be allowed to close Route 187 and Route 87 in accordance with this provision. The contractor shall not remove and replace more culvert pipes than they can complete and reopen the roadway to traffic in a **three calendar day road closure period**. If all work necessary to complete the culvert pipe replacement and reopen Route 87 or Route 187 is not complete and open to traffic within three calendar days of the closure, the Commission, the

traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$3,000 per calendar day for each full calendar day that Route 87 or Route 187 is not open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

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

1.2 Multiple three-day road closure periods may be necessary to complete all culvert replacements. The liquidated damages specified will be assessed for each and every road closure period as approved by the engineer.

1.3 The contractor shall design the length of road closure(s) such to minimize access points within the limits of the closure. The contractor shall maintain ingress and egress at all times for property owners within the limits of the closure.

H. Kansas City Southern Railway Company Requirements

To report an emergency on The Kansas City Southern Railway Company right-of-way call: (800) 527-9464. This Project is located on Route 87 on the Mexico Subdivision – Industry Lead, MP 381.15, designated as DOT # 293 423H in Glasgow, MO.

1.0 Authority of Railroad Engineer and State Engineer.

1.1 The authorized representative of The Kansas City Southern Railway Company, herein called "Railroad Engineer", shall have final authority in all matters affecting the safety of employees of The Kansas City Southern Railway Company, herein called "Railroad", the public, and the safe maintenance and operation of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks. The Railroad designates the following individual as the Railroad Engineer for this project. Except as otherwise provided in this document, herein called "Railroad Requirements", the Missouri Highway and Transportation Commission's Contractor, herein called "Contractor", shall address all notices to the Railroad concerning this Project to the following person:

Mr. Vernon Jones
Vice President and Chief Engineer
The Kansas City Southern Railway Company
427 West 12th Street
Kansas City, MO 64105
c/o Mr. Srikanth Honnur, P.E.
Office: (816) 983-1138; Fax: (816) 983-1186
E-mail: SHonnur@KCSouthern.com

1.2 The authorized representative, herein called "Engineer", of the Missouri Highways and Transportation Commission, herein called "Commission", shall have authority over all other matters as prescribed herein and in the project plans and specifications.

1.3 The Railroad's right of way (hereinafter, "Railroad ROW") is located within this Project, which requires the Contractor to perform work on Railroad ROW. Therefore, the Contractor shall coordinate its work activities with the activities of the Railroad as required in this document.

1.4 Indemnification of Railroad by Contractor.

1.4.a. The term Contractor as used herein includes any and all subcontractors.

1.4.b. The Contractor agrees to defend, indemnify and hold harmless Railroad, its directors, officers, employees, agents, successors and assigns from and against any injury or death of persons whomsoever or from any loss or damage to the Railroad's property, right of way, tracks and other facilities, herein called "Railroad's property," and from the Railroad's liability or loss incurred for damage to any other property in Railroad's care, custody or control in or upon Railroad's property, caused by acts or omissions of the Contractor in performing work on this Project, whether on, over, under or in the vicinity of the Railroad's property.

1.4.c. In the event the Contractor shall fail to restore the Railroad's property immediately to a condition acceptable to the Railroad when any such loss or damage to the Railroad's property is called to the Contractor's attention by the Railroad, then the Railroad may perform such corrective work at the cost of the Contractor. The term "loss or damage" as used herein shall include, but not be limited to, the erosion and silting of, water damage to, and the accidental or intentional placing or dropping of objects on the Railroad's property.

2.0 Right of Entry. At least thirty (30) days in advance of the date the contractor proposes to begin work on the Railroad's Property, the contractor shall enter into a Right of Entry Agreement with Railroad prior to working on Railroad property. Request application for Right of Entry Agreement from:

Denise Case – Permit Manager
JLL – Rail Practice Group
4200 Buckingham Road, Suite 110
Fort Worth, TX 76155
Phone: (817) 230-2614
Email: denise.case@am.jll.com
Online Permit Application: <https://KCSpermit.JLLrpg.com>

2.1 Processing Fee. A One Thousand Dollar (\$1,000) non-refundable processing fee must accompany the application, made payable to JLL, or the application will be returned.

2.2 Permit Fee. A one-time permit fee of \$1,000 will be required once the Right of Entry Agreement is returned to the contractor.

3.0 Construction Requirements. The Contractor's work on the Railroad's ROW shall be performed in accordance with these Railroad Requirements. The Contractor shall supply adequate equipment, labor and materials to perform the proposed work at the job site. The Contractor shall take special precaution and care to prevent any debris or material from falling on the Railroad's right of way. The safe operation of the Railroad shall take precedence over all

work and nothing shall be done by the Contractor that will endanger the Railroad's operations. The Contractor shall protect the Railroad property from any damage resulting from the Contractor's acts or omissions during the highway Project.

4.0 Contractor Plans and Procedures. Before performing any excavation, demolition, blasting, lifting of structural members or construction of falsework on or over Railroad's ROW or adjacent to the Railroad's ROW that may interfere with the safe operation of the trains, the Contractor shall submit its excavation, shoring, demolition, blasting, lifting of structural members and falsework plans and relevant procedures to the Engineer for review, and to the Railroad Engineer for review and approval. These plans and procedures shall be signed and sealed by a Professional engineer licensed in the State of Missouri. However, such approval shall not relieve the Contractor from any liability relating to this Project. During the course of the Project, the Contractor shall submit any proposed changes to the approved plans or procedures to the Engineer for review and to the Railroad Engineer for review and approval. Any clearing and grubbing to increase the sight distance for a safer construction operation, or erection of temporary structures within the Railroad property shall not be done prior to the approval of the Railroad. The Railroad Engineer shall make a decision within 30 days. Should the Railroad Engineer deny the plans and requires a resubmittal, the Railroad Engineer shall provide approval or denial and requirement for resubmittal within 30 days after receipt of the revised plans.

4.1 The Contractor shall be required to take special precautions and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of OSHA, AREMA and Section IV, Design and Construction of Shoring Adjacent to and on Railroad Right-Of-Way contained within the "KCS Guidelines for the Design and Construction of Railroad Overpasses and Underpasses".

4.2 The Contractor shall abide by the following minimum temporary clearances during the course of construction:

- (a) 14 feet horizontal from centerline of track
- (b) 22 feet vertical above top of rail.

4.3 The Contractor shall comply with the Railroad's rules and regulations concerning protection of persons and property and the Contractor shall consult with the Railroad Engineer concerning the Railroad's rules and regulations. Any questions arising about coordination of work between the Contractor and the Railroad Engineer or between the Contractor and others shall be taken up with the Engineer and the Contractor, Railroad Engineer and Engineer shall agree upon a method of coordination before commencing the work.

4.4 Prior to commencing any work upon, over or under the Railroad's ROW, the Contractor shall furnish to the Railroad Engineer evidence that the Contractor's insurance is in compliance with Section 6 of this special provision.

4.5 The Contractor shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from Contractor's operations; to promptly repair eroded areas within Railroad's ROW and to repair any other damage to the property of the Railroad or its tenants which may result from Contractor's operations. All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense. If the Contractor's method of erosion control differs from the approved plans, the Contractor shall

submit a proposed method of erosion control and have the method reviewed by the Railroad and Commission prior to beginning any grading work on the Project site. Erosion control methods must comply with all applicable local, state and federal regulations.

4.6 The Contractor shall, reasonably throughout each work day and at the end of each work day when performing work near the Railroad's tracks, inspect the track area and clean up any debris that may have been dropped on or within ten (10) feet of Railroad's tracks. Upon completion of the Project, the Contractor shall return the Railroad ROW and all other Railroad property to a condition equal to or better than existed prior to commencement of the work. Contractor shall remove all waste, excess materials, false work and other temporary structures, and equipment, leaving the location of the work cleaned to the reasonable satisfaction of Railroad. The Contractor shall repair to the reasonable satisfaction of Railroad Engineer, and at the Contractor's sole cost and expense, any and all damages to the Railroad's property caused during construction of the Project.

5.0 Site Inspections By Railroad's Designated Representative.

5.1 In addition to the office review of construction submittals, site inspections may be performed by Railroad's Designated Representative at milestone events during construction, including but not limited to the following:

- (a) Preconstruction meetings.
- (b) Excavations, shoring placement/removal, pile driving, drilling of caissons or drilled shafts adjacent to tracks.
- (c) Reinforcement and concrete placement for near track piers.
- (d) Erection of precast concrete or steel overpass bridge superstructure.
- (e) Reinforcement and concrete placement of overpass bridge decks.
- (f) Completion of the bridge structure.

5.2 The Railroad Designated Representative can either be an employee of the Railroad or a hired outside consultant. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railroad.

5.3 In addition to the project schedule required by the Commission, the Contractor shall provide to the Engineer a detailed construction schedule for its work on Railroad ROW, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to be performed on Railroad ROW. The Contractor shall submit a copy of this detailed construction schedule to Railroad's Designated Representative for review prior to the start of the work. This schedule shall also include the anticipated dates when the milestone events listed in subsection 5.1 will occur. The Contractor shall update the schedule for these milestone events as necessary, but at least monthly, and shall provide a copy of all updates to the Railroad so that site visits may be scheduled. The Commission shall reimburse the Railroad all costs associated with Site Inspection work by the Railroad.

6.0 Safety and Railroad Flagging.

6.1 The safe operation of the Railroad shall take precedence over Commission's work on, under and above the Railroad ROW. Contractor shall not, without Railroad's prior consent, come within 25 feet of Railroad's tracks. All work of the Contractor to be performed on, above, below or adjacent to the Railroad ROW shall be coordinated with Railroad so as to avoid, to the greatest extent possible, interference with railroad operations and to assure, at a minimum, sufficient advance notice to Railroad to ensure operational safety. Contractor shall be solely responsible with complying with any applicable laws, rules and regulations, including but not limited to OSHA regulations governing multi-employer work sites.

6.2 While on the Railroad's ROW, Contractor shall comply with Railroad's rules and regulations concerning protection of persons and property. Railroad shall make its applicable rules available to the Contractor for review and copying.

6.3 Except as authorized by Railroad the Contractor shall not work within the "Minimum Clearance Zone" of any track. The "Minimum Clearance Zone" is defined as an area measured 25 feet, horizontally, on either side of the centerline of track with unlimited vertical distance within the horizontal limits. Additionally, Contractor will locate all equipment, devices, and materials at a sufficient distance from any track to ensure that no apparatus or part of any equipment, device, or material, such as the boom of a crane or a dragline, could under any circumstances encroach on the "Minimum Clearance Zone" of any track. A railroad flagger will also be required when any equipment or its attachment or booms, even though stationed outside the above-mentioned 25 feet of the nearest rail but within the railroad ROW, has a potential to come within the 25 feet of the nearest rail.

6.4 Flagging services provided by a Railroad-qualified flagging contractor will be required whenever agents, employees or equipment of the Contractor or any of its contractors or subcontractors on this Project shall be within twenty-five feet (25') of the nearest rail or if conditions as noted in item 6.3 above arise, unless specifically waived in writing by the Railroad.

6.5 Contractor shall notify the Railroad concerning any flagging services that will be required during the course of the Project, but the Contractor shall make all arrangements for flagging protection directly with a Railroad-qualified flagging contractor. Railroad's designation of a flagging contractor as a "Railroad-qualified" flagging contractor shall be construed solely as Railroad's willingness to allow that flagging contractor to provide flagging services on Railroad's property without further proof of qualification, and shall not be construed as an endorsement or other verification of the abilities or qualifications of that flagging contractor. Under these Railroad Requirements, all flagging contractors utilized on the Project shall be treated solely as independent contractors of the Contractor for all purposes under these Railroad Requirements.

6.6 The Contractor shall contract directly with any of the Railroad-qualified flagging contractors and pay them directly. The Contractor shall provide at least one month's notice prior to the first use of flaggers. Current Railroad-qualified flagging contractors are:

RailPros, Inc.

David Allen

Manager of RWIC Operations – 601-502-6485

david.allen@railpros.com

Ellis Smith

Field Supervisor – 417-362-9007

Jamie Ferguson

Field Supervisor – 903-556-5433

6.7 Contractor may also obtain a list of Railroad-qualified flagging contractors together with their address and telephone numbers for flagging purposes at the proposed site by written request, sent at least 30 (thirty) days in advance, by U.S. mail or by e-mail addressed to:

Sri Honnur, P. E.
Engineering Department
427 West 12th Street
Kansas City, MO 64105
SHonnur@KCSouthern.com
Office: 816-983-1138

6.8 Contractor shall clear the tracks when directed to do so by the flagger. The presence of the flagger will not relieve Contractor of its duty to keep all of its agents, employees and contractors clear of the tracks when trains are in dangerous proximity to the area where construction is occurring.

6.9 All Contractor employees and supervisors who will routinely perform work within the Railroad ROW, except any personnel employed or assigned by a Railroad-qualified flagging contractor, shall be trained with reference to the Railroad's On Track Safety Rules. Contractor shall provide the accommodations for this classroom training at its own expense, and shall pay any and all applicable fees for this training by a Railroad certified training consultant. The approximate fee for this training is currently \$2,200 for training up to 30 individuals, including travel cost of the instructor. The consultant can be contacted at:

TrackSense Inc.
308 Durst Dr. Warren, OH 44483
Phone: (330) 847-8661; Cell: (330) 219-4721;
Attention: Larry Slater
Email: lslater@neo.rr.com

6.10 All railroad tracks within and adjacent to the Project site are active, and rail traffic over these facilities shall be maintained throughout the Project. Railroad signal facilities within the project limits shall be protected at all times. KCS shall be notified if any of its facilities are in conflict with the planned work. Activities may include both through moves and switching moves to local customers. Railroad traffic and operations will occur continuously throughout the day and night on the tracks. The Contractor shall coordinate and schedule the work so that construction activities do not interfere with railroad operations. Any and all costs associated with delays caused to the train traffic by the Contractor shall be reimbursed by the Contractor. The Commission or the Contractor may audit these costs.

6.11 The Contractor shall notify Railroad of the completion of work on Railroad ROW within 30 days after the completion of work on Railroad ROW. Railroad shall inspect Railroad's property within 30 days after the Contractor has given this notice, to verify the Contractor's compliance with these Railroad Requirements. Railroad shall notify the Engineer of any outstanding issues to be addressed on Railroad ROW. Engineer will notify the Contractor of work to be completed.

7.0 Insurance Requirements. The amount of work to be performed upon, over or under Railroad's right of way is estimated to be one (1) percent of the Contractor's total bid for the Project. In addition to any other forms of insurance or bonds required under the terms of the

contract and specifications, the Contractor shall be required to carry insurance of the following kinds:

(a) Commercial General Liability Insurance, including contractual liability and products completed/operations, against claims arising out of bodily injury, illness and death and from damage to or destruction of property of others, including loss of use thereof, with minimum limits for bodily injury and property damage of \$2,000,000 for each occurrence, with an aggregate of \$6,000,000.

1. The definition of "insured contract" shall be amended to remove any exclusion or other limitation for any work being done within 50 feet of railroad property.

2. No other endorsement limiting the coverage required by paragraph (a) of section 7.0 of these Railroad Requirements shall be included on the policy with regard to the work being performed under the contract between the contractor and the Commission.

(b) Business Automobile Policy Insurance, including owned, non-owned, and hired vehicles with minimum limits for bodily injury and property damage of \$1,000,000 per occurrence, on all vehicles used on Railroad's property during the term of the contract between the contractor and the Commission.

(c) Worker's Compensation Insurance or coverage as required under the Worker's Compensation Act of the State of Missouri. The policy shall include occupational disease to required statutory limits, employer's liability of \$1,000,000 to include FELA, if appropriate, and an "all states" endorsement.

(d) A Railroad Protective Liability policy issued in the name of the Railroad with limits of \$2,000,000 for bodily injury and property damage per occurrence, with an aggregate of \$6,000,000. The policy shall remain in force during the construction phase of the Project and shall be provided prior to start of work. The following provisions apply to the endorsements to this policy:

1. The policy shall be endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93).

2. The policy shall be endorsed to include the Limited Seepage and Pollution Endorsement.

3. The policy shall be endorsed to remove any exclusion for punitive damages.

4. The policy shall be endorsed to include Evacuation Expense Coverage Endorsement.

5. No other endorsements restricting coverage shall be added to the policy, except as authorized by paragraph 7.1.2 of these Railroad Requirements.

6. The Contractor shall provide the original policy to the Railroad before performing any work or services under the contract between the Contractor and the Commission.

7.1 Evidence of Insurance. The Declarations shall include the description of operations matching the Project description in the Contractor's contract with the Commission, and shall include the appropriate Commission project and contract identification numbers. The job number and Project location shall appear on the Declarations and shall include the city, state and appropriate highway designation as follows:

Route 87, Howard County, Glasgow, MO
Job No. J5P3258
Mexico Subdivision – Industry Lead, MP 381.15

7.1.1 The name and address of the Contractor shall appear on the Declarations. The name and address of the Commission shall be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party".

7.1.2 Other endorsements/forms that will be accepted are:

- (a) Broad Form Nuclear Exclusion – Form IL 00 21.
- (b) 30-day Advance Notice of Non-renewal or cancellation.
- (c) Required State Cancellation Endorsement.
- (d) Quick Reference or Index Form CL/IL 240.

7.1.3 Endorsements/forms that will NOT be acceptable are:

- (a) Any Pollution Exclusion Endorsement except CG 28 31.
- (b) Any Punitive or Exemplary Damages Exclusion.
- (c) Known injury or Damage Exclusion form CG 00 59.
- (d) Any Common Policy Conditions form.
- (e) Any other endorsement/form not specifically authorized in this special provision.

7.1.4 If any part of the work is sublet, similar insurance and evidence thereof as specified above, shall be provided by or on behalf of the subcontractor to cover the subcontractor's operations on the Railroad ROW, including such operations by any Railroad-qualified flagging contractor.

7.1.5 Prior to entry on the Railroad's ROW, the Contractor shall submit the original Railroad Protective Liability Insurance Policy to the Commission and to the Railroad at the addresses below, for review by the Commission and approval by the Railroad. In addition, the Contractor shall submit certificates of insurance evidencing the Contractor's and any subcontractor's Commercial General Liability Insurance to the Railroad and the Commission at the addresses below, for review by the Commission and approval by the Railroad. The certificates of insurance shall state that the insurance coverage shall not be suspended, voided, canceled or reduced in coverage or limits without 30 days advance written notice to the Railroad and the Commission. No work shall be permitted on the Railroad's right-of-way until the Railroad has reviewed and approved the evidence of insurance required herein.

Job No.: J5P3258

Route: 87

County: Howard

Railroad

Srikanth Honnur, P. E.
Track & Bridge Construction Director
The Kansas City Southern Railway Co.
427 West 12th Street
Kansas City, MO 64105
P.O. Box 219335
Kansas City, MO 64121-9335

Commission

Mr. Dave Ahlvers
State Construction & Material Engineer
MoDOT
P.O. Box 270
Jefferson City, MO 65102

8.0 Failure to Comply. If the Contractor violates or fails to comply with any of these Railroad Requirements, then the provisions in paragraphs (a) and (b) of this section shall apply, and shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

(a) The Railroad Engineer may require that the Contractor shall vacate the Railroad's property.

(b) The Engineer may withhold all monies due to the Contractor until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

9.0 Payment for Cost of Compliance. No separate payment will be made for any extra cost incurred by the Contractor on account of compliance with these Railroad Requirements. The Contractor shall include all such costs in its contract unit price for other items included in its contract with the Commission.

I. Katy Trail Access

1.0 The contractor shall maintain access to the Katy Trail parking area and to the trail crossing on Route 87 at all times. The contractor shall stage construction in order to allow vehicular access to the parking area as well as non-motorized access to the trail and the trail crossing at Route 87. The contractor shall not use the Katy Trail parking area for staging equipment unless approved by the engineer.

1.1 The contractor shall provide any necessary additional traffic control required to safely maintain Katy Trail access. This may include, but is not limited to, flaggers, roadway signing or bike/ped signing.

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

J. Optional Pavements

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

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

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

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

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

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

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

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

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

K. Optional Shoulder JSP-13-03

1.0 The bid item for the shoulder material is for the bituminous asphalt option, however, a Concrete Shoulder option is allowed as shown on the typical section and as specified herein.

1.1 Should the contractor choose to construct the Concrete Shoulder option, notification should be given to the engineer in advance of the work so that a change order can be issued to facilitate payment of the Concrete Shoulder with a contingent item as specified herein.

1.2 For the Concrete Shoulder option, a zero-cost change order will be issued to deduct the theoretical tonnage of asphalt mixture necessary to construct the shoulder, and a contingent item for the total volume of Concrete Shoulder will be added to the change order. The engineer will determine the theoretical tonnage of asphalt and the total cubic yards of Concrete Shoulder. No additional payment will be made for a Concrete Shoulder rumble strip.

1.3 The theoretical tonnage of asphalt will be determined by converting the theoretical volume to weight using a factor of 1.98 tons/cubic yard. The theoretical volume is the total amount of asphalt material needed to construct the shoulder and Safety Edgesm, according to the typical section.

1.4 The tonnage will be deducted from the contract and replaced with the computed volume of Concrete Shoulder (cubic yards). The contingent item for Concrete Shoulder would include both providing and placing the Concrete Shoulder. The total price for the concrete shoulder will

be equivalent to the computed total price of the theoretical tonnage of asphalt mixture necessary to construct the shoulder. A unit price will be determined by dividing the total concrete price by the total computed concrete volume.

2.0 Construction Requirements. Concrete Shoulder shall meet the applicable requirements of Sec 502. Roller Compacted concrete is an allowable option for the Concrete Shoulder.

3.0 Method of Measurement. For the Concrete Shoulder option, measurement shall be made per cubic yard.

4.0 Basis of Payment. For the Concrete Shoulder option, the accepted quantity of Concrete Shoulder will be paid for at the established unit price. The Concrete Shoulder rumble strip will be paid for at the unit price bid for the bituminous shoulder rumble strip.

L. Modified Linear Grading Class 2

1.0 Description. Modified Linear Grading, Class 2 shall consist of preparing the shoulder subgrade by excavating, compacting, fine-grading, and shaping existing shoulder and ditch fore-slope, conforming to the typical section shown on the plans. It may also be necessary to haul material and involve work on high banks, side hills, and rock outcroppings. Modified Linear Grading Class 2 shall also consist of hauling embankment material to the project or obtaining embankment material from the right of way as approved by the engineer to accommodate the 2 foot shoulder widening and inslope as shown in the plans.

2.0 Construction Requirements. Embankment construction shall be in accordance with applicable requirements of Section 203 or similar methods approved by the engineer in order to produce a stabilized roadway embankment. The shoulder shall be excavated and graded as shown on the typical section with minimal disturbance of the existing sub-grade and fore-slope, except where new embankment or rock fill is required. Embankment and subgrade density shall be obtained from reasonable compactive efforts consisting of no less than three passes with a roller until no further visible compaction can be achieved, or by other methods approved by the engineer. Subgrade preparation and compaction shall also be in accordance with Sections 209 and 210.

2.1 Following placement of the shoulder pavement, the shaping of the fore-slope shall be done as shown on the typical section.

2.2 All ditches shall maintain existing flow direction and provide adequate capacity for drainage, as approved by the engineer. All ditches shall use existing drainage structures unless shown otherwise in the project documents. Slopes can be steepened if necessary to use existing drainage structures as approved by the engineer.

2.3 It may be necessary to go outside the limits of the right of way to obtain additional material or to dispose of excess material. All costs for providing additional material or disposing of excess material shall be included in contract unit price for item MODIFIED LINEAR GRADING, CLASS 2.

2.4 For areas where it is required to haul embankment material to the project to accommodate the 2 foot shoulder widening and inslope, the top 6 inches of embankment material shall be Class A material in areas where the adjacent property owners mow and/or maintain the right of

way or as directed by the engineer. The Class A material shall be free of rocks and other materials undesirable for growing grass.

2.5 Included in this work is any pavement edge treatment that might be necessary in order to stay in compliance with the Standard Plans. The need for edge treatment is determined by the contractor's method of operations.

3.0 Method of Measurement. Final measurement will not be made except where appreciable errors are found in the contract quantity.

3.1 Where required, measurement will be made to the nearest 1/10 Station for the length of the shoulder along each side of the roadway, measured along centerline of the traveled way and totaled to the nearest Station for the sum of all segments.

3.2 If material is encountered that may be classified as other than Class A Excavation as described in Sec 203.2.1, the limits of linear grading will not be underrun. Material classified as other than Class A Excavation will be measured and paid for per cubic yard in accordance with Sec 203.8. Where undergrading is necessary, backfilling of the undergraded area will be considered as part of the linear grading operation.

4.0 Basis of Payment. Payment for MODIFIED LINEAR GRADING, CLASS 2 as described in this provision will be made at the contract unit price for item 207-99.09, "MODIFIED LINEAR GRADING, CLASS 2", per stations.

M. Shoulder Widening for Narrow Lanes

1.0 Description. A minimum of 10.5 feet between edgeline and centerline rumbles is required. There may be locations within the project limits where this requirement is unattainable once the vertical face is cut. In these areas, the edgeline rumble and edgeline pavement marking shall be shifted further onto the shoulder to meet the spacing requirement. Also, the shoulder shall be widened in these areas to maintain one (1) foot of shoulder width from the outside edge of the edgeline rumble strip as shown in the plans. Both the shoulder widening and edgeline rumble placement shall only be permitted as approved by the engineer.

2.0 Basis of Payment. An additional 10 percent is added to the optional shoulder pay item quantities to accommodate this widening. No additional payment will be made for labor, materials or time required to grade and construct the wider shoulders.

N. Pavement Edge

1.0 Description. The contractor's excavation method of the shoulder material shall provide a clean and vertical edge along the existing pavement.

2.0 Construction Requirements. At the beginning of the excavation of the existing shoulder, the contractor shall demonstrate his excavation method to the engineer for his approval. The operation shall provide a neat and clean vertical line without damaging the existing pavement.

2.1 If the contractor's grading operation is not able to provide a suitable edge for shoulder construction, the engineer may determine a saw cut is necessary. This requirement shall not be

considered a change of condition and justification for a claim. There will be no direct payment for the saw cut if necessary.

3.0 Basis of Payment. No direct payment will be made to the contractor for the above requirements. All costs incurred by the contractor for labor, equipment and materials in compliance with the above requirements shall be considered incidental to and completely covered by other items in the contract.

O. Pavement Edge Treatment for Drop Off Conditions

1.0 Description. The contractor shall conduct his grading operations so that there is not a drop off exceeding 2 inches exposed to traffic. Treatment of any edge drop off greater than 2 inches shall be considered incidental to and completely covered by the other items in the contract. There will be no direct payment for Pavement Edge Treatment on this project.

P. Bridge End Transitions

1.0 At all bridge exceptions, the engineer will determine in the field the ending point of the transition. This point will not necessarily be at the bridge end, but will be located at a point which provides the smoothest transition and approach to the bridge.

Q. Sealing Treatment

1.0 Description. This work shall consist of furnishing and applying a surface sealing treatment to the existing roadway as shown on the plans. The surface treatment shall contain a mixture of cationic asphalt emulsion, latex polymer, mineral fines , water, and other additives as needed.

2.0 Mix Design.

2.1 At least 30 days prior to placing the surface sealing treatment on the project, the contractor shall submit a mix design for approval to Construction and Materials. One gallon of the asphalt emulsion and 2500 grams of mineral fines representing the gradation shall be submitted with the mix design.

2.2 Required Information. At a minimum the Surface Sealing mix design shall contain the following information on the job mix formula:

(a) Emulsified asphalt source and properties required.

(b) Mineral fines source .

Mineral fines gradation required.

(c) Mixture performance test results required.

(d) Additives and their sources required.

2.3 Mix Design Gradation Requirement. The fine mineral that comprise the combined

gradation shall have 100 % of the material passing the No. 30 (600 µm) (sieve. For spraying applications, the following mix gradation shall be required:

| Sieve | Percent Passing |
|------------------|-----------------|
| No. 30 (600 µm) | 100 |
| No. 50 (300 µm) | 80-100 |
| No. 100 (150 µm) | 90-100 |
| No. 200 (75 µm) | 95-100 |

2.4 Mixture Performance Requirements. The mixture shall meet the following requirements.

| Testing Requirement | Min. | Max. | Test Method |
|--|------|---------------------|-------------------------------------|
| Maximum Wet-Track Abrasion Loss, grams per square meter. | -- | 80 g/m ² | TB 100 (ISSA) Modified ^a |
| Asphalt Content by Ignition Method, percent | 30% | -- | AASHTO T-308-08 ^b |
| Percent Solids, Asphalt Residue by Evaporation, percent | 40% | -- | AASHTO T59, Section 6 |

^aThis method is modified to a three day soak and samples prepared per MoDOT TM 86.

^bTo account for high percentage of binder, sample size should be adjusted based on laboratory oven capability.

2.5 Required Additives. A minimum of 3% latex polymer by weight of wet mixture is required in the surface sealant treatment and shall be listed in the job mix formula.

2.6 Other Additives. Any other material added to the mixture or to any of the component materials shall be listed in the job mix formula.

3.0 Material Certification.

3.1 The materials used in the mix design shall be certified to meet the following specifications.

3.2 Bituminous Material. The bituminous material shall be an asphalt emulsion in accordance with the following table. The bituminous material shall show no separation after mixing. The emulsion shall be sampled in accordance with AASHTO T 40.

| Asphalt Emulsion (CSS) | | | |
|--|-----------------------|-------------|--------------------|
| | Min. | Max. | Test Method |
| Viscosity, Saybolt Furol at 25 C, s | 15 | 100 | AASHTO T 72 |
| Particle charge test | Positive ^b | | AASHTO T 59 |
| Residue, % | 60 | -- | AASHTO T 59 |
| Test on Residue from Distillation | Min. | Max. | Test Method |
| Penetration, 25 C, 100 g, 5 s, | 30 | 100 | AASHTO T 49 |

^bIf the particle charge test is inconclusive, material having a maximum pH value of 6.7 will be acceptable.

3.6 Water. Water shall be potable and free of harmful soluble salts.

4.0 Construction Requirements.

4.1 The surface sealing mixture may be mixed and applied through mobile distribution equipment as described herein.

4.2 Mixing Equipment. All materials shall be thoroughly mixed as to produce a homogenous surface treatment. Individual volume or weight controls for proportioning each material in the mix shall be provided. Materials shall be added by a calibrated controlled device capable of monitoring the amount of material used at the time.

4.3 Distribution Equipment. The Distributor shall be equipped with a full sweep agitation system, a pumping system designed to handle fine aggregate mixes, and sufficient power to operate the full spray system and the agitation system at the same time. The Distribution equipment shall be equipped with a monitoring system that ensures the even distribution of material and measures the application rate of the mix.

4.4 Storage Tanks. If the mix is being delivered from a central mixing plant, then a job site storage tank shall have the minimum capacity of the entire transport load. The storage tank shall have an internal full sweep mixing system having a mixing capability of providing a homogenous mix representing the mix design at any given location within the tank.

4.5 Environmental Protection. The contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment.

4.6 Weather Limitations. Bituminous material shall not be placed on any wet surface or when the ambient temperature or the temperature of the pavement on which it is to be placed is below 60° F. Temperatures shall be obtained in accordance with MoDOT Test Method TM 20.

4.7 Surface Preparation. The surface shall be thoroughly cleaned immediately prior to placing the surface treatment.

4.8 Protection of Other Surfaces. All curbs, manhole covers, and ADA facilities shall be protected from the spray or laydown of the bituminous mixture during placement.

4.9 Dilution. The bituminous material shall not be diluted in the field with water or other additives except as approved by the manufacturer.

4.10 Placement. Placement of the mix shall be in one pass on rumble strips or chip seal surfaces only. The minimum total coverage shall be 0.18 gallons per square yard.

4.11 Opening to Traffic. After the sealant application, the roadway shall remain closed until the surface is tack-free and capable of being open to traffic without tracking.

4.12 Basis of Acceptance.

4.12.1 Quality Control. Two samples shall be collected during production on a project. One sample shall be retained for the engineer. The contractor shall test the other sample and verify the mix design in accordance with Section 2.4 of this specification and submit the test results to the engineer.

4.12.2 Field Performance. The finished surface sealant treatment shall be evaluated by the engineer based on the following criteria. Any of the following shall be considered unacceptable material.

(a) The presence of loose aggregate or synthetic materials that may cause damage to traveling vehicles.

(b) A final surface with insufficient coverage or delamination.

5.0 Method of Measurement. Final measurement of the surface treatment will not be made except for authorized changes during construction, or where appreciable errors are found in the contract quantity. Where required, measurement of the surface treatment, complete in place, will be made to the nearest square yard. The revision or correction will be computed and added to or deducted from the contract quantity.

6.0 Basis of Payment. The accepted quantity of surface treatment, in place, will be paid for at the contract unit (square yard) price. No separate payment will be made for any additional construction methods or processes. Manufacturer shall report the unit weight (lbs/gallon) of the surface sealing material on the bill of lading.

R. Guardrail Grading Requirements JSP-17-02B

1.0 Description. Guardrail installation and grading shall be in accordance with Missouri Standard Specifications for Highway Construction, Missouri Standard Plans for Highway Construction, and as described herein.

2.0 Construction Requirements. When guardrail and/or end treatment removal and replacement requires grading of the shoulder and/or slopes, Section 606.3.1(b), (c), and 606.3.1.1 of the Missouri Standard Specifications shall be waived and the following shall apply:

a) Along roadways and shoulders, remove no more guardrail than can be reconstructed within seven (7) calendar days, including weekends and holidays. The seven day counting period shall start when the first piece of safety hardware is removed.

b) The active work zone area that encompasses the guardrail and/or end treatment reconstruction, shall not exceed one (1) mile in length. The contractor shall be required to provide and maintain approved channelizing devices adjacent to the reconstruction area.

c) Only one-side of the roadway shall be worked on at the same time. Divided facilities shall be limited to work on one-side of each direction at the same time.

d) When the removal of any existing safety hardware device exposes non-breakaway obstacles, the reconstruction of the safety hardware device protecting the obstacle shall be replaced within 48 hours of removal or an approved temporary crashworthy device shall be provided, installed and maintained at the contractor's expense until the non-breakaway obstacle is permanently protected. The 48 hour counting period shall start when the first piece of safety hardware is removed.

e) Areas where guardrail and/or end treatments have been removed, but not yet replaced, shall be delineated in accordance with plans or as directed by the Engineer.

3.0 Non-Compliance. Non-compliance with this provision shall result in the immediate suspension of work in accordance with Sec 105.1.2. No work, including but not limited to additional guardrail removal and grading, shall be allowed to proceed except for work necessary to restore guardrail installation.

4.0 Basis of Payment. No direct payment will be made for compliance with this provision. Guardrail items, grading, and temporary traffic control devices will be paid for as provided in the contract.

S. Temporary Erosion Control

1.0 Description. Erosion control measures on this project shall be in accordance with Sec 806. No erosion control plans were developed for this project. The contractor is given an assumed amount of erosion control as follows:

1,000 linear feet of silt fence per mile of road
300 linear feet of rock ditch checks per mile of road
20 linear feet of alternate ditch checks per mile of road
10 cubic yard of sediment traps per mile of road

2.0 Construction Requirements. Prior to beginning construction, the contractor shall meet with the engineer to plan and develop an erosion control plan for this project using the erosion control devices included in the contract. Any revision of the erosion control plan shall be approved by the engineer in writing.

2.1 The finishing grading and permanent seeding shall follow closely behind the final shoulder paving. All disturbed areas shall be permanently seeded within two weeks once the adjacent section of shoulder is paved.

2.2 The existing strip of vegetation between the right of way line and the slope limits is part of the erosion control for this project and is not to be disturbed. If the engineer determines that this

strip was disturbed by the contractor's operations, the contractor shall provide the erosion control and permanent seeding at his expense.

3.0 Basis of Payment. Any labor, equipment, time, or materials necessary for temporary erosion control, shall be considered as completely covered by the unit price bid for the following Items:

806-10.04, Sediment Trap Rock, per cubic yard
806-10.05, Rock Ditch Check, per linear feet
806-10.06, Alternate Ditch Check, per linear feet
806-10.16, Sediment Removal, per cubic yards
806-10.19, Silt Fence, per linear feet

T. Mailboxes

1.0 Description. Removal and replacement of mailboxes within the project limits shall be in accordance with Sec 104.10.1 and as directed by the engineer. The contractor will be responsible for furnishing approved supports for postal patron's mailboxes. There will be no direct pay for approved supports, removal and replacement of mailboxes.

U. Adjust Existing Signs

1.0 Description. The contractor's attention is directed to the fact that **235** existing signs which interfere with construction of the shoulder widening; and/or signs whose final location will be substandard after shoulder widening; shall be removed, salvaged and reinstalled at approximately the same log mile location. Existing sign posts that are damaged during removal or do not comply with current standards shall be replaced as per standard 903.03BL of the Missouri Standard Plans for Highway Construction. It shall be the responsibility of the contractor to determine how many existing posts require replacement. Signs shall be placed at the standard height and offset from the finished edge of shoulder. New location of signs shall be as approved by the Engineer.

2.0 Basis of Payment. Payment for Adjust Existing Signs including all materials, labor and equipment required to fulfill this provision will be paid for at the contract lump sum price for pay item 903-99.01, "Adjust Existing Signs", per lump sum.

V. Pavement Marking Log

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

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

W. Temporary Short-Term Rumble Strips JSP-13-05E

1.0 Description. The work shall include furnishing, installing, maintaining, removing, and relocating the short-term rumble strips, as shown in the plans, or as designated by the engineer.

2.0 Material.

2.1 The short-term rumble strips shall be 10 to 12 feet in length, minimum of 8 inches wide, $\frac{3}{4}$ to $1\frac{1}{4}$ inch thick, fabricated from a polymer material, and orange in color.

2.2 The short term-rumble strips shall not curl or deform across the width of the strip, maintaining its rigidity.

3.0 Construction.

3.1 Each set shall consist of three individual strips spanning a single lane, spaced in accordance with the plans or as directed by the engineer. The short-term rumble strips shall be installed and removed in accordance with manufacturer's recommendation.

3.2 The contractor shall monitor, maintain alignment, and repair if needed the short-term rumble strips during construction. Short-term rumble strips shall not be placed on roadways when there are no workers present.

3.3 Strips shall not extend onto the shoulder without the approval of the Engineer.

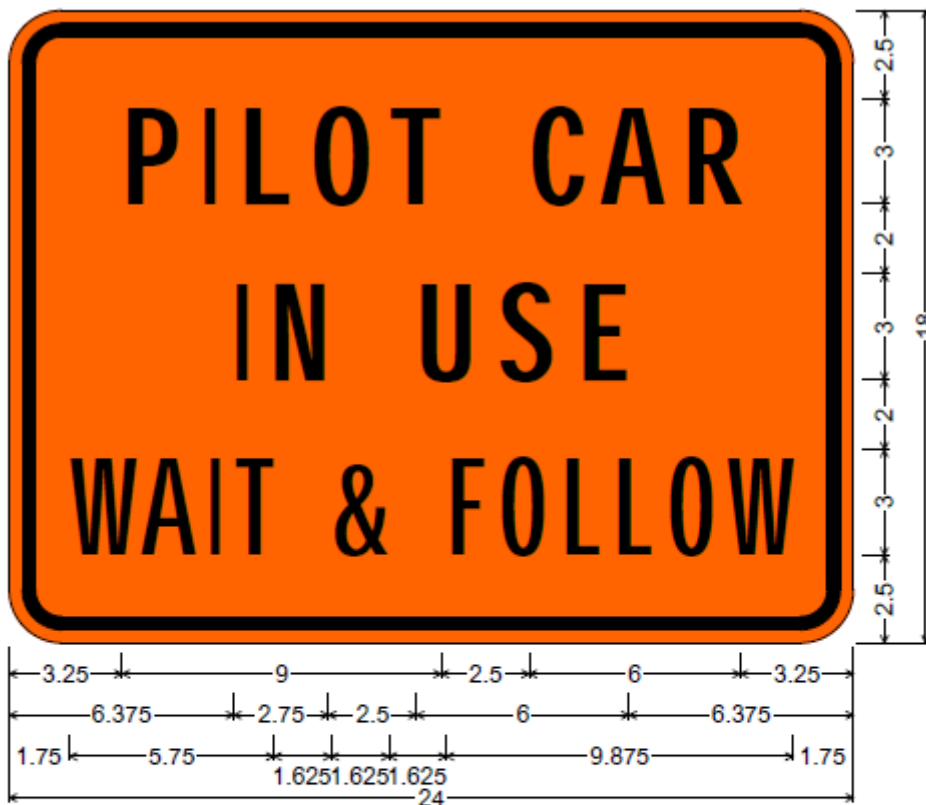
4.0 Method of Measurement. Measurement of short-term rumble strips will be based per each set.

5.0 Basis of Payment. The accepted quantity of Temporary Short-Term Rumble Strips sets will be paid for at the contract unit price for 616-20.04, Temporary Short-Term Rumble Strips, per each set. The short-term rumble strips unit bid price shall include the cost of all labor, equipment and materials to install, maintain, remove and relocate the rumble strips during the construction of the project.

X. Pilot Car in Use – Wait and Follow Sign NJSP-1803

1.0 Description. The sign shown below shall be printed on 4 mm corrugated plastic or similar and supported with a 10"x30", 9 gauge, galvanized steel H-frame, or similar. This sign shall only be used at private and commercial entrances to enhance the work zone signing, and will not be permitted for use on intersecting state, county or city roads.

2.0 Method of Payment. Signs shall be contractor furnished/contractor retained. The cost of the signs and stands are incidental to other traffic control items.



1.500" Radius, 0.375" Border, 0.375" Indent, Black on Orange;
 "PILOT CAR" C; "IN USE" C; "WAIT & FOLLOW" B 80% spacing;
 Table of letter and object lefts.

| | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|
| P | I | L | O | T | C | A | R |
| 3.250 | 5.500 | 6.500 | 8.500 | 10.750 | 14.750 | 16.750 | 19.125 |
| I | N | U | S | E | | | |
| 6.375 | 7.375 | 11.625 | 13.875 | 16.125 | | | |
| W | A | I | T | & | | | |
| 1.750 | 3.750 | 5.625 | 6.375 | 9.125 | | | |
| F | O | L | L | O | W | | |
| 12.375 | 13.875 | 15.750 | 17.250 | 18.750 | 20.375 | | |

Y. Additional Flaggers

1.0 Additional flagger(s) and appropriate construction signs shall be provided at each of the specified locations when the work zone extends through the following intersections and/or approaches:

All state routes, county roads and city streets

2.0 Basis of Payment. There will be no direct pay for all labor and equipment necessary to provide additional flaggers. All cost shall be considered completely covered under the pay items provided in the contract.

Z. Fertilizing, Seeding and Mulching

1.0 Fertilizing shall conform to Sec. 801 and more specifically as follows:

| | |
|----------------|------------------------------|
| Route | Route 87 |
| County | Howard |
| Project | J5P3258 Shoulder widening |

| Pounds per Acre | | | |
|-------------------------|---|------------------------------------|--|
| Nitrogen (N) | Phosphorous (P₂O₅) | Potash (K₂O) | Effective Neutralizing Material |
| 80 | 80 | 160 | 0 |

2.0 Seeding shall conform to Section 805 and the rate of application shall be as follows:

| Cool Season Mixture Pounds Pure Live Seed (PLS) per Acre | |
|---|---------------------|
| Tall fescue | 80 lbs. |
| Annual ryegrass | 5 lbs. |
| Teff Grass | 5 lbs. |
| Perennial ryegrass | 6 lbs. |
| White clover | 6 lbs. |
| Oats | 10 lbs. |
| TOTAL | 112 PLS/acre |

3.0 Mulching shall conform to Section 802 and more specifically the contractor shall use vegetative mulch with mulch overspray.

4.0 Basis of Pavement.

4.1 No direct payment will be made for fertilizing or mulching seeded areas.

4.2 All cost incurred by the contractor for labor, equipment and materials in compliance with the above requirements including furnishing and placing fertilizer and mulch shall be considered as completely covered by the unit price bid for Item No. 805-1000A, "Seeding – Cool Season Mixtures", per acre.

AA. Additional Mobilization for Seeding NJSP-16-03

1.0 Description. This provision provides compensation for additional mobilization for seeding, as specified herein.

2.0 Additional Mobilization for Seeding. Additional mobilization to perform temporary or permanent seeding, beyond the initial occurrence, may be necessary as specified in Sec 806.50.2 and as required per terms of the SWPPP. Mobilization of all equipment, workers and materials necessary to perform seeding and mulching shall be considered included in this work.

2.1 Measurement of the number of occurrences authorized by the engineer to mobilize equipment onto the project to perform temporary or permanent seeding will be made per each

occurrence, except for the initial occurrence and as specified herein. No measurement will be made for mobilization necessary to perform repair work to previously seeded areas or for mobilization necessary due to removal of equipment prior to completion of seeding all areas available for seeding, as determined by the engineer.

3.0 Basis of Payment. The accepted occurrences of Additional Mobilization for Seeding will be paid for under 618-99.02, ADDITIONAL MOBILIZATION FOR SEEDING, at a fixed unit price of \$600 per each occurrence. Payment for the initial occurrence to mobilize for seeding, and any additional mobilization costs in excess of the fixed price, shall be considered completely covered under other items.

BB. Contractor Quality Control for Plant Mix Bituminous Surface Leveling NJSP-15-21A

1.0 Description. The contractor shall provide Quality Control (QC) testing and shall perform verification procedures associated with the production and placement of Plant Mix Bituminous Surface Leveling Mixture in accordance with this provision.

2.0 Asphalt Plant Requirements. The contractor shall perform quality control testing in the production of the Surface Leveling Mixture and report the results electronically on MoDOT-provided forms. All reports shall include the Contract ID, Project Number, Route, County, and Job Mix number.

2.1 Calibration of the asphalt plant shall be in accordance with Sec 403.17.2.2. Record retention for verification of test reports shall be in accordance with Sec 403.17.3.2.

2.2 At a minimum, the contractor shall perform one QC sieve analysis test for each day of production of Surface Level mixture in excess of 100 tons to verify the aggregate is within the required gradation range. Results of the QC sieve analysis test shall be reported to the engineer daily. A split of each sample shall be clearly labeled and stored by the contractor in a manner that prevents contamination. The engineer will collect a minimum of one random QC split sample, and one full sample from plant production, for testing per each 10,000 tons of production. Uncollected QC split samples shall be retained by the contractor until the engineer authorizes disposal or until the Final Inspection, whichever occurs earlier.

2.3 The contractor shall monitor the quantity of asphalt binder used in the production of the mix, including any commercial mix, and report that quantity to the engineer. Original asphalt binder delivery tickets shall accompany the report submitted to the engineer. The engineer will perform a minimum of one asphalt binder content test per each 10,000 tons of production for any project that exceeds a total of 5,000 tons of production.

2.4 The contractor shall take a daily QC sample of the asphalt binder per instructions in Section 460.3.13 of the EPG. The engineer will collect the QC samples and ship to the MoDOT Central lab for random testing. In addition, the engineer will take a minimum of one random Quality Assurance sample per project from the binder line. The engineer sample will be shipped to the Central Lab along with the daily samples and will be designated for testing.

2.5 The contractor shall perform one moisture content test for each day of production of Surface Level mixture in excess of 100 tons. The frequency of the moisture test may be reduced if approved by the engineer.

3.0 Roadway Requirements. The contractor shall perform quality control verification of the Surface Leveling Mixture on the roadway and shall monitor the asphalt tonnage placed in relation to plan quantity.

3.1 Irregularities. Additional tons of Surface Leveling mix will be provided for irregularities in the existing roadway surface. The tonnage specified for irregularities is an estimated quantity and shall only be placed at locations where it is necessary to fill ruts and other low points. Prior to placing the mix, the contractor and engineer shall evaluate the entire route and develop a plan that best utilizes the tonnage needed for irregularities. Any excess quantity of irregularities shall not be placed.

3.2 Tack. On the first day of production, the contractor shall demonstrate proper application of tack coat in the presence of the engineer. Thereafter, when the engineer is not present to witness the application of the tack coat, the contractor shall document the tack application by taking a minimum of two high-resolution date/time stamped photographs of the tacked surface per one-mile segment. Pictures should be taken just in front of the paver in order to account for loss of tack from truck tires. The contractor shall also monitor and document the application rate. The contractor shall take distributor readings at the beginning and ending of each shift and document the quantity used.

3.3 Spreading and Rolling. On the first day of production, the contractor shall demonstrate successful spreading and compaction of the mixture, including proper rolling patterns, in the presence of the engineer. Thereafter, the contractor shall monitor all roadway production procedures and document daily. Use of approved Intelligent Compaction technology is an allowable substitute for daily documentation.

3.4 Monitoring of Quantity. The contractor shall monitor the quantity of Surface Level mix placed and report that information to the engineer and production staff as specified herein.

3.4.1 The contractor shall verify that the quantity of Surface Leveling mix in the contract for each route is sufficient to cover the roadway as shown on the typical sections, including any surface irregularities. Any discrepancies shall be brought to the engineer's attention in writing prior to the pre-construction conference. Plan quantity shall be defined as the total tons computed to cover the surface area according to the typical section, plus any amount pre-approved by the engineer for pavement irregularities.

3.4.2 The contractor shall provide temporary log mile reference points at no less than ½ mile intervals along each route to monitor the tons of Surface Leveling mix laid in relation to plan quantity. Entrances, shoulders, or other irregular areas will be monitored as directed by the engineer.

3.4.3 During production, the contractor shall document the total tons placed in each one-mile segment, along with the plan quantity and the percent over/under for that segment. The cumulative quantity and percent over/under for the route should also be documented. After each one-mile segment, the contractor shall provide a status report to the production manager and the engineer. When the engineer is not present on the project, the contractor shall send an electronic status report to the engineer.

3.4.4 The goal is to keep the placed quantity within 2% of plan quantity for the project. The engineer will monitor the status reports and will advise the contractor on how to proceed when

there is an excessive variance from plan quantity. The engineer may decrease the frequency of the electronic status reports when the variances are consistently low.

3.4.5 The contractor shall collect asphalt tickets from the delivery trucks and group them per each one-mile segment. The contractor shall submit to the engineer a daily summary report that includes all of the information specified in Section 3.4.3. The contractor shall sign the summary report confirming that the information is accurate and that the attached tickets represent the asphalt material placed.

3.4.6 The contractor shall be equipped with a contractor-furnished cellular device capable of providing and maintaining a reliable means of immediate communication with the engineer when the engineer is not present on the project.

4.0 Excessive Quantity. If the contractor places Surface Level mix on any one-mile segment, or any other isolated areas, in excess of plan quantity by 5% or more, without prior approval from the engineer, further investigation may be required to determine if the excess was warranted. If directed by the engineer, the contractor shall core the pavement at locations established by the engineer to determine the amount that was excessive, if any. No payment will be made for the cost to core the pavement or for the tons of Surface Level mix that the engineer determines to be excessive. If the amount of Surface Level mix is determined to be justified, payment will be made for the mix, and for the cost of coring at the fixed price established in Sec 109. Placement of asphalt in excess of plan quantity for two consecutive segments without prior approval from the engineer may result in issuance of an Order Record to stop work.

5.0 Basis of Payment. No direct payment will be made for compliance with this provision. All costs shall be considered completely covered under the pay items provided in the contract.

CC. Contractor Quality Control NJSP-15-42

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

2.0 Quality Control Plan.

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

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

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

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

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

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

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

4.0 Work Planning and Scheduling.

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

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

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

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

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

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

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

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

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

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

 **REVISED** DD. Stormwater Compliance Requirements JSP-15-04~~AB~~

1.0 Description. This provision requires the contractor to provide a Water Pollution Control Manager (WPCM) for any project that includes areas of land disturbance that will total one (1) acre or greater on the project site at any point in time. When a WPCM is required, all sections within this provision shall be applicable, including assessment of specified Liquidated Damages for failure to correct Stormwater Deficiencies, as specified herein.

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

2.0 Water Pollution Control Manager (WPCM). The Contractor shall designate a competent person to serve as the Water Pollution Control Manager (WPCM) for projects meeting the description in Section 1.0. The Contractor shall ensure the WPCM completes all duties listed in Section 2.1.

2.1 Duties of the WPCM:

- (a) Be familiar with the stormwater requirements including the current MoDOT State Operating Permit for construction stormwater discharges/land disturbance activities; MoDOT's statewide Stormwater Pollution Prevention Plan (SWPPP); the Corps of Engineers Section 404 Permit, when applicable; the project specific SWPPP, the Project's Erosion & Sediment Control Plan; all applicable special provisions, specifications, and standard drawings; and this provision;

- (b) Successfully complete the MoDOT Stormwater Training Course within the last 4 years. The MoDOT Stormwater Training is a free online course available at MoDOT.org;
- (c) Attend the Pre-Activity Meeting for Grading and Land Disturbance and all subsequent Weekly Meetings in which grading activities are discussed;
- (d) Oversee and ensure all work is performed in accordance with the Project-specific SWPPP and all updates thereto, or as designated by the Engineer;
- (e) Review the project site for compliance with the Project SWPPP, as needed, from the start of any grading operations until final stabilization is achieved, and take necessary actions to correct any known deficiencies to prevent pollution of the waters of the state or adjacent property owners prior to the engineer's weekly inspections;
- (f) Review and acknowledge receipt of each MoDOT Inspection Report (Land Disturbance Inspection Record) for the Project within forty eight (48) hours of receiving the report and ensure that all Stormwater Deficiencies noted on the report are corrected within 7 days of the stormwater inspection or any extended period of time granted by the Engineer.

3.0 Pre-Activity Meeting for Grading/Land Disturbance and Required Hold Point. A Pre-Activity Meeting for Grading/Land Disturbance shall be held prior to the start of any land disturbance operations. No land disturbance operations shall commence prior to the Pre-Activity Meeting except work necessary to install perimeter controls and entrances. Discussion items at the pre-activity meeting shall include a review of the Project SWPPP, the planned order of grading operations, proposed areas of initial disturbance, identification of all necessary BMPs that shall be installed prior to commencement of grading operations, and any issues relating to compliance with the Stormwater requirements that could arise in the course of construction activity at the project.

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

4.0 Inspection Reports. Weekly and post run-off inspections will be performed by the engineer and each Inspection Report (Land Disturbance Inspection Record) will be entered into a web-based Stormwater Compliance database. The WPCM will be granted access to this database and shall promptly review all reports, including any noted deficiencies, and shall acknowledge receipt of the report as required in Section 2.1 (f.).

5.0 Stormwater Deficiency Corrections. All stormwater deficiencies identified in the Inspection Report shall be corrected by the contractor within 7 days of the inspection date or any extended period granted by the engineer when weather or field conditions prohibit the corrective work. If the contractor does not initiate corrective measures within 5 calendar days of the inspection date or any extended period granted by the engineer, all work shall cease on the project except for work to correct these deficiencies, unless otherwise allowed by the engineer. All impact costs related to this halting of work, including, but not limited to stand-by time for equipment, shall be borne by the Contractor. Work shall not resume until the engineer approves the corrective work.

5.1 Liquidated Damages. If the Contractor fails to complete the correction of all Stormwater Deficiencies listed on the MoDOT Inspection Report within the specified time limit, the Commission will be damaged in various ways, including but not limited to, potential liability, required mitigation, environmental clean-up, fines and penalties. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$2,000 per day for failure to correct one or more of the Stormwater Deficiencies listed on the Inspection Report within the specified time limit. In addition to the stipulated damages, the stoppage of work shall remain in effect until all corrections are complete.

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

~~**1.0 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.~~

~~**1.1 Applicability.** The Consent Decree and this provision apply to any project that includes land disturbance of areas totaling greater than one (1) acre on the project site. The project site consists of all areas designated on the plans, including temporary and permanent easements. The Consent Decree and this provision do not apply to Contractor staging, plant, or borrow areas that are not located on MoDOT right of way (Off-site). The Contractor is responsible for obtaining its own separate land disturbance permit for Off-site areas. This provision is in addition to any other stormwater, environmental, and land disturbance requirements specified elsewhere in the contract.~~

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

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

~~**2.2** Those who require MoDOT Stormwater Training per Section 2.0 shall complete the training prior to beginning any land disturbance work. Thereafter, training shall occur at least once every two (2) years. The training is not project specific. Any Contractor employee who receives the~~

training will be qualified to perform the WPCM duties on any MoDOT project for a period of two (2) years.

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

3.0 Water Pollution Control Manager (WPCM). Prior to the Pre-Activity meeting for Grading/ Land Disturbance, the Contractor shall designate a Water Pollution Control Manager (WPCM) to fulfill the duties and responsibilities listed in Section 3.1 until final stabilization occurs. The Contractor's on-site project manager may also serve as the WPCM or that role may be assigned to another manager employed by the contractor or a subcontractor. The Contractor shall also maintain a WPCM delegate to temporarily fulfill the WPCM duties in the absence of the primary WPCM (e.g. illness, vacation, other leave).

3.1 Duties of the WPCM:

(g) 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;

(h) Complete the stormwater training set forth in Section 2.0;

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

(j) Review and sign the Project specific SWPPP and all updates thereto within time periods set out in the Consent Decree;

(k) 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;

(l) 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;

(m) 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 Pollutant 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;

~~(n) 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~~

~~(o) Be the point of contact relating to Stormwater Requirements and the Consent Decree between the Contractor, Subcontractors and MoDOT.~~

~~**4.0 Pre-Activity Meeting for Grading/Land Disturbance and Required Hold Point.** At each Project, a Pre-Activity Meeting for Grading/Land Disturbance shall be held prior to the start of any land disturbance and shall include a physical visit and review of the project site. Discussion items at the pre-activity meeting shall include a review of the project SWPPP, the planned order of grading operations, proposed areas of initial disturbance, identification of all necessary BMPs that shall be installed prior to commencement of grading operations, and any issues relating to compliance with the Stormwater requirements that could arise in the course of construction activity at the project.~~

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

~~**4.2** Following the pre-activity meeting for Grading/land disturbance, and subsequent installation of the initial BMPs identified at the pre-activity meeting, a Hold Point shall occur prior to the start of any land disturbance operations to allow the engineer and WPCM the time needed to perform an on-site review of the installation of the BMPs to ensure compliance with the SWPPP is met. Land disturbance operations shall not begin until authorization is given by the engineer.~~

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

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

~~(b) Installing all BMPs at the locations and relative times specified in the Project SWPPP; and~~

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

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

6.0 Inspection Protocol. The Contractor and all subcontractors shall review and adhere to MoDOT's written Stormwater Inspection Protocol, found on the MoDOT Land Disturbance webpage (www.modot.org/LD). The Inspection Protocol is applicable to all Projects under the consent decree. The MoDOT Resident Engineer will serve the role of Stormwater Resident Engineer, or a delegate will be named in their absence.

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

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

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

| | |
|--|--|
| Failure to Correct a Stormwater Deficiency Identified in a MoDOT Inspection Report, or Otherwise Discovered by the WPCM, within the Time Required by the NPDES SW Permit or SWPPP. | \$1000 per deficiency for the first ten (10) days after correction was required; \$2500 per deficiency for days 11-20 after correction was required; \$3500 per deficiency for days 21 and beyond after correction was required. |
|--|--|

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

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

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

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

(d) obtain documentary evidence, including photographs and similar data; and

(e) assess MoDOT's compliance with the Consent Decree.

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

9.0 Basis of Payment. Payment for compliance with this provision will be made per week. All cost associated with the weekly on-site project reviews by the WPCM, compliance with this provision and the Consent Decree, including all other duties of the WPCM and delegate, and all expenses to attend training, will be considered fully covered under 806-99-28, Water Pollution Control Manager. 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.

9.1 Method of Measurement. Measurement of the number of full weeks (7 days) will begin on the date of the first MoDOT Inspection Report following initial land disturbance and will continue until the engineer declares final stabilization has been achieved, except that no measurement will be made for any period of time past the contract completion date, or adjusted completion date, when liquidated damages are being assessed for failure of the Contractor to complete the work on time.

EE. Supplemental Revisions JSP-18-01D

Delete Sec 106.9 and substitute the following:

106.9 Buy America Requirement On all federal-aid projects, the contractor's attention is directed to Title 23 CFR 635.410 Buy America Requirements. Where steel or iron products are to be permanently incorporated into the contract work, steel and iron material shall be manufactured in the USA except for "minor usage" as described herein. Furthermore, any coating process of the steel or iron shall be performed in the USA. The use of pig iron and processed, pelletized and reduced iron ore manufactured outside of the USA will be permitted in the domestic manufacturing process for steel or iron material.

Delete Sec 106.9.3 and substitute the following:

106.9.3 Buy America requirements include a step certification for all fabrication processes of all steel or iron materials that are accepted per Sec 1000.

106.9.3.1 Items designated as Category 1 will consist of steel girders, piling, and reinforcing steel installed on site. Category 1 items require supporting documentation prior to incorporation into the project showing all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements. This includes the Mill Test Report from the original producing steel mill and certifications documenting the manufacturing process for all subsequent fabrication, including coatings. The certification shall include language that certifies the following. That all steel and iron materials permanently incorporated in this project was procured and processed domestically and all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410.

106.9.3.2 Items designated as Category 2 will include all other steel or iron products not in Category 1 and permanently incorporated in the project. Category 2 items shall consist of, but not be limited to items such as fencing, guardrail, signing, lighting and signal supports. The prime contractor is required to submit a material of origin form certification prior to incorporation into the project from the fabricator for each item that the product is domestic. The Certificate of Materials Origin form ([link to certificate form](#)) from the fabricator must show all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements and be signed by a fabricator representative. The Engineer reserves the right to request additional information and documentation to verify that all Buy America requirements have been satisfied. These documents shall be submitted upon request by the Engineer and retained for a period of 3 years after the last reimbursement of the material.

106.9.3.3 Any minor miscellaneous steel or iron items that are not included in the materials specifications shall be certified by the prime contractor as being procured domestically. Examples of these items would be bolts for sign posts, anchorage inserts, etc. The certification shall read "I certify that all steel and iron materials permanently incorporated in this project during all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements procured and processed domestically in accordance with CFR Title 23 Section 635.410 Buy America Requirements. Any foreign steel used was submitted and accepted under minor usage". The certification shall be signed by an authorized representative of the prime contractor.

Delete Sec 106.9.4 and Renumber subsequent sections accordingly:

Delete Sec 616.5.1 and substitute the following:

616.5.1 Amber or Amber and White Warning Lights. All on-road construction-related vehicles and equipment shall operate with amber or amber and white warning lights having 360 degrees of total coverage and as follows:

(1) For daytime operations, SAE Class 1 or 2 lights shall be used.

(2) For dusk to dawn operations, SAE Class 2 lights shall be used, or SAE Class 1 lights with dimming capabilities to minimize glare experienced by travelers.

616.5.1.1 Red or Red and Blue Warning Lights. The contractor may elect to use red or red and blue warning lights in accordance with Missouri law and the following requirements:

(1) Use of red or red and blue lights shall be limited to use on a total of two vehicles per work zone and/or project.

(2) Use of red or red and blue warning lights shall be limited to areas in advance of tapers or lane shifts and at the active work location.

(3) Lights shall be SAE Class 2 or SAE Class 1 with dimming capabilities to minimize glare experienced by travelers.

The awarded contract will serve as a permit by the Commission, granting the prime contractor and approved sub-contractors to utilize red or red and blue lights as required by Missouri law.

FF. Flagging Procedure for Two-Lane Roadways (3-2-1 Cone Procedure) NJSP-17-03A

1.0 Description. Flagging operations shall be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) Chapter 6, Section 107 and 616 in Missouri Standard Specifications for Highway Construction, Missouri Standard Plans for Highway Construction, temporary traffic control plans, and as described herein.

2.0 Procedures for Flagging Short, Intermediate, or Long-Term Stationary Operations. This procedure includes the use of three traffic cones or other channelizing devices.

2.1 Step 1. The flagger shall place three cones across the lane of traffic to be stopped, from centerline to shoulder. When no vehicles are present, the flagger should remain on the shoulder with the stop paddle visible.

2.2 Step 2. When traffic has stopped, the flagger shall move towards the centerline of the roadway, keeping the stop paddle visible, and keeping a visual contact with the stopped drivers. Once the flagger has confirmed that opposing traffic is clear, the flagger shall prepare to release the stopped traffic.

2.3 Step 3a. If the vehicles are to travel in the current lane, the flagger shall remove the center cone from the center of the lane.

2.4 Step 3b. If the vehicles are to travel in the opposite lane, the three cones shall remain across the closed lane.

2.5 Step 4. If opening the lane (Step 3a above) the flagger shall walk back to the shoulder with the cone, turn the stop paddle to slow, and then release traffic using a hand signal to direct vehicles between the two remaining cones. If releasing traffic to the other lane (Step 3b above) the flagger shall remain near the centerline of the roadway, turn the stop paddle to slow, and use a hand signal to direct the traffic around the cones into the open lane.

2.6 Once all traffic has cleared, the flagger shall return the slow paddle to stop. The flagger shall replace the cone to the center of the lane or leave the cones across the lane. The flagger then returns to the shoulder and repeats the steps.

2.7 If the roadway width is less than 12 feet, the number of cones may be reduced to two or one, or other channelizing devices may be used.

3.0 Basis of Payment. No direct payment will be made for any cost associated with this provision.

Pictorial Representation of Steps for Flagging Procedure for Two-Lane Roadways (3-2-1 Cone Procedure)



STEP 1



STEP 2



STEP 3



STEP 4