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

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| “THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.” | **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: J1P1234  VARIOUS COUNTIES:  DATE PREPARED: 01/18/2017 |
| ADDENDUM: |
| Only the following items of the Job Special Provisions are authenticated by this seal: ALL | |

JOBSPECIAL PROVISIONS

A. GENERAL - FEDERAL JSP-09-02B

**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](http://spexternalsignin/sites/de/JSP/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](http://spexternalsignin/sites/de/JSP/www.modot.org) under "Business"; “Standards and Specifications”. The effective version shall be determined by the letting date of the project.

General Provisions & Supplemental Specifications

Supplemental Plans to October 2016 Missouri Standard Plans

For Highway Construction

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

B. PROJECT CONTACT FOR BIDDER / CONTRACTOR QUESTIONS**1.0** Any project specific questions shall be directed to the to the following contact:

*\*\*\*INSERT DISTRICT CONTACT INFORMATION HERE\*\*\**

**2.0** Upon award and execution of the contract, the successful bidder/contractor shall forward all questions and coordinate the work with the contract administrator. The contract will be administered and inspected by the engineer/contract administrator listed below:

*\*\*\*INSERT CONTACT INFORMATION HERE\*\*\**

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

C. SCOPE OF WORK

**1.0** The scope of work for this project is to provide crashworthy end terminal removal and replacement on an as needed basis of existing X-Lite End Terminals. The contractor will be responsible for identifying the locations of existing X-Lite terminals for removal and replacement.**2.0** The work will be performed along Commission maintained roadways in: *\*\*\*insert list of Counties and Routes\*\*\****3.0** The contract includes pay items to repair and/or replace various guardrail systems and crashworthy end terminals that may be required for the removal and replacements of X-Lite end terminals.**4.0** The contract includes pay items for removal of existing guardrail systems and end terminals and installation of new guardrail, crashworthy end terminals, and related appurtenances complete in place. The engineer may order a new guardrail system, crashworthy end terminal, or related appurtenance to be installed when the existing system and/or terminal is obsolete or damaged to such a significant extent that it is in the best interest of the Commission and the traveling public to install new current standard material, complete in place, rather than repair the existing system. New guardrail systems and/or terminals may be used to replace an entire existing system and/or terminal, which is partially or wholly damaged, or selected portions of such damaged system and/or terminal. Installation of new guardrail systems and/or terminals may require conformance to location specific plans provided by the engineer. The work may involve adjusting the location of new guardrail systems and/or crashworthy terminals to properly shield the roadside obstacle for which the existing damaged system and/or terminal was originally installed. The determination of when an existing guardrail system and/or crashworthy end terminal is significantly damaged such that it requires installation of a new system and/or terminal, rather than repair, or when an existing system and/or terminal requires adjusting the location will be made by the engineer. All X-Lite end terminals must be removed and replaced.**5.0** The engineer reserves the right to have others perform some or all of the work at individual locations based on the needs of the Commission.**6.0** Work may be required during daytime, nighttime, and/or weekend hours,.

D. JOB ORDER CONTRACT

**1.0** A Job Order Contract is an indefinite quantity contract pursuant to which the contractor shall perform the work itemized in a Job Order at individual work locations throughout the project limits. The contractor shall perform all tasks itemized in the Job Order.

**2.0** The engineer may identify the required work at an individual work location in collaboration with the contractor at a Joint Scope Meeting, unless the engineer approves other arrangements. The engineer will provide the contractor with a draft Detailed Scope of Work which the contractor shall review. Once the detailed Scope of Work is agreed upon, the engineer will issue a Job Order to the contractor. At any given time the contractor may be performing more than one Job Order.

**3.0** The contract includes a list of fixed cost pay items with fixed unit prices. Payment for the work will be determined by multiplying the fixed unit prices by an applicable Adjustment Factor. The contractor shall bid three separate Adjustment Factors to be applied to the fixed unit prices as applicable for work performed during normal working hours, nighttime hours or weekend hours as defined elsewhere in this contract. The total cost of an individual Job Order will be determined by multiplying the fixed unit prices of each fixed cost pay item by the appropriate quantity and then multiplying the total cost of all pay items by the appropriate Adjustment Factor.

**4.0 Definitions.**

**4.1. Detailed Scope of Work.** A written document that sets forth the work the contractor is obligated to perform in connection with a particular Job Order.

**4.2 Job Order.** A written order from the engineer to the contractor directing the work required at an individual work location in accordance with the Detailed Scope of Work within the Job Order Completion Time.

**4.3 Job Order Completion Time.** The time within which the contractor must complete the Detailed Scope of Work for a particular Job Order.

**4.4 Fixed Cost Pay Item.** Work for which a description and fixed cost is set forth in the fixed cost pay item list.

**4.5 Non-Fixed Cost Pay Item.** Work for which a description and fixed cost is not set forth in the pay item list. Payment for non-fixed cost pay items will be determined in accordance with Sec 109.4.2, 109.4.3, or 109.4.4 except for the pay item for Monthly Reconnaissance which will be bid as a unit price. Non-fixed cost pay items will be paid using an Adjustment Factor of 1.000.

E. PROCEDURES FOR DEVELOPING A JOB ORDER

**1.0 Initiation of a Job Order.** The engineer will notify the contractor of a potential Job Order by issuing a Notice of Joint Scope Meeting after review of the monthly reconnaissance report.The notification will be issued by electronic mailing or facsimile machine at the discretion of the engineer to the contractor, unless the engineer approves other arrangements. The contractor shall confirm receipt of all job orders by the same means as issued. .

**1.1** The contractor shall attend the Joint Scope Meeting and be prepared to discuss, at a minimum:

1. The general scope of the work;
2. Existing conditions, presence of waterways, wetlands, or other natural resources,
3. Presence of hazardous materials
4. Methods and alternative for accomplishing the work;
5. Access to the site;
6. Staging area availability/location;
7. Requirements for catalog cuts, technical data, samples and shop drawings;
8. Requirements for professional services, including sketches, drawings, and specifications;
9. Hours of operation;
10. Anticipated working days and schedule;
11. Liquidated damages;
12. Specific quality requirements for equipment and material;
13. List of anticipated Subcontractors and Material Suppliers.

**1.2** Upon completion of the joint scoping process, the engineer will prepare a draft detailed Scope of Work referencing any sketches, drawings, photographs, and specifications required to document accurately the work to be accomplished. The contractor shall review the detailed Scope of Work and request any desired changes or modifications thereto. When an acceptable detailed Scope of Work has been completed, the engineer will issue a Draft Job Order.

**1.3** The contractor does not have the right to refuse to perform any Job Order or any work identified in a Job Order. If the contractor refuses to perform any Job Order or any work identified in a Job Order, the contractor may be considered to be in default in accordance with Sec 108.

**2.0 Preparation Of The Job Order.** The engineer will prepare a Draft Job Order and submit the order to the contractor for final review. The contractor and the engineer will jointly review the Draft Job Order and finalize the order. Establishment of pricing for any non-fixed cost pay items shall be in accordance with Sec 109.4.2 or 109.4.3. If no agreement to pricing can be made then the work will proceed with payment for non-fixed cost items under Sec 109.4.4.

**2.1** When the engineer and contractor have agreed to the scope of work and Fixed Cost and Non-Fixed Cost tasks to be performed, the engineer will finalize the official Job Order and submit a signed Job Order for the contractor to review and sign. The affixed signatures by the engineer and the contractor shall bind the Job Order. If the contractor is not clear or in disagreement with the terms of the Job Order he shall NOT sign the Job Order, but shall work with the engineer to clear up any discrepancies in the work to be done. If the contractor fails to execute the Job Order, the contractor may be considered to be in default in accordance with Sec 108.

**3.0** The Commission reserves the right to cancel or reject a Job Order for any reason. The Commission also reserves the right not to issue a Job Order if that is determined to be in the best interests of the Commission. The contractor shall not recover costs arising out of or related to the development of the Job Order including but not limited to the costs to attend the Joint Scope Meeting, review the Detailed Scope of Work, subcontractor costs, and the cost to review the Job Order Proposal with the Commission.

**4.0 Job Order Issuance.** The Job Order will be signed by the engineer and delivered to the contractor. The Job Order will reference the Detailed Scope of Work and set forth the amount to be paid and the time to complete the work.

**5.0 Notice to Proceed.** Each Job Order will include a notice to proceed, which will stipulate the date the contractor is expected to begin work. The notice to proceed date will normally be within 3 calendar days after the job order is issued.

**6.0 Job Orders.** A job order is a written notice from the engineer to the contractor directing the work to be performed at each work location. A separate job order will be issued for each work location. A job order is considered a contract document as defined in Sec 101.2.

**6.1 Job Order Information.** The job order will provide the following information:

(a) Job order number

(b) County, route, and location

(c) Date and time of issuance

(d) Notice to proceed date and time

(e) Required completion date

(f)

(g) Designation of nighttime work (if needed)

(h) Traffic control plan type

(i) Additional traffic control devices (if needed)

(j) Speed limit reduction and normal speed limit (if needed)

(k) General description of repair

(l) Estimated repair quantities

(m) Name and signature of the engineer

**6.2 Multiple Job Orders.** The engineer may issue multiple job orders with the same or overlapping completion periods.

**6.3 Completed Job Orders.** The contractor shall provide the following information on the contractor's copy of the completed job order:

(a) Actual date and time that repairs are completed

(b) Actual repair materials used to complete the work

(c) Signature of the contractor's authorized representative certifying that the work is complete

(d) Missouri One Call (800 Dig Rite) "all clear" reference number indicating the contractor's notification of the Missouri One Call utility locate system

(e) MoDOT Signal & Lighting Locates "all clear" reference number indicating the contractor's notification of MoDOT’s utility locate system

**6.4** One copy of all completed job orders shall be returned to the engineer with the contractor's monthly request for payment unless otherwise directed by the engineer.

F. TERM OF CONTRACT**1.0** The term of this contract shall be from the time of contract execution *to December 1, 2017.*

**2.0** Any work already ordered or in progress when the contract term ends shall be completed in accordance with the provisions, price proposals and timelines established in the issued Job Order(s), or liquidated damages will be assessed against the contractor in accordance with the provisions of this contract.

G. FIXED UNIT PRICE LIST - GUARDRAIL REPAIR

**1.0** **Description.** A fixed unit price list containing unit prices associated with Guardrail Repair is listed below. Fixed unit prices are for complete and in-place construction and include all labor, equipment and material required to complete the construction task. All labor, material, equipment and work required by a specification shall be considered part of the fixed unit price, unless otherwise stated elsewhere in this contract. Pay limits will be defined in the approved Job Order.

**2.0 Fixed Unit Price List for Guardrail Repair Job Orders.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **MISC. TRAFFIC CONTROL ITEMS** | | | |  |  |
| **Item Number** | **Description** | | | **Unit** | **Fixed Unit Price** |
| 6169902 | MISC. WORK BEYOND SHOULDER | | | EA | $120.00 |
| 6169902 | MISC. SHOULDER WORK - UNDIVIDED ROADWAYS | | | EA | $190.00 |
| 6169902 | MISC. RIGHT SHOULDER WORK - HIGH SPEED ROADWAY | | | EA | $265.00 |
| 6169902 | MISC. LEFT SHOULDER WORK - HIGH SPEED ROADWAY | | | EA | $375.00 |
| 6169902 | MISC. 1-LANE 2-WAY OPERATION W/ FLAGGERS | | | EA | $650.00 |
| 6169902 | MISC. SINGLE LANE CLOSURE | | | EA | $700.00 |
| 6169902 | MISC. PARTIAL RAMP CLOSURE | | | EA | $325.00 |
| 6169902 | MISC. COMPLETE RAMP CLOSURE | | | EA | $600.00 |
| 6169902 | MISC. ENTRANCE RAMP AREA, MAINLINE WORK | | | EA | $325.00 |
| 6169902 | MISC. ENTRANCE RAMP AREA, ACCEL LANE WORK | | | EA | $300.00 |
| 6169902 | MISC. EXIT RAMP AREA, MAINLINE/DECEL LANE WORK | | | EA | $350.00 |
| 6169902 | MISC. ADDITIONAL TRUCK MOUNTED ATTENUATOR | | | EA | $250.00 |
| 6169902 | MISC. ADDITIONAL FLASHING ARROW PANEL | | | EA | $95.00 |
| 6169902 | MISC. ADDITIONAL DIRECTIONAL INDICATOR BARRICADE | | | EA | $11.00 |
| 6169902 | MISC. ADDITIONAL CHANNELIZER (TRIMLINE/DRUM) | | | EA | $8.00 |
| 6169902 | MISC. ADDITIONAL CHANGEABLE MESSAGE SIGN | | | EA | $500.00 |
| 6169902 | MISC. ADDITIONAL ADVANCED WARNING RAIL SYSTEM | | | EA | $12.00 |
| 6169902 | MISC. ADDITIONAL FLAG ASSEMBLY | | | EA | $5.00 |
| 6169902 | MISC. SEQUENTIAL FLASHING WARNING LIGHT | | | EA | $50.00 |
| 6169904 | MISC. ADDITIONAL TRAFFIC CONTROL SIGNS | | | SQFT | $4.00 |
|  |  |  |  |  |  |
| **NEW GUARDRAIL INSTALLATION ITEMS** | | | |  |  |
| **Item Number** | **Description** | | | **Unit** | **Fixed Unit Price** |
| 2029902 | MISC. TYPE A OR B TERMINAL REMOVAL | | | EA | $600.00 |
| 2029903 | MISC. REMOVE GUARDRAIL | | | LF | $7.00 |
| 6060110 | BULLNOSE GUARDRAIL SYSTEM | | | EA | $4,900.00 |
| 6061010 | GUARDRAIL TYPE A | | | LF | $17.00 |
| 6061011A | GUARDRAIL TYPE A, 7 FT. POST, 3 FT. - 1.5 IN. SPACING | | | LF | $27.00 |
| 6061050 | GUARDRAIL TYPE E, 6 FT. POST, 3 FT. - 1.5 IN. SPACING | | | LF | $29.00 |
| 6061051 | GUARDRAIL TYPE E, 7 FT. POST | | | LF | $32.00 |
| 6061054 | GUARDRAIL TYPE E, 6 FT. POST, 6 FT. - 3 IN. SPACING | | | LF | $24.00 |
| 6061060 | MGS GUARDRAIL | | | LF | $17.00 |
| 6061061 | MGS GUARDRAIL, 8 FT., 6 FT. – 3 IN. SPACING | | | LF | $22.00 |
| 6061063 | MGS GUARDRAIL, 6 FT. POSTS, 3 FT. – 1.5 IN. SPACING | | | LF | $22.00 |
| 6061065 | MGS GUARDRAIL, 6 FT. POSTS, 1 FT. – 6.75 IN. SPACING | | | LF | $25.00 |
| 6061067 | MGS DOUBLE FACED GUARDRAIL | | | LF | $25.00 |
| 6061068 | MGS BRIDGE APPROACH TRANSITION SECTION (MAJOR ROUTE) | | | EA | $1,750.00 |
| 6061069 | MGS BRIDGE APPROACH TRANSITION SECTION (MINOR ROUTE) | | | EA | $1,700.00 |
| 6061070 | MGS VERTICAL CONCRETE BARRIER TRANSITION | | | EA | $1,700.00 |
| 6061074 | MGS HEIGHT AND BLOCK TRANSITION SECTION | | | EA | $375.00 |
| 6061075 | MGS LONG SPAN GUARDRAIL SECTION | | | EA | $1,350.00 |
| 6061080 | MGS END ANCHOR | | | EA | $800.00 |
| 6061081 | MGS BRIDGE ANCHOR SECTION (THRIE-BEAM BRIDGE) | | | EA | $1,500.00 |
| 6062200A | BRIDGE ANCHOR SECTION, 6.5 FT. POSTS (SAFETY BARRIER CURB)(ROADWAY AND REHABILITATION WORK ONLY) | | | EA | $1,450.00 |
| 6062202A | BRIDGE ANCHOR SECTION, 7.5 FT. POSTS (SAFETY BARRIER CURB)(ROADWAY AND REHABILITATION WORK ONLY) | | | EA | $1,500.00 |
| 6062300A | TRANSITION SECTION, 6.5 FT. POSTS | | | EA | $300.00 |
| 6062301A | TRANSITION SECTION, 7.5 FT. POSTS | | | EA | $315.00 |
| 6062303 | ASYMMETRICAL TRANSITION SECTION, 6.5 FT. POSTS | | | EA | $330.00 |
| 6062304 | ASYMMETRICAL TRANSITION SECTION, 7.5 FT. POSTS | | | EA | $350.00 |
| 6062400 | BRIDGE ANCHOR SECTION (THRIE BEAM) | | | EA | $1,500.00 |
| 6063000 | TERMINAL SECTION – GUARDRAIL | | | EA | $800.00 |
| 6063014 | TYPE A CRASHWORTHY END TERMINAL (MASH) | | | EA | $2,000.00 |
| 6063016 | TYPE B CRASHWORTHY END TERMINAL | | | EA | $3,900.00 |
| 6063017 | TYPE C CRASHWORTHY END TERMINAL | | | EA | $11,400.00 |
| 6063018 | TYPE D CRASHWORTHY END TERMINAL | | | EA | $22,100.00 |
| 6063019 | TYPE E CRASHWORTHY END TERMINAL | | | EA | $25,500.00 |
| 6066610 | END ANCHOR | | | EA | $800.00 |
| 6066620 | GUARDRAIL ANCHOR, EMBEDDED | | | EA | $1,100.00 |
| 6066630 | GUARDRAIL ANCHOR, ROCK FACE | | | EA | $700.00 |
| 6069902 | MISC. INSTALL POST IN SOLID ROCK OR CONC, 6’ OR 7’ (TYPE A, E OR MGS) | | | EA | $65.00 |
| 6069902 | MISC. FLARED TYPE A CRASHWORTHY END TERMINAL | | | EA | $1,675.00 |
|  |  |  | |  |  |
| **GUARDRAIL REPAIR ITEMS** | | | |  |  |
| **Item Number** | **Description** | | | **Unit** | **Fixed Unit Price** |
| 6069902 | MISC. R&R 12.5’ BEAM, CONC/CONVEX RADIUS, TY A | | | EA | $150.00 |
| 6069902 | MISC. R&R 12.5’ BEAM, CONC/CONVEX RADIUS, MGS | | | EA | $150.00 |
| 6069902 | MISC. R&R 12.5’ W-BEAM PANEL (TYPE A GR) | | | EA | $109.00 |
| 6069902 | MISC. R&R 12.5’ W-BEAM PANEL (MGS) | | | EA | $115.00 |
| 6069902 | MISC. R&R 12.5' BEAM 10 GA. (TYPE E GR) | | | EA | $150.00 |
| 6069902 | MISC. R&R 18.75’ THRIE BEAM PANEL (MGS) | | | EA | $150.00 |
| 6069902 | MISC. R&R 25' THRIE BEAM PANEL (TYPE E GR) | | | EA | $265.00 |
| 6069902 | MISC. R&R 25’ THRIE BEAM PANEL (MGS) | | | EA | $268.00 |
| 6069902 | MISC. R&R 25' W-BEAM PANEL (TYPE A GR) | | | EA | $150.00 |
| 6069902 | MISC. R&R 25’ W-BEAM PANEL (MGS) | | | EA | $160.00 |
| 6069902 | MISC. R&R 6.25’ THRIE BEAM PANEL (MGS) | | | EA | $125.00 |
| 6069902 | MISC. R&R 6.25' TYPE A TO TYPE E TRANSITION BEAM | | | EA | $115.00 |
| 6069902 | MISC. R&R WOOD BLOCK 8X6X17 TRANSITION SECTION | | | EA | $20.00 |
| 6069902 | MISC. R&R WOOD BLOCK 12X6X19 TRANSITION SECTION | | | EA | $36.50 |
| 6069902 | MISC. R&R MGS HEIGHT AND BLOCK TRANSITION SECTION | | | EA | $550.00 |
| 6069902 | MISC. REALIGN & USE EXIST POST TYPE A, E OR MGS GR | | | EA | $19.00 |
| 6069902 | MISC. RE-TENSION GUARDRAIL SYSTEM | | | EA | $50.00 |
| 6069902 | MISC. R&R 12.5' END ANCHOR PANEL | | | EA | $105.00 |
| 6069902 | MISC. R&R 12.5’ MGS END ANCHOR PANEL | | | EA | $110.00 |
| 6069902 | MISC. R&R 12.5' THRIE BEAM RAIL TY E GR | | | EA | $155.00 |
| 6069902 | MISC. R&R MGS END ANCHOR | | | EA | $850.00 |
| 6069902 | MISC. R&R END ANCHOR RAIL | | | EA | $105.00 |
| 6069902 | MISC. R&R END ANCHOR CABLE ASSEMBLY | | | EA | $55.00 |
| 6069902 | MISC. R&R END SEC (SHOE) TY A GR | | | EA | $45.00 |
| 6069902 | MISC. R&R PARTS FOR END SECTION | | | EA | $85.00 |
| 6069902 | MISC. R&R PARTS FOR TYPE C END TERMINAL | | | EA | $750.00 |
| 6069902 | MISC. R&R GR DELINEATOR 1 SIDE | | | EA | $8.00 |
| 6069902 | MISC. R&R GR DELINEATOR 2 SIDE | | | EA | $8.00 |
| 6069902 | MISC. R&R STEEL POST 6', MGS | | | EA | $65.00 |
| 6069902 | MISC. R&R STEEL POST 6', TY A OR MGS GR | | | EA | $68.00 |
| 6069902 | MISC. R&R STEEL POST 6', TY E GR | | | EA | $65.00 |
| 6069902 | MISC. R&R STEEL POST 7', TY A GR | | | EA | $70.00 |
| 6069902 | MISC. R&R STEEL POST 7', TY E GR | | | EA | $70.00 |
| 6069902 | MISC. R&R STEEL POST 8', MGS | | | EA | $75.00 |
| 6069902 | MISC. R&R WOOD POST 6', TY A GR | | | EA | $70.00 |
| 6069902 | MISC. R&R WOOD POST 7', TY A GR | | | EA | $75.00 |
| 6069902 | MISC. R&R STEEL TUBE BLOCK 7X4 BR ANCH | | | EA | $55.00 |
| 6069902 | MISC. R&R STEEL SPACER BLOCK (TYPE A GR) | | | EA | $22.00 |
| 6069902 | MISC. R&R STEEL BLOCKOUT FOR RADIUS RAIL | | | EA | $22.00 |
| 6069902 | MISC. R&R TERMINAL CONNECTOR, TY A OR MGS GR | | | EA | $105.00 |
| 6069902 | MISC. R&R TERMINAL CONNECTOR, TY E OR MGS GR | | | EA | $112.00 |
| 6069902 | MISC. R&R WOOD/PLASTIC BLOCK 8X6X14 MGS | | | EA | $20.00 |
| 6069902 | MISC. R&R WOOD/PLASTIC BLOCK 8X6X14 TY A GR | | | EA | $18.00 |
| 6069902 | MISC. R&R WOOD/PLASTIC BLOCK 8X6X21 TY E GR | | | EA | $20.00 |
| 6069902 | MISC. R&R WOOD/PLASTIC BLOCK 12X6X14 MGS | | | EA | $22.00 |
|  |  |  |  |  |  |
| **GRADING REPAIR ITEMS** | | | |  |  |
| **Item Number** | **Description** | | | **Unit** | **Fixed Unit Price** |
| 2149910 | GRADING FOR CRASHWORTHY END TERMINAL | | | LS | $3,500.00 |

H. ADJUSTMENT FACTORS

**1.0 Description.** Adjustment Factors include business and construction related costs as defined in this specification. It is the responsibility of the contractor to verify the unit prices provided in this contract and to modify their Adjustment Factors accordingly.

**1.1 Business Costs.** Business related costs consist of profit, overhead costs, subcontractor profit and overhead, taxes, finance costs, and other costs including but not limited to;

1. insurance, bonds and indemnification
2. project meetings, training, management and supervision
3. project office staff and equipment
4. employee or subcontractor wage rates that exceed prevailing wages
5. fringe benefits, payroll taxes, worker’s compensation, insurance costs and any other payment mandated by law in connection with labor that exceeds the labor rate allowances
6. business risks such as the risk of low than expected volumes of work, smaller than anticipated Job Orders, poor subcontractor performance, and inflation or material cost fluctuations

**1.2 Construction Costs.** Construction related costs include but are not limited to;

1. personnel safety equipment
2. security requirements
3. excess material waste
4. daily and final clean-up
5. costs resulting from inadequate supply of materials, fuel, electricity, or skilled labor
6. costs resulting from productivity loss
7. working in extreme and adverse weather conditions
8. any other discreet items of work required to complete a particular Job Order

**1.3 General Costs.** The above lists are not exhaustive and are intended to provide general examples of cost items to be included in the contractor’s Adjustment Factors as defined in the contract.

**2.0 Normal Work Adjustment Factor.** The Adjustment Factor for *Normal Working Hours* includes work conducted from 6:00 a.m. to 7:30 p.m. Monday through Friday.

**2.1** In addition to the time period specified in 2.0, work performed during *Normal Working Hours* must also be done during daylight hours, unless the contractor provides the necessary lighting equipment. Daylight hours are defined as ½ hour after sunrise to ½ hour before sunset. If the contractor chooses to work during *Normal Working Hours,* but outside of the defined daylight hours, the contractor shall provide lighting equipment at no additional cost to the Commission.

**3.0** **Nighttime Work Adjustment Factor.** If the engineer determines traffic volumes are such that work cannot be performed during the daytime, Monday through Friday, without significant traffic impacts, the Job Order will specify nighttime repair operations. The Adjustment Factor for *Nighttime Work* includes any work conducted from 7:30 p.m. to 6:00 a.m. Monday through Thursday.

**3.1** Any costs for additional lighting equipment necessary to perform nighttime repair operations is considered included in the Nighttime Work Adjustment Factor.

**4.0** **Weekend Work Adjustment Factor.** If the engineer determines traffic volumes are such that work cannot be performed Monday through Friday without significant traffic impacts, the Job Order will specify weekend repair operations. The Adjustment Factor for *Weekend Work* includes any work conducted from 7:30 p.m. on Friday through 6:00 a.m. on Monday, night or day, or a Holiday.

**4.1** All work shall be scheduled to avoid major holidays. During the term of this contract there are six major holiday periods: Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas, and New Year’s Day. 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 designated as *Weekend* *Work* by the engineer.

**5.0** The Adjustment Factor for Nighttime Work and Weekend Work will not be applied to adjust the unit bid price(s) unless the contractor is specifically directed to perform *Nighttime* or *Weekend Work* by the engineer as part of the Job Order. If the Job Order does not otherwise restrict nighttime or weekend hours, the contractor may, with the approval of the engineer, perform some or all of the repair operations during nighttime or weekend hours but will paid for the Adjustment Factor specified in the Job Order (i.e. the contractor may be allowed to complete nighttime work on the weekend but will be paid the Nighttime Adjustment Factor).

I. BIDDING THE ADJUSTMENT FACTORS

**1.0** The bidder shall complete the bid form by writing in three Adjustment Factors, one for *Normal Working Hours* one for *Nighttime Work* and one for *Weekend Work.* The Adjustment Factors shall be specified to three decimal places. Note that these are contract pay items for contractor payment, not work items.

**EXAMPLE:** The Adjustment Factors shall be entered as the following example illustrates.

|  |
| --- |
| **1 . 1 9 8** |
| OR |
| **0 . 9 8 7** |

Note: The Adjustment Factors used are for example purposes only and is not an indication of factors being bid by the contractor.

J. CONTRACT AWARD

**1.0** The Commission will evaluate the bids with the intent of awarding the contract to the lowest responsible bidder. The anticipated budget for this project is $100,000.

**2.0** The lowest bid will be determined by multiplying each individual Adjustment Factor by the anticipated budget for each individual adjustment factor plus the bid price for reconnaissance. For purposes of determining award of this contract, the estimated percentage of work performed during Normal Working Hours is 75%, the estimated percentage of Nighttime work is 15%, and the estimated percentage of Weekend work is 10%. The extended amount for each item will then be totaled, and the total sum plus the bid price for reconnaissance will be used for bid comparison purposes. The initial contract value will be equal to the total sum plus the bid price for reconnaissance. The dollar quantities provided in the bid form are anticipated budgets and are not intended to represent the actual value of work that will be assigned.

**EXAMPLE:** The initial contract value is determined by entering the Adjustment Factors as the following example illustrates:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Item Description | Approximate Quantity | Unit | Unit Price | | Bid Amount | |
| Dollar | Cts | Dollar | Cts |
| 618-99.16  Normal Work Adjustment Factor | $75,000.00 | DLR | **1.150** | | $86,250.00 | |
| 618-99.16  Nighttime Work Adjustment Factor | $15,000.00 | DLR | **1.200** | | $18,000.00 | |
| 618-99.16  Weekend Work Adjustment Factor | $10,000.00 | DLR | **1.250** | | $12,500.00 | |
| 618-99.02  Misc. Monthly Reconnaissance | 6 | EA | $5,000.00 | | $30,000.00 | |
| Bid Total |  |  |  | | $146,7650.00 | |

Note: The Adjustment Factors used are for example purposes only and is not an indication of factors being bid by the contractor.

K. BONDS

**1. 0** The amount of the Bid Bond shall be 5% of the anticipated budget for this project.

**2.0** The amount of the Performance Bond shall be 100% of the anticipated budget for this project.

M. NOTICE TO PROCEED

**Delete Sec 108.2 and substitute the following:**

**108.2 Notice to Proceed.** For each Job Order, the engineer will include a notice to proceed, which will stipulate the date the contractor is expected to begin work. The notice to proceed date will normally be 3 calendar days after the job order is issued.

N. CONTRACT TIME FOR COMPLETION OF JOB ORDER**1.0 Contract Time for Completion of Job Order.** The time for the completion of the job order will be specified by calendar days. Time is an essential element of the contract, and it is therefore important that the work be pursued vigorously to completion.**2.0 Completion By Calendar Days.** The contractor shall complete all work described in each job order within thirty (30) calendar daysof the notice to proceed date.

**4.0 Contract Time Extension for Change in the Work.** If a change in the work on a job order is ordered by the engineer, the contractor will be allowed an extension of contract time when it can be established that the additional work required more time. In such cases, the actual time required, as determined by the engineer, will be allowed.

**5.0 Contract Time Extension for Traffic Control Restrictions.** If a traffic control time restriction ordered by the engineer changes the contractor’s work schedule on a job order, the contractor will be allowed an extension of contract time when it can be established that the restriction prevented the contractor from performing the work within the contract time. In such cases, the actual restriction time, as determined by the engineer, will be allowed.**6.0 Contract Time Extension for Unsuitable Weather.** The contractor will not be entitled to any extension of contract time because of unsuitable weather conditions unless authorized in writing by the engineer as an excusable, non-compensable delay under Sec 108.14.1.

O. COMPLETING THE WORK

**1.0** The contractor shall perform any task in the fixed unit price list for the fixed unit price multiplied by the quantity, multiplied by the appropriate Adjustment Factor for tasks performed during Normal Working Hours or for tasks performed during Nighttime or for tasks performed during Weekend hours. The contractor shall perform the Detailed Scope of Work for the Job Order Price as calculated in accordance with the procedure for developing Job Orders set forth herein.

**2.0** When installed quantities differ from the estimated quantities in the issued Job Order, the as built quantities in the final Job Order will address the quantity variation(s) for final payment. When quantities are not specified in the Detailed Scope of Work, the Job Order Price will be deemed to be lump sum for such work.

**3.0** The contractor shall employ and supply a sufficient force of workers, materials and equipment and shall progress the work with such diligence so as to ensure completion of the Detailed Scope of Work within the Job Order completion Time or within such extended time for completion as may be granted by the engineer.

P. FINAL INSPECTION AND ACCEPTANCE OF THE WORK

**Delete Secs 105.10.7 through 105.10.7.2 and substitute the following:**

**105.10.7 Final Inspection.** Upon completion of the required work for each Job Order, the contractor shall notify the engineer by phone, facsimile, or electronic mailing, and the engineer will perform an inspection. If the engineer determines all work required by the contract has been satisfactorily completed, the engineer will make the acceptance for maintenance and notify the contractor in writing of the date of acceptance for maintenance.

**105.10.7.1** Work determined to be unsatisfactory by the engineer and not accepted shall be corrected to acceptable standards at the contractor’s sole cost. All items that are unsatisfactory shall be corrected within the specified working days for each job order. If needed for correction of unsatisfactory work, the contractor will be given an extension of contract time in an amount equal to the number of working days remaining in the job order at the time the engineer was notified for inspection. No contract time extension will be made for notification made prior to completion of the work. Any time extension given will be considered a non-compensable delay. Upon completion of the corrections, the contractor shall notify the engineer for a re-inspection.

**105.10.7.2** Following a Job Order final inspection, the contractor, subcontractors, and suppliers are relieved of any new or additional liability to third parties for personal injury, death, or property damages which may be alleged to result from the performance of the work required by that job order, unless additional work on the right of way is required by the engineer.

**105.10.7.3** Nothing in this section shall be deemed to excuse the contractor of liability or responsibility for any personal injury, death, or property damages which may arise from acts or the failure to act prior to the final inspection of the work required by the Job Order.

Q. LIQUIDATED DAMAGES FOR FAILURE OR DELAY IN STARTING OR COMPLETING WORK ON TIME

**Delete Secs 108.8 through 108.8.1.2 and substitute the following:108.8 Liquidated Damages for Failure or Delay in Completing Work on Time.108.8.1** If the contractor, or in case of default, the surety fails to start or complete the work required in each job order within the time specified in the contract, or within such extra time as may be allowed by the contract, a deduction of an amount as specified elsewhere in this section will be made for each day that each job order remains incomplete after the time allowed for completion. The amount specified is agreed upon, not as a penalty, but as liquidated damages for loss to the Commission and the public. This amount will be deducted from any amount due under the contract. The contractor and surety shall be liable for all liquidated damages. Permitting the contractor to continue the work after the expiration of the specified time or any extension of time will not constitute a waiver by the Commission of any contractual rights.**108.8.1.1** Liquidated damages will be charged for Saturdays, Sundays, national, and state holidays established by law.

**108.8.1.2** The amount of liquidated damages for this contract shall be as follows:

**Job Order Amount** **Liquidated Damages Per Day**

$0 to $1000.00 $50.00$1000.01 to $3000.00 $100.00$3000.01 and Over $200.00

S. LIQUIDATED DAMAGES SPECIFIED FOR LANE CLOSURES

**1.0 Description.** The contractor shall be required to have all lanes open to unrestricted traffic and free of any equipment by the time specified in Job Order for each closure location. Should the contractor fail to have the roadway completely open, and free of any equipment by the time specified in Job Order, the Commission, the traveling public, state and local police and governmental authorities will be damaged in various ways, including but not limited to potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of **$1,000 per 15 minutes** for each 15-minute increment that the roadway is not open and free of any equipment, in excess of the limitation as specified elsewhere in the special provision. It will be the responsibility of the engineer to determine the quantity of excess closure time.

* 1. The said liquidated damages specified will be assessed in addition to any other liquidated damages charged under the Missouri Standard Specifications for Highway Construction, as indicated elsewhere in this contract.

**1.2** This deduction will continue until such time as the necessary work is completed and all lanes are open to traffic.

**2.0** A contingency plan mutually agreed upon by the contractor and the engineer shall be established at the joint meeting and documented in each Job Order in the event of a delay of the scheduled traffic opening time due to weather or other unforeseen circumstances.

T. LIQUIDATED DAMAGES FOR WINTER MONTHS JSP-04-17

**1.0 Description.** Revise Sec 108.8.1.2 (a) and (b) and substitute the following for the project:

(a) Liquidated damages will be assessed from December 15 to March 15

(b) Liquidated damages will be assessed for Saturdays, Sundays and Holidays.

U. CONTRACT PAYMENTS

**1.0** The contractor shall request payment by submitting a semi-monthly invoice to the engineer. The invoice shall be for the job orders completed and shall be itemized by job order number. A summary of all contract items used, contract unit prices, and total cost shall be included with the invoice.

**1.1** The engineer will make semi-monthly payment estimates in writing for the Job Orders completed and final inspected during the semi-monthly interval and the value thereof at the price established in the Job Order, including any necessary adjustments. The semi-monthly estimates will include deductions from the contractor’s invoice for any liquidated damages applicable to any of the Job Orders.

* 1. **Material Allowance.** No material allowance will be made for this contract.

V. MOBILIZATION**Delete Sec 618.2 and substitute the following:618.2** No direct payment will be made for mobilization of these provisions. All costs for mobilization shall be considered included in the cost of the individual contract pay items included in the contract.

W. WORKING HOURS

**1.0** Due to the wide variance in traffic volumes throughout the contract area, it is not possible to give specific work hours for the term of the contract. No work will be allowed during the morning and afternoon rush periods *(\*\*\*insert time\*\*\** a.m. to *\*\*\*insert time\*\*\** a.m. and *\*\*\*insert time\*\*\** p.m. to \*\*\*insert time\*\*\* p.m.) within the metro \*\*\*insert location\*\*\* area unless otherwise directed or approved by the engineer.

*\*\*\*insert lane drop limitations if needed\*\*\**

**2.0** All work shall be scheduled to avoid major sporting events, conventions, concerts, and similar special events as specified by the engineer. During the term of this contract, there are five major holiday weekends: Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas, and New Year’s Day. 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 otherwise designated by the engineer.

X. WORK ZONE TRAFFIC MANAGEMENT PLAN**1.0 General.** Work zone traffic management shall be in accordance with applicable portions of Division 100 and Division 600 of the Standard Specifications, and specifically as follows:**2.0 Traffic Management Schedule.2.1** The contractor shall notify the engineer at least 48 hours prior to performing any work at each work site. The notification shall include all information needed to identify traffic impacts such as work location, anticipated work hours, traffic control plan type, required lane or shoulder closures, anticipated duration of the work, etc. The engineer will make appropriate notification to the public, MoDOT customer service, and MoDOT work crews of the contractor's operations.**2.2** The contractor shall notify the engineer at the actual time of closing any lane or shoulder and shall again notify the engineer when the lane or shoulder is reopened to traffic.**2.3** The contractor shall notify the engineer as soon as practical any postponement due to weather, material, or other circumstances and shall renotify the engineer when the work has been rescheduled.

**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 work and the contractor is prepared to diligently pursue the work until the closed lane is reopened to traffic.

**3.0 Maintenance of Traffic.3.1** Traffic flow shall be maintained through the work zone using the existing pavement in accordance with the traffic control plans. No detours or lane shifts onto shoulders will be allowed unless otherwise approved by the engineer.**3.2** Provisions shall be made to allow the movement of emergency vehicles through the limits of the work at all times.**3.3** During non-working hours the contractor shall have all lanes of traffic open for all routes, ramps, and side roads. All channelizers and other traffic control devices shall be removed from the roadway during non-working hours unless otherwise approved by the engineer.**4.0 Traffic Congestion and Delay.** The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall be responsible for maintaining the existing traffic flow through the job site during the work. If disruption of the traffic flow occurs and traffic is backed up in queues of 15 minute delays or longer, then the contractor shall review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent queues from occurring again.**5.0 Traffic Safety.5.1** Where traffic queues routinely extend to within 1000 feet (300 m) of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet (150 m) 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. **5.2** When a traffic queue extends to within 1000 feet (300 m) of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet (150 m) 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 (300 m) and no more than 0.5 mile (0.8 km) in advance of the end of the traffic queue on divided highways and no less than 500 feet (150 m) and no more than 0.5 mile (0.8 km) in advance of the end of the traffic queue on undivided highways.

**6.0 Traffic Control Plan Types.** The engineer will designate in the job order the type of traffic control plan (TCP) necessary to perform the work. If the engineer determines more than one type of TCP is needed to perform the work, the additional plan or plans will be specified in the job order. The various types of TCP’s and the traffic control devices required for each TCP are shown on the plans. The contractor shall furnish adequate channelizing devices as shown on the plans. Trim line or drum-like channelizers shall be required for all TCP’s regardless of daytime or nighttime operations. Cones will not be allowed for use on this contract.

**7.0 Additional Traffic Control Devices.** The engineer may determine that devices in addition to those shown on the TCP’s are necessary to safely accommodate traffic. These devices may be needed for merging ramp traffic, side streets, or other special cases. Additional devices may include signs, channelizers for side streets, directional indicator barricades (DIBS), flashing arrows, and/or truck mounted attenuators. The additional devices shall be used within the work zone as directed by the engineer. The engineer will designate in the job order the type of additional traffic control devices necessary to perform the work.

**8.0 Work Within Another Work Zone.** The engineer may determine it is in the best interest of the Commission and the traveling public to have the work designated in the job order performed within another contractor's work zone or within a MoDOT work zone. If the work is designated to be performed within another work zone, the contractor shall coordinate and perform the work in accordance with Sec 105.6.**9.0 Basis of Payment.** Payment will be made at the contract unit price for each of the pay items included in the contract and will be considered full compensation for all labor, material, and equipment necessary to manage traffic per the designated traffic control plan or as otherwise directed by the engineer.**9.1** Payment will be made once for each traffic control plan type specified for each work location regardless of the number of times the traffic control devices are installed, relocated, and removed while work progresses. Payment for each traffic control plan includes the cost of all channelizers as shown on the plans. Cones will not be allowed for use on this contract.**9.2** Payment will be made once for the actual amount of additional traffic control devices specified for each work location regardless of the number of times the devices are installed, relocated, and removed while work progresses.**9.3** No traffic control plan payment will be made when work is performed within another work zone unless additional traffic control devices are required to safely accommodate traffic.

Y. TRUCK MOUNTED ATTENUATOR (TMA)**1.0 Description.** If a truck mounted attenuator (TMA) is shown for use in a traffic control plan or if an additional TMA is specified in the job order for use at a specific work location, the contractor shall furnish, operate, repair, replace, and maintain a TMA as indicated on the plans or as directed by the engineer.**2.0 Basis of Payment.** Payment will be made at the contract unit price for each of the pay items included in the contract and will be considered full compensation for all labor, material, and equipment necessary to furnish and maintain the TMA.**2.1** If a truck mounted attenuator (TMA) is shown for use in a traffic control plan then payment will be considered covered by the contract unit price of that plan.**2.2** If an additional TMA is specified in the job order for use at a specific work location, the TMA will be paid for once at the established fixed unit price for: Item 616-99.02 Additional Truck Mounted Attenuator Each

Z. 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. MoDOT customer service 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 | (314) 340-4000 |
| MoDOT District KC Customer Service (24 hr.) | (816) 622-6500 |
| MoDOT Incident Response (24 hr.) | (816) 241-2223 |
| City of Kansas City Police | (816) 234-5000 |
| City of Kansas City Fire | 816) 513-0911 |
| Clay County Sheriff | (816) 407-3750 |
| Platte County Sheriff | (816) 858-2424 |
| Jackson County Sheriff | (816) 524-4302 |

**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.

AA. DELAY PROVISIONS

**1.0** If the contractor is delayed in the commencement, prosecution or completion of the work by any act of the Commission, or by any cause beyond the contractor’s control, then the contractor will be entitled to an extension of time. If the contractor is delayed or prevented from working on a particular date as a result of a delay, error or omission of the Commission, and the contractor incurs unavoidable labor costs as a direct result thereof because the contractor did not have enough time to cancel or divert its labor force, then the contractor will be reimbursed for such costs. For each worker so paid, the contractor will be reimbursed the amount paid the worker. Also, the contractor will be reimbursed for construction tasks required as a direct result of such delay, error or omission, such as closing off areas of work. No other costs shall be paid as a result of a delay or late cancellation.

BB. SAMPLE JOB ORDERS

**1.0** The following are example Job Orders intended to be illustrations that may be used as a guide for formulating the bid of the Adjustment Factor. For each example Job Order, the appropriate items that would be used and the quantities are computed based upon the sample work that would be completed in the Job Order. The contractor shall be reminded these are Job Order samples and the quantity totals in actual Job Orders, if issued, may be more or less than that depicted below or be totally different from the samples illustrated.

**1.1 Job Order Sample 1:** The X-LITE End Terminal location does not have significant daytime peak hour ADT and will only require shoulder closure.

|  |  |  |  |
| --- | --- | --- | --- |
| **Item Description** | **Fixed Unit Price** | **Quantity** | **Price** |
| Misc. Shoulder Work – Undivided Roadways | $188.00 | 1 | $188.00 |
| Misc. R&R 12.5’ W-Beam Panel (Type A GR) | $154.00 | 1 | $154.00 |
| Misc. Realign & Use Exist Post Type A or E GR | $17.00 | 3 | $51.00 |
| Misc. R&R GR Delineator 1 Side | $7.00 | 1 | $7.00 |
| Misc. Type A or B Terminal Removal | $600,00 | 1 | $600.00 |
| Type A Crashworthy End Terminal (MASH) | $2,000.00 | 1 | $2,000.00 |
| Grading For Crashworthy End Terminal | $3,500.00 | 1 | $3,500.00 |
|  |  | **Subtotal:** | **$6,466.00** |
| Normal Work Factor | 1.150 |  |  |
|  |  | **TOTAL:** | **$7,435.90** |

**1.2 Job Order Sample 2:** The X-LITE End Terminal location is a high ADT location requiring a ‘Single Lane Closure” so off-peak nighttime hours are required with reopening to traffic before the next morning rush period.

|  |  |  |  |
| --- | --- | --- | --- |
| **Item Description** | **Fixed Unit Price** | **Quantity** | **Price** |
| Misc. Single Lane Closure | $650.00 | 1 | $650.00 |
| Misc. R&R 12.5’ W-Beam Panel (Type A GR) | $154.00 | 5 | $770.00 |
| Misc. Realign & Use Exist Post Type A or E GR | $17.00 | 1 | $17.00 |
| Misc. R&R GR Delineator 1 Side | $61.00 | 6 | $366.00 |
| Misc. Type A or B Terminal Removal | $600,00 | 1 | $600.00 |
| Type A Crashworthy End Terminal (MASH) | $2,000.00 | 1 | $2,000.00 |
| Grading For Crashworthy End Terminal | $3,500.00 | 1 | $3,500.00 |
|  |  | **Subtotal:** | **$7,903.00** |
| Nighttime Work Factor | 1.200 |  |  |
|  |  | **TOTAL:** | **$9,483.60** |

**1.3 Job Order Sample 3:** The X-LITE End Terminal location is a high ADT location, but due to the length of repair two continuous closure days will be required to complete the work. An “Entrance Ramp Area, Mainline Work” traffic control set-up will be required. A weekend closure will be used so the entire section can be removed and replaced at one time without impacting peak hour traffic.

|  |  |  |  |
| --- | --- | --- | --- |
| **Item Description** | **Fixed Unit Price** | **Quantity** | **Price** |
| Misc. Entrance Ramp Area, Mainline Work | $300.00 | 1 | $300.00 |
| Misc. R&R 12.5’ W-Beam Panel (Type A GR) | $154.00 | 10 | $1,540.00 |
| Misc. Realign & Use Exist Post Type A or E GR | $17.00 | 15 | $255.00 |
| Misc. R&R Steel Post 6', TY A GR | $61.00 | 20 | $1,220.00 |
| Misc. R&R GR Delineator 1 Side | $7.00 | 5 | $35.00 |
| Misc. R&R Wood/Plastic Block 8X6X14 TY A GR | $17.00 | 10 | $170.00 |
| Misc. Type A or B Terminal Removal | $600.00 | 1 | $600.00 |
| Type A Crashworthy End Terminal (MASH) | $2,000.00 | 1 | $2,000.00 |
| Grading For Crashworthy End Terminal | $3,500.00 | 1 | $3,500.00 |
|  |  | **Subtotal:** | **$9,620.00** |
| Weekend Work Factor | 1.250 |  |  |
|  |  | **TOTAL:** | **$12,025.00** |

CC. UTILITIES

**1.0** It is the inherent risk of the work under this contract that the contractor may encounter utilities above and/or below the ground or in the vicinity of any given job order which may interfere with their operations. The contractor expressly acknowledges and assumes this risk even though the nature and extent is unknown to both the contractor and the Commission at the time of bidding and award of the contract. The effect in cost or time of the presence of utilities above, below or in the vicinity of the contractor’s work under this contract shall not be compensable.

**2.0** The contractor will be responsible and is required to call for utility locates prior to performing any excavation work within any project limits for a given job order. Calling for utility locates will not relieve the contractor of his liability for utility damages caused by excavating operations performed by the contractor and/or any of his subcontractors. The contractor shall be solely responsible for all costs, fines, and penalties associated with the repair of any damaged utility caused by the actions of the contractor and/or any subcontractor within the given job order limits.

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

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

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

**3.0** Any representation of the presence of utilities on any bidding document provided or job order issued under this contract is disclaimed by the Commission. The contractor fully understands this disclaimer when determining the basis of their bid for this contract. The contractor agrees to hold the Commission harmless in the presents or absents of any utility within the limits of any job order resulting from this contract.

DD. WORK PLAN AND SCHEDULE FOR ACCOMPLISHING WORK**Delete Secs 108.4 - 108.4.4 and substitute the following:108.4 Work Plan and Schedule.** Prior to or at the preconstruction conference, the contractor shall provide a proposed work plan and typical schedule for accomplishing work. The work plan shall include a written list of equipment and personnel that the contractor intends to use in executing the work.**108.4.1** The work plan will be reviewed by the engineer to determine in general if adequate personnel and equipment appear to be available to complete the work within the required number of calendar days. If the engineer determines the work plan is inadequate, the engineer and contractor shall meet for a joint review of the plan to correct and adjust the plan and schedule as necessary. A revised work plan and schedule shall be provided by the contractor prior to commencing the work.**108.4.2** If multiple job orders are issued with overlapping completion periods, the priority of the work will be jointly determined by the engineer and the contractor, with final approval of the work plan by the engineer. The work schedule and work priorities will be determined by the needs of the Commission and not the contractor's convenience of work location.**108.4.3** No direct payment will be made for furnishing the work plan or revisions.**108.4.4** The contractor shall determine the most feasible work plan and schedule consistent with the requirements of the contract. The engineer's approval of contractor's work plan is not intended to be acknowledgment or representation that it is reasonable or will accomplish the work within a particular time or at a particular cost.

EE. SUPPLEMENTAL REVISIONS

*(to be inserted by Central Office)*

FF. GUARDRAIL AND END TERMINAL REPAIR AND REPLACEMENT**1.0 Description.** This work shall consist of all labor, equipment, and materials to remove, install, repair, and replace guardrail, crashworthy end terminals, and related appurtenances as specified in the job order or as directed by the engineer. All work shall comply with Secs 202 and 606 except as herein modified.**2.0 Materials.** All guardrail materials shall conform to Division 1000, Materials Details, and specifically Sec 1040. All materials shall be new unless otherwise approved by the engineer or otherwise allowed by these specifications.**2.1** Replacement materials and components for proprietary crashworthy end terminals shall conform to the manufacturers latest approved design. All replacement components shall be from the original equipment manufacturer unless approved by the engineer. The contractor shall provide manufacturer certification that the replacement components furnished, when properly installed by the contractor, will reestablish or exceed the original capabilities of the end terminal.**2.2** All materials intended for use in this contract shall be stored in a dedicated location on the contractor's property and shall be inspected and approved by the engineer prior to use.**3.0 Construction Requirements.3.1 Removal and Replacement of Individual Major Components.** If the job order designates a contract pay item that includes the term "remove and replace", the contractor shall remove the described existing component, material, hardware, or other appurtenance, in whole or in part, as designated in the job order or as directed by the engineer. The major components to be removed will be marked with paint or ribbon or other method convenient to the engineer.**3.1.1** The contractor shall furnish and install the described major replacement component and any incidental items necessary to provide a fully functional system. Replacement components designated in the job order may not be of the same size or material as those removed. Some items designated for replacement may be damaged and not reusable. Other items designated for replacement may not meet current Commission standards and policies. The engineer will determine the actual items to be replaced.**3.1.2** Unless otherwise directed by the engineer, the contractor shall reuse any undamaged major components salvaged from the damaged guardrail system, terminal, or appurtenance in order to provide a fully functional system. Minor components, such as nuts and bolts, may only be reused after inspection and approval by the engineer. Reused nuts and bolts shall only be used with salvaged major components. All new major components shall use new nuts, bolts, and other miscellaneous minor components.**3.2 Removal of Entire Guardrail System and/or Terminal.** If the engineer determines an existing guardrail, end anchor, bridge anchor section, turndown terminal, crashworthy terminal or other related appurtenance has been significantly damaged and/or the guardrail system does not comply with current Commission standards or policies, the guardrail system and/or terminal shall be removed as designated in the job order or as directed by the engineer.**3.2.1** Unless otherwise designated by the engineer for salvage by the Commission, all materials removed shall become the property of the contractor and shall be removed from the right of way and properly disposed of.**3.2.2** If the system designated for removal includes a concrete pad, all hardware protruding above the surface of the pad shall be removed or otherwise cut off flush with the surface of the anchor. The concrete pad shall be abandoned in place unless otherwise directed by the engineer.**3.3 Installation of New Guardrail System and/or Crashworthy Terminal.** If the job order designates a contract pay item for new guard rail, bridge anchor, transition section, end anchor, crashworthy end terminal, or other appurtenance the contractor shall furnish and place the designated item complete in place. The new system and/or terminal shall be installed at the location designated by the engineer.**3.4 Realigning Posts.** Posts which are out of alignment but otherwise undamaged will be designated for realignment. The contractor shall realign and plumb the designated posts. After realignment, any voids around the post shall be securely backfilled with a cohesive soil, or a sand meeting the gradation requirements of Sec 1005.3.5, and thoroughly tamped.**3.5 Driving Replacement Posts and Foundation Tubes.** When a replacement post or foundation tube is placed in the same hole as a removed damaged post or tube, the contractor shall first securely backfill the hole with a cohesive soil, or a sand meeting the requirements of Sec 1005.3.5, and thoroughly tamp the soil before driving the replacement post or tube.**3.6 Re-tensioning Guardrail System.** After replacement of all necessary components, the anchor hardware (cable, bolts, bearing plates, etc.) for all end anchors and end terminals shall be re-tensioned such that the anchor is tightly connected to the guardrail beam and bearing plate is properly aligned to ensure the proper tension in the guardrail system and so that the finished installation presents an appearance satisfactory to the engineer. Anchor systems for end terminals shall be tensioned in accordance with the manufacturer’s recommendations. Following tensioning, all clamps, bolts and other required hardware shall be completely tightened.

**3.7 Terminal End Marker.** On repaired/replaced crashworthy end terminals located 12 feet or less from the edge of the traveled way, the contractor shall furnish and install a modified Type III black and yellow object marker or other marking as directed by the engineer. The marker size, shape, method of attachment and placement shall be approved by the engineer prior to installation.**3.8 Guardrail Block.** Current Commission standards require the use of 12" x 6" x 14" or 21” wood or plastic guardrail blocks for new guardrail installations. Former standards allowed use of 8" x 6" x 14" or 21” blocks. For those locations requiring replacement of only the block and not the post, minor adjustments to the alignment of the existing guardrail posts or guardrail panels may be required to accommodate the 12" block.**3.9 Guardrail Delineators.** Guardrail locations that require removal and replacement of existing damaged or missing delineators will be specified on the job order. The job order will designate the number of retro-reflective one-sided and two-sided delineators and will designate the color of the replacement delineators.

**3.10 Additional Work.** If additional major components or pay items beyond those specified in the job order are needed to properly perform the work, the contractor shall contact the engineer for authorization to proceed with the additional work. Any work performed without authorization of the engineer will be at the contractor's expense.**4.0 Method of Measurement.4.1** Measurement of existing guardrail, end anchor, bridge anchor, Type A crashworthy terminal, and turndown terminal removal will be made to the nearest foot from center of first post to center of last post.**4.2** Measurement of existing Type B crashworthy terminal removal will be made per each.**4.3** Measurement of removed and replaced guardrail and end terminal repair components will be made per each.**4.4** Measurement of realigned posts will be made per each.

**4.5** Measurement of re-tensioning guardrail will be made per each complete section of guardrail re-tensioned between the two anchors.

**4.6** Measurement of terminal end markers will be made per each.**4.7** Measurement of removal of extruded guardrail beam from an extruder and reuse of the extruder will be made per each.**4.8** Measurement of removed and replaced guardrail delineators will be made per each. Tabulation of delineators with one-sided retro-reflective sheeting and two-sided sheeting will be made separately.

**5.0 Basis of Payment.5.1** The accepted quantity of removed guardrail, end anchor, bridge anchor, or turndown terminal will be paid for at the contract unit price for: Item 202-99.03 Misc. Remove Guardrail Lineal Foot **5.1.1** Payment will be considered full compensation for all labor and equipment necessary to completely remove the guardrail system.**5.2** The accepted quantity of removed Type A or Type B crashworthy terminals will be paid for at the contract unit price for: Item 202-99.02 Misc. Type A or B Each Terminal Removal**5.2.1** Payment will be considered full compensation for all labor and equipment necessary to completely remove the terminal system.

**5.3** The accepted quantities of removed and replaced guardrail and terminal repair components will be paid for at the contract unit price for each of the pay items included in the contract. Payment will be considered full compensation for all labor, equipment, and material necessary to remove the existing component, furnish a new replacement component, and install the component. No direct payment will be made for removing or reinstalling any reused undamaged components necessary to provide a fully functional system.**5.4** The accepted quantity of realigned posts will be paid for at the contract unit price for: Item 606-99.02 Misc. Realign and Use Existing Post, Each Type A, E or MGS Guardrail**5.4.1** Payment will be considered full compensation for all labor, equipment, and material, including any required backfill, necessary to realign and plumb an existing post.**5.5** The accepted quantity of re-tensioned guardrail system will be paid for at the contract unity price for:

Item 606-99.02 Misc. Re-tension Guardrail System Each

**5.5.1** Payment will be considered full compensation for all labor, equipment, and material necessary for re-tensioning an entire run of guardrail between two anchors.

**5.6** The accepted quantity of removed and replaced guardrail delineators will be paid for at the contract unit price for: Item 606-99.02 Misc. R&R Guardrail Delineator Each Retro–reflective One-side Item 606-99.02 Misc. R&R Guardrail Delineator Each Retro–reflective Two-sides**5.6.1** Payment will be considered full compensation for all labor, equipment, and material necessary to remove, furnish, and install a guardrail delineator.

GG. DEFINITION OF SPECIAL "99 NUMBER" PAY ITEMS

**1.0** The contract contains a large number of special "99-number" pay items. The Commission's automated bidding system is limited by the number of characters allowed for each special item description. The following table defines the abbreviated item descriptions. This table also further defines the work required for each of the pay items.

ITEM NO. ITEM DESCRIPTION

Traffic Control Items

616-99.02 ADDITIONAL TRUCK MOUNTED ATTENUATOR

Provide additional truck mounted attenuator for use in addition to other

616-99.04 ADDITIONAL TRAFFIC CONTROL SIGNS

Provide additional traffic control signs for use in addition to other devices specified in the traffic control plan.

616-99.02 ADDITIONAL FLASHING ARROW PANEL

Provide additional flashing arrow panel for use in addition to other devices specified in the traffic control plan.

616-99.02 ADDITIONAL CHANNELIZER (TRIMLINE/DRUM)

Provide additional channelizers for use in addition to other devices specified in the traffic control plan. The channelizer specified shall be either trim line or drum-like.

616-99.02 ADDITIONAL CHANGEABLE MESSAGE SIGN

Provide additional changeable message sign for use in addition to other devices specified in the traffic control plan.

616-99.02 ADDITIONAL ADVANCED WARNING RAIL SYSTEM

Provide additional advanced warning rail system for use in addition to other devices specified in the traffic control plan.

616-99.02 ADDITIONAL FLAG ASSEMBLY

Provide additional flag assembly for use in addition to other devices specified in the traffic control plan.

616-99.02 ADDITIONAL DIRECTIONAL INDICATOR BARRICADE

Provide additional directional indicator barricades (DIBS) for use in addition to other devices specified in the traffic control plan.

616-99.02 WORK BEYOND SHOULDER

Provide traffic control for work off roadway shoulder, but within clear zone. Not to be used when vehicles are parked on shoulder.

616-99.02 SHOULDER WORK – UNDIVIDED ROADWAYS

Provide traffic control for work on shoulder or vehicles parked on shoulder.

616-99.02 LEFT SHOULDER WORK – HIGH SPEED ROADWAY

Provide traffic control for work on left shoulder or vehicles parked on left shoulder of a high speed roadway as designated by the engineer.

616-99.02 RIGHT SHOULDER WORK – HIGH SPEED ROADWAY

Provide traffic control for work on right shoulder or vehicles parked on right shoulder of a high speed roadway as designated by the engineer.

616-99.02 1-LANE 2-WAY OPERATION W/FLAGGERS

Provide traffic control for one lane, two way operations on non-divided two lane pavement, using two flaggers.

616-99.02 SINGLE LANE CLOSURE

Provide traffic control closing one lane, left or right, on a divided highway.

616-99.02 PARTIAL RAMP CLOSURE

Provide traffic control for partial ramp closure.

616-99.02 COMPLETE RAMP CLOSURE

Provide traffic control for complete ramp closure.

616-99.02 ENTRANCE RAMP AREA, MAINLINE WORK

Provide traffic control within an entrance ramp area closing one lane on a divided highway; work is along mainline.

616-99.02 ENTRANCE RAMP AREA, ACCEL LANE WORK

Provide traffic control within an entrance ramp area closing one lane on a divided highway. Work is along acceleration lane.

616-99.02 EXIT RAMP AREA, MAINLINE/DECEL LANE WORK

Provide traffic control within an exit ramp area closing one lane on a divided highway. Work is along mainline or deceleration lane.

616-99.02 SEQUENTIAL FLASHING WARNING LIGHT

Provide traffic control with sequential flashing warning light.

# New Guardrail Installation Items

606-10.10 GUARDRAIL TYPE A

Furnish and install Type A Guardrail.

606-10.11A GUARDRAIL TYPE A, 7 FT. POST, 3 FT. – 1.5 IN. SPACING

Furnish and install Type A Guardrail with 7’ post, 3’-1 1/2” spacing.

606-99.02 INSTALL POST IN SOLID ROCK OR CONC, 6 OR 7’ (TYPE A, E OR MGS)

Install 6’ or 7’ guardrail post in solid rock or through concrete for Type A, E or MGS guardrail. Pay item is in addition to normal pay item for new guardrail or for normal pay item to remove and replace a 6’ or 7’ type A or E guardrail post.

202-99.02 TYPE A OR B TERMINAL REMOVAL

Remove existing complete Type A or B crashworthy end terminal.

606-10.60 GUARDRAIL, MGS

Furnish and install Midwest Guardrail System guardrail.

606-10.61 GUARDRAIL, MGS, 8FT., 6 FT. – 3 IN. SPACING

Furnish and install Midwest Guardrail System guardrail with 8’ post with 6’-3” spacing.

606-10.63 MGS GUARDRAIL, 6FT. POSTS, 3 FT. – 1.5 IN. SPACING

Furnish and install Midwest Guardrail System guardrail with 6’ post having 3’-1 ½” spacing.

606-10.65 MGS GUARDRAIL, 6FT. POSTS, 1 FT. – 6.75 IN. SPACING

Furnish and install Midwest Guardrail System guardrail with 6’ post having 1’-6.75” spacing.

606-10.67 MGS DOUBLE FACED GUARDRAIL

Furnish and install Midwest Guardrail System double-faced guardrail.

606-10.68 MGS BRIDGE APPROACH TRANSITION SECTION (EXTENDED CURB)

Furnish and install Midwest Guardrail System bridge approach transition section on locations where existing curb extends beyond post #11.

606-10.69 MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR / NO CURB)

Furnish and install Midwest Guardrail System bridge approach transition section on locations where existing curb does not extend beyond post #11.

606-10.70 MGS VERTICAL CONCRETE BARRIER TRANSITION

Furnish and install Midwest Guardrail System vertical concrete barrier transition.

606-10.74 MGS HEIGHT AND BLOCK TRANSITION SECTION

Furnish and install Midwest Guardrail System height and block transition section.

606-10.75 MGS LONG SPAN GUARDRAIL SECTION

Furnish and install Midwest Guardrail System long span guardrail section.

606-10.80 MGS END ANCHOR

Furnish and install Midwest Guardrail System end anchor.

606-10.81 MGS BRIDGE ANCHOR SECTION (THRIE-BEAM BRIDGE)

Furnish and install Midwest Guardrail System Thrie Beam bridge anchor section.

606-22.00A BRIDGE ANCHOR SECTION, 6.5 FT. POSTS (SAFETY BARRIER CURB)(ROADWAY AND REHABILITATION WORK ONLY)

Furnish and install bridge anchor section with 6’ 6” ft. posts for only roadway and rehabilitation work.

606-22.00A BRIDGE ANCHOR SECTION, 7.5 FT. POSTS (SAFETY BARRIER CURB)(ROADWAY AND REHABILITATION WORK ONLY)

Furnish and install bridge anchor section with 7’ 6” ft. posts for only roadway and rehabilitation work.

606-99.02 MGS TRANSITION SECTION, 6 FT. POSTS

Furnish and install Midwest Guardrail System transition section with 6’ posts.

606-23.00A TRANSITION SECTION, 6.5 FT. POSTS

Furnish and install guardrail transition section with 6’ 6” posts.

606-23.01A TRANSITION SECTION, 7.5 FT. POSTS

Furnish and install guardrail transition section with 7’ 6” posts.

606-23.03 ASYMMETRICAL TRANSITION SECTION, 6.5 FT. POSTS

Furnish and install asymmetrical guardrail transition section with 6’ 6” posts.

606-23.04 ASYMMETRICAL TRANSITION SECTION, 7.5 FT. POSTS

Furnish and install asymmetrical guardrail transition section with 7’ 6” posts.

606-24.00 BRIDGE ANCHOR SECTION (THRIE BEAM)

Furnish and install Thrie Beam bridge anchor section.

606-30.00 TERMINAL SECTION – GUARDRAIL

Furnish and install terminal section for guardrail.

606-30.14 TYPE A CRASHWORTHY END TERMINAL (MASH)

Furnish and install MASH Type A crashworthy end terminal.

606-30.16 TYPE B CRASHWORTHY END TERMINAL

Furnish and install Type B crashworthy end terminal.

606-30.17 TYPE C CRASHWORTHY END TERMINAL

Furnish and install Type C crashworthy end terminal.

606-30.18 TYPE D CRASHWORTHY END TERMINAL

Furnish and install Type D crashworthy end terminal.

606-30.19 TYPE E CRASHWORTHY END TERMINAL

Furnish and install Type E crashworthy end terminal.

606-66.10 END ANCHOR

Furnish and install end anchor.

606-66.20 GUARDRAIL ANCHOR, EMBEDDED

Furnish and install embedded guardrail anchor.

606-66.30 GUARDRAIL ANCHOR, ROCK FACE

Furnish and install Guardrail Anchor, Rock Face.

# Guardrail Repair Items

606-99.02 R&R 12.5’ W-BEAM PANEL (TYPE A GR)

Remove and replace 12’-6” Type A guardrail beam.

606-99.02 R&R 12.5’ W-BEAM PANEL (MGS)

Remove and replace 12’-6” Midwest Guardrail System guardrail beam.

606-99.02 R&R 12.5' THRIE BEAM RAIL TY E GR

Remove and replace 12’-6” thrie beam rail for Type E guardrail.

606-99.02 R&R END ANCHOR RAIL

Remove and replace end anchor rail section.

606-99.02 R&R MGS END ANCHOR

Remove and replace Midwest Guardrail System end anchor.

606-99.02 R&R MGS END ANCHOR CABLE ASSEMBLY

Remove and replace Midwest Guardrail System end anchor cable assembly.

606-99.02 R&R PARTS FOR END SECTION

Remove and replace parts for end section.

606-99.02 R&R PARTS FOR TYPE C END TERMINAL

Remove and replace parts for Type C end terminal.

606-99.02 R&R 25’ W-BEAM PANEL (TYPE A GR)

Remove and replace 25’ W-beam guardrail panel for Type A guardrail. Existing panels may be 12.5’ long.

606-99.02 R&R 25’ W-BEAM PANEL (MGS)

Remove and replace 25’ W-beam guardrail panel for Midwest Guardrail System guardrail. Existing panels may be 12.5’ long.

606-99.02 R&R 6.25’ THRIE BEAM PANEL (MGS)

Remove and replace 6.25’ Thrie beam guardrail panel for Midwest Guardrail System guardrail.

606-99.02 R&R 18.75’ THRIE BEAM PANEL (MGS)

Remove and replace 18.75’ Thrie beam guardrail panel for Midwest Guardrail System guardrail.

606-99.02 R&R 25’ THRIE BEAM PANEL (TYPE E GR)

Remove and replace 25’ Thrie beam guardrail panel for Type E guardrail. Existing panels may be 12’-6” long.

606-99.02 R&R 25’ THRIE BEAM PANEL (MGS)

Remove and replace 25’ Thrie beam guardrail panel for Midwest Guardrail System guardrail. Existing panels may be 12’-6” long.

606-99.02 R&R 6.25’ TYPE A TO TYPE E TRANSITION BEAM

Remove and replace 6.25’ transition section beam for Type A to Type E transition.

606-99.02 R&R 12.5’ END ANCHOR PANEL

Remove and replace 12.5’ end anchor W-beam panel. Existing beam may be shorter.

606-99.02 R&R 12.5’ MGS END ANCHOR PANEL

Remove and replace Midwest Guardrail System 12.5’ end anchor panel.

606-99.02 R&R 12.5’ BEAM, CONC/CONVEX RADIUS, TY A

Remove and replace 12’-6” Type A guardrail beam with a concave or convex radius beam.

606-99.02 R&R 12.5’ BEAM, CONC/CONVEX RADIUS, MGS

Remove and replace 12’-6” Midwest Guardrail System guardrail beam with a concave or convex radius beam.

606-99.02 R&R 12.5’ BEAM 10 GA. (TYPE E GR)

Remove and replace 12’-6”, 10 gage, Type E guardrail beam.

606-99.02 R&R STEEL POST, 6' MGS

Remove and replace 6’ steel guardrail post for MGS guardrail.

606-99.02 R&R STEEL POST, 6' TYPE A OR MGS GR

Remove and replace 6’ steel guardrail post for Type A or MGS guardrail.

606-99.02 R&R STEEL POST 6', TY E GR

Remove and replace 6’ steel guardrail post for Type E guardrail.

606-99.02 R&R STEEL POST 7' (TY A GR)

Remove and replace 7’ steel post for Type A guardrail.

606-99.02 R&R STEEL POST 7' (TY E GR)

Remove and replace 7’ steel post for Type E guardrail.

606-99.02 R&R WOOD POST 6' (TY A GR)

Remove and replace 6’ wood post for Type A guardrail.

606-99.02 R&R WOOD POST 7' (TY A GR)

Remove and replace 7’ wood post for Type A guardrail.

606-99.02 R&R STEEL POST 8' MGS

Remove and replace 8’ steel guardrail post for MGS guardrail.

606-99.02 REALIGN & USE EXIST POST TY A OR E OR MGS GR

Realign and reuse existing guardrail post for Type A or E or MGS guardrail.

606-99.02 R&R WOOD/PLASTIC BLOCK 8X6X14 TY A GR

Remove and replace wood or plastic post block, 8" x 6" x 14" for Type A guardrail.

606-99.02 R&R WOOD/PLASTIC BLOCK 8X6X14 MGS

Remove and replace wood or plastic post block, 8" x 6" x 14" for Midwest Guardrail System guardrail.

606-99.02 R&R WOOD/PLASTIC BLOCK 12X6X14 MGS

Remove and replace wood or plastic post block, 12" x 6" x 14" for Midwest Guardrail System guardrail.

606-99.02 R&R WOOD BLOCK 8X6X17 TRANSITION SECTION

Remove and replace wood or plastic post block, 8" x 6" x 17" for Type A to Type E transition section.

606-99.02 R&R WOOD BLOCK 12X6X19 TRANSITION SECTION

Remove and replace wood or plastic post block, 12" x 6" x 19".

606-99.02 R&R MGS HEIGHT AND BLOCK TRANSITION SECTION

Remove and replace Midwest Guardrail System height and block transition section.

606-99.02 RE-TENSION GUARDRAIL SYSTEM

Re-tension anchor hardware for all end anchors and end terminals.

606-99.02 R&R STEEL SPACER BLOCK (TYPE A GR)

Remove and replace steel spacer block for Type A guardrail.

606-99.02 R&R STEEL BLOCKOUT FOR RADIUS RAIL

Remove and replace steel blockout for radius rail.

606-99.02 R&R WOOD/PLASTIC BLOCK 8X6X21 TY E GR

Remove and replace wood or plastic post block, 8" x 6" x 21" for Type E guardrail.

606-99.02 R&R STEEL TUBE BLOCK 7X4 BR ANCH

Remove and replace structural steel tubing block, 7" x 4" x 3/16" for bridge anchor section.

606-99.02 R&R END SEC (SHOE) TY A GR

Remove and replace guardrail end section (also called a shoe) for Type A guardrail.

606-99.02 R&R TERMINAL CONNECTOR TY A OR MGS GR

Remove and replace terminal connector for Type A or MGS guardrail.

606-99.02 R&R TERMINAL CONNECTOR, TYPE E OR MGS GR

Remove and replace thrie beam terminal connector for Type E or MGS guardrail.

606-99.02 R&R GR DELINEATOR 1 SIDE

Remove and replace existing 1 reflective sided guardrail delineator. Color will be designated on the job order.

606-99.02 R&R GR DELINEATOR 2 SIDE

Remove and replace existing guardrail delineator that is reflective on 2 sides. Color will be designated on the job order.

HH. STORMWATER COMPLIANCE REQUIREMENTS NJSP-15-38

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

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

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

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

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

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

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

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

**3.1** Duties of the WPCM:

1. Be familiar with Stormwater Requirements including the National Pollutant Discharge Elimination System (NPDES), the current MoDOT State Operating Permit for construction stormwater discharges/ land disturbance activities, the Project-specific Stormwater Pollution Prevention Plan (Project SWPPP), the Corps of Engineers Section 404 Permit, when applicable, the Consent Decree, and this provision. The Project SWPPP includes: a title page with project-specific information, the general SWPPP posted on the MoDOT land disturbance website, the Project Erosion & Sediment Control Plan, all applicable special provisions, and all applicable specifications and standard drawings;
2. Complete the stormwater training set forth in Section 2.0;
3. Attend the Pre-Activity for Grading/ Land Disturbance Meeting or, if hired after the meeting has occurred, be familiar with the conference decisions;
4. Review and sign the Project-specific SWPPP and all updates thereto within time periods set out in the Consent Decree;
5. Visit and review the project site for compliance with Stormwater Requirements at least once per week from the start of any grading operations until final stabilization is achieved and permit is closed;
6. Be authorized by the Contractor to supervise all work performed by the Contractor and subcontractors that involves compliance with Stormwater Requirements, including the authority to order work be stopped on a Project, implement MoDOT-directed changes in work related to Stormwater Requirements, and order the taking of, measures to cease, correct, prevent, or minimize the consequences of non-compliance with Stormwater Requirements;
7. Review and certify electronically each MoDOT inspection report for the Project within three (3) days of receiving each report to ensure it conforms with report requirements in the National Pollution Discharge Elimination System Stormwater (NPDES SW) Permit, Project SWPPP and the Consent Decree and ensure that all Stormwater Deficiencies noted on the report are corrected within the time required;
8. Recommend in writing within three (3) days of discovering any changes in site conditions and Best Management Practices (BMPs) that require an update to the Project-specific SWPPP; and
9. 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:

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

**5.1 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](http://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:

* 1. monitor the progress of activities required under the Consent Decree;
  2. verify any data or information submitted to the United States in accordance with the terms of the Consent Decree;
  3. obtain samples and, upon request, splits of any samples taken by MoDOT or its representatives, contractors, or consultants;
  4. obtain documentary evidence, including photographs and similar data; and
  5. assess MoDOT’s compliance with the Consent Decree.

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

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

II. GUARDRAIL COMPLIANCE REQUIREMENTS

**1.0** Effective July 1, 2016 all new end terminals and end terminal repairs on routes shall be MASH Crashworthy End Terminals.

All new guardrail installations shall use Midwest Guardrail System (MGS) in lieu of Type A Guardrail. For guardrail repairs, Type A or MGS guardrail may be used as determined by the engineer.

1. GRADING FOR CRASHWORTHY END TERMINAL

**1.0 Description.** This work shall consist of all grading necessary to meet or exceed the Alternate Grading limits for MASH crashworthy End Terminals as shown on Standard Drawing 606.81, including furnishing and placing the fill material and mobilization of equipment. The graded area for the end terminal shall be sloped no greater than 10:1 away from the edge of pavement or shoulder. Grading shall include constructing a 2:1 or flatter slope from the grading limits shown on the standard drawing to the existing slope.

**1.1** Grading for Crashworthy End Terminal (GCET) will not be used for locations where the engineer estimates more than 15 cubic yards of material per end terminal will be required or where constructing a 2:1 or flatter slope from the grading area to the existing slope is deemed to be infeasible. When either of the aforementioned conditions applies, the work is considered beyond the scope of this contract unless both parties agree to a negotiated settlement to proceed with performing the work. The engineer may also decline to utilize GCET for any other reasons.

**1.2** Completion of the GCET work may be done concurrently with the repair of the end terminal or may be postponed by the contractor for a maximum of 30 calendar days from the notice to proceed date specified on the job order. Failure to complete the grading work within the limit specified herein will result in liquidated damages as specified elsewhere in this contract.

**1.3** The Commission estimates that GCET will be specified on approximately [insert estimated # here] job orders during the first year of this contract, but reserves the right to exceed that number or have fewer than that number. GCET will not be specified at locations where end terminal repairs are not included on the job order.

**2.0 Materials.** The fill material used by the contractor shall be rocky in nature, such as crushed stone, base rock, or other granular type material approved by the engineer. Limestone screenings, sand and other fine materials that are highly erodible shall not be used for fill material. Large rock, not to exceed a maximum nominal size of 8”, may be used, but shall be gap-graded to minimize voids. When the size of the rock used exceeds 3” in diameter, all voids in the rock fill shall be filled with granular material of 1” size or less.

**2.1** Material shall not be obtained from Commission right of way. Material obtained from a contractor-furnished borrow shall be in accordance with 203.3.

**3.0 Construction.** The rocky fill material shall be placed in accordance with this provision and as stated herein. Existing vegetative material shall be removed prior to adding fill material. Compactive effort and construction methods shall be performed to the extent that the final 10:1 platform has sufficient stability to support a standard unloaded dump truck without sliding of the material or rutting of the platform in excess of 1” in depth. Proof rolling by the contractor with an unloaded dump truck may be required upon request by the engineer at no additional cost to the Commission. Benching of the existing slope may be required to ensure the material has a stable foundation to comply with this provision. The final surface of the graded area shall be uniform and true to grade.

**4.0 Method of measurement**. No final measurement will be made for the volume of material used for GCET. A preliminary estimate of the amount of fill will be made by the engineer for the purpose of determining if GCET shall be specified. The job order issued by the engineer will indicate the need for GCET when, in the opinion of the engineer, the existing terrain at the end terminal does not meet or exceed the alternate grading limits for MASH crashworthy end terminals as shown on Standard Drawing 606.81 and the engineer estimates the grading work needed to meet the standard will not exceed 15 CY of material.

**5.0 Basis of Payment.**  A lump sum payment will be made for each end terminal that requires GCET, as determined by the engineer. Payment for this work shall be completely covered by the fixed unit price for GRADING FOR CRASHWORTHY END TERMINAL multiplied by the appropriate adjustment factor.

**5.1** Payment for traffic control will not be duplicated when the contractor performs the GCET work separate from the repair of the end terminal.

II. MONTHLY RECONNAISSANCE

1. **Description.** The contractor shall provide monthly reconnaissance as specified herein to ensure all X-LITE end terminals within the contract limits have been identified.

**1.1** The contractor shall conduct a physical search for all existing X-LITE End Terminals on MoDOT routes within the contract limits. The list of MoDOT state system routes for this contract is available as an electronic deliverable on MoDOT’s electronic plans room. Reconnaissance reports shall be provided on a monthly basis for the length of the contract.

**1.2** The Commission estimates there are (NW-125 / KC-200 / CD-75) X-Lite end terminals and (NW-5,239 / KC-2,789 / CD 4,983) centerline lanes miles of state system routes within the limits of this contract.

**2.0 Reconnaissance Report.** The contractor shall provide a monthly reconnaissance report that lists the following information on X-LITE end terminals that have been discovered:

1. Route
2. GPS Coordinates of X-Lite End Terminal
3. Direction of Travel
4. Side of Road
5. Upstream or Downstream
6. Type of replacement end terminal\*
7. Status of replacement (Complete\*/Scheduled)
8. Status of End Terminal Grading (Complete\*/Scheduled/Deferred\*)

\*This information will be added to the summary report after the Work Order is complete.

**2.1** Reconnaissance reports shall be provided in an excel spreadsheet each month. The reconnaissance report shall be summary of all identified X-LITE end terminals for the entire contract and shall be provided as a final deliverable document for project acceptance.

**3.0 Method of Measurement.** Measurement of monthly reconnaissance will be per each completed and accepted reconnaissance report.

**5.0 Basis of Payment.** The accepted quantity of reconnaissance reports will be paid for at the contract unit price for 618-99.02, Monthly Reconnaissance, per each. The monthly reconnaissance unit bid price shall include the cost of all labor, equipment and materials to complete the physical search and reconnaissance report.