AMENDMENT OF SOLICITATION / MODIFICATION OF CONTRACT

1. Contract Number	Page of Pages	
DCKA-2026-B-0078	1	50

2. Amendment/Modification Number	3. Effective Date	4. Requisition/Purchase Request No.	5. Solicitation Caption
Amendment No. 1	See Box 16C		**Guardrails and Attenuators Repair, Upgrade, and Replacement**

6. Issued by: Code	7. Administered by (If other than line 6)
District Department of Transportation Office of Contracting and Procurement 250 M Street, SE, 7th Floor. Washington, D.C. 20003	

8. Name and Address of Contractor (No. street, city, county, state and zip code)		9A. Amendment of Solicitation No.
TO ALL PROSPECTIVE OFFERORS	X	DCKA-2026-B-0078 9B. Dated (See Item 11) 05/05/2026
		10A. Modification of Contractor/Order No.
Code Facility		10B. Dated (See Item 13)

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers ☐ is extended. ☒ is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning **one (1) copy** of the amendment: (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or fax which includes a reference to the solicitation and amendment number. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such may be made by letter or fax, provided each letter or telegram makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. Accounting and Appropriation Data (If Required)

13. **THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS** ,
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14

	A. This change order is issued pursuant to (Specify Authority): 27 DCMR, Chapter 36, Section 3601.2(b) The changes set forth in Item 14 are made in the contract/order no. in item 10A.
	B. The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data etc.) set forth in item 14, pursuant to the authority of 27DCMR, Chapter 36, Section 3601.2.
	C. This supplemental agreement is entered into pursuant to authority of:
	D. Other (Specify type of modification and authority) Paragraph 15, Changes, Standard Contract Provisions

E. IMPORTANT: Contractor ☐ is not ☒ is required to sign this document and return one (1) copy to the issuing office.

14. Description of Amendment/Modification (Organized by UCF Section headings, including solicitation/contract subject matter where feasible.)

Solicitation No. DCKA-2026-B-0078 is hereby amended as follows:

1. Delete J.12 Special Provisions in its entirety and replace with the updated J.12 Special Provisions. See pages 2-50.

- Amendments are available for viewing and downloading from: https://dtap.ddot.dc.gov.

Except as provided herein, all terms and conditions of the document is referenced in Item 9A or 10A remain unchanged and in full force and effect.

15A. Contractor's Name and Title of Signer (Type or print)		16A. Name of Contracting Officer	
		Mohammad Siddiqi	
15B. Contractor/Vendor (Signature of person authorized to sign)	15C. Date Signed	16B. District of Columbia Mohammad Siddiqi (Signature of Contracting Officer)	16C. Date Signed 05/05/2026

GOVERNMENT OF THE DISTRICT OF COLUMBIA

DEPARTMENT OF TRANSPORTATION

OPERATIONS ADMINISTRATION

INVITATION FOR BIDS

SOLICITATION NO. DCKA-2026-B-0078

PROJECT: GUARDRAILS AND IMPACT ATTENUATORS REPAIR, UPGRADE AND REPLACEMENT

FAP NO.: 2018 (014)

Bids will be publicly opened by The Office of Contracting and Procurement. This will be a virtual meeting on WebEx.

Bids will be opened on Thursday, May 21, 2026, at 2:30 P.M.

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

TITLE PAGE -- SPECIFICATIONS
ISSUING OFFICE:

District Department of Transportation
Office of Contracting and Procurement
250 M Street, S.E., Floor
Washington, D.C. 20003

The last day for requests for clarification or interpretation of Bid Documents is Wednesday, May 6, 2026, at 5:00 P.M. (EST). Include the Solicitation number in the subject line and email to: tracy.shields@dc.gov

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Prospective Bidders:

Bids will be publicly opened by the Office of Contracting and Procurement. Bid Opening will be on Thursday, May 21, 2026, at 2:30 P.M. (EST). This will be a virtual meeting on WebEx.

A Pre-Bid Conference will be held on Thursday, April 30, 2026, at 10:00 A.M. (EST). This will be a virtual meeting on WebEx.

Disadvantaged Business Enterprise (DBE) Goal: N/A

To bid this Contract, see the Bid Forms and Proposal; fill out all forms as required by this solicitation, along with Bid Guaranty as required, and submit them prior to the time of bid opening.

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1. DETAILED DRAWINGS:

Refer to DDOT standard drawings.

2. SHOP AND WORKING DRAWINGS:

Shop and Working Drawings shall be submitted to:

Roadway Management Branch
D.C. Department of Transportation
60, Florida Avenue, N.E., 2nd Floor
Washington, D.C. 20002

3. DEFINITIONS:

For the purposes of this contract, any reference to the term "Guiderails", whether appearing in singular or plural form, in any section, drawings, specifications, or related documents, shall be deemed to mean and be interpreted as "Guardrails."

4. WORK HOURS:

This S.P. supplements and modifies Article 17.C of the General Provisions, 105.10 and 105.11. Work may be performed outside of the following hours only when required or allowed by the Contract specifications or with the advanced notice to and approval by the CA:

• Monday through Friday	7:00 AM to 7:00 PM	non-NHS Routes
• Monday through Friday	9:30 AM to 3:30 PM	NHS Routes
• Saturday	7:00 AM to 7:00 PM	All Routes

Work hours beyond these limits may be approved by the CA.

5. LOCATIONS OF WORK:

(A) GENERAL - Specific locations for guardrails, impact attenuators, fencing and concrete barriers work are not included in this document. Prior to beginning work, the CA will supply the Contractor with a list of known work sites in the order in which they are to be completed. As the Contract progresses, additional work sites may be added at indefinite times and indefinite quantities, as guardrails, impact attenuators, fencing and concrete barriers are damaged or designs for guardrails, impact attenuators, fencing and concrete

barrier locations are completed. Most of the sites on which work is to be conducted will be located on the freeway system. However, the Contractor shall be prepared to work on any District street. The Contractor shall be provided with the existing type of guardrail or impact attenuator that is to be repaired, such as location, type, and size.

(B) -WORK AND STORAGE SPACE - This Special Provision Supplements Section 103, Article 17.B, "Work and Storage Space," of the Standard Specifications. No work and storage area are being designated in this Contract. The Contractor shall be fully responsible for seeking necessary space and undergoing all required negotiations with the owner of the property to secure its use and for restoring the area to the satisfaction of the owner.

6. INCREASE OR DECREASE IN CONTRACT QUANTITIES:

Attention is directed to the fact that the estimate of quantities of work to be performed is based upon the historical record of DDOT's previous experience in conducting repairs of guardrail and impact attenuators. Actual Contract quantities will vary due to the unexpected nature of the repairs required and assigned during the Contract period. Quantities and deliveries are indefinite.

7. MOBILIZATION, ITEM 108001

This SP supplements Standard Specifications Section 108.04 Mobilization.

PAYMENT:
Payment shall be made at the contract unit price a contractor crew works per each day completing non-emergency work orders. A crew is a team of approximately 4-5 workers. To be fully compensated for this item the contractor must complete the work at a reasonable speed.

8. EMERGENCY MOBILIZATION, ITEM 108003

(A) GENERAL:
These items shall consist of such measures required for the Contractor to obtain the labor, equipment, tools and materials necessary to respond to emergency work orders issued by the CA and to begin repair work within the allotted response time of 4 hours. The items are intended to allow compensation to the Contractor for the costs associated with ensuring prompt response to work assignments.

(B) MEASURE:
The unit of measure shall be per each emergency work order issued by the CA and completed by

the Contractor.

(C) PAYMENT:
Payment shall be made at the contract unit price per each emergency work order, which payment shall be in addition to that for any other items that may apply toward the compensation of each emergency work order respectively. Payment for scheduled repair work shall not include Emergency Mobilization.

9. STRUCTURE HARD SURFACE EXCAVATION, ITEM 205010

This Special Provision supplements and modifies Section 205.03, "Structure Hard Surface Excavation," of the Standard Specifications.

(A) GENERAL:
Work under this item consists of partial or total removal and disposal of guardrails, impact attenuators, concrete barriers, and any attached fencing, as part of the work for retrofitting existing impact attenuators locations for the installation of replacement impact attenuators. Included is saw cutting, to a neat line, about the perimeter of the area to be removed and carefully removing the material so as not to damage existing reinforcing steel and embedded electrical conduits. Also included is cleaning the existing reinforcing steel and cutting and bending the bars, if directed by the CA, in preparation for placing new concrete.

(B) CONSTRUCTION METHODS:
Concrete shall be carefully removed to the limits shown on the provided drawing, or as directed by the CA. Any material removed beyond authorized limits, or any portion of remaining structure damaged as a result of negligence on the part of the Contractor, shall be replaced or repaired by the Contractor at their own expense. Materials and debris shall not be dumped or permitted to fall onto the areas around the location. All materials removed shall become the property of the Contractor and shall be disposed of daily away from the site. All items designated to be wholly or partially removed shall conform to the detailed drawings and these Special Provisions, unless otherwise approved by the CA.

The use of explosives and blasting procedures is prohibited. Prior to partial concrete removal, the perimeter of the area to be removed shall be carefully saw cut to a neat line. The cut lines shall be made down to the outside layer of reinforcing steel making sure that bars to be retained are not damaged. No debris is to be deposited, dropped, placed or secreted within the waters or land beneath or adjacent to the site. Where projecting bars are not to extend into the new construction, they shall be either bent into the new work or cut off flush with the surface to which the concrete has been removed. Cleaning reinforcing steel and removal of excessive length of bars shall be included as part of this work. All material removed shall be disposed of outside the construction area. Material shall be removed daily and not allowed to accumulate on or adjacent to the project site.

When existing reinforcing steel is damaged during removal, the Contractor shall, at their own expense, substitute a bar of equal size drilled in and grouted to the required lap as per AASHTO requirements or attach the new bar to existing by means of an approved mechanical bar splice.

(C) MEASURE AND PAYMENT:
The unit of measure for Structure Hard Surface Excavation will be the cubic yard.
Payment for Structure Hard Surface Excavation will be made at the Contract unit price per cubic yard, which payment will include cutting the perimeter to a neat line, removal and disposal of all materials, cleaning, cutting and bending of existing reinforcing steel and all labor, materials, tools, equipment and incidentals needed to complete the work.

10. AGGREGATE BASE COURSE, ITEM 209003

This Special Provision supplements and modifies Section 209.03, "Aggregate Base Course," of the Standard Specifications.

(A) GENERAL:
This item shall consist of constructing a base course to the specified depth on a prepared foundation conforming to the lines, grades, and cross sections shown in the contract documents. Recycled Crushed Concrete shall not be used in areas where subsurface drainage problems exist in the roadbed; in areas where the roadbed soil is unstable; within undercut roadbed areas; over backfill in areas where unsuitable materials have been removed; or under full depth flexible pavements. Fly ash and other pozzolans, when used with lime in a mixture of soil, soil aggregate, or aggregate, shall conform to the requirements of ASTM C 593.

(B) CONSTRUCTION METHODS:
Aggregate Base Course shall be constructed and tested in accordance with Section 203.03(B). Except as required in excavating and replacing soft spots, the ground shall not be plowed scarified, or disturbed below the base course layer. After the grade has been properly shaped and compacted, the aggregate material shall be evenly placed and spread to a uniform depth without segregation. If the required compacted depth of the base course exceeds 6 inches, the base shall be compacted in 2 or more layers of approximately equal thickness. The maximum compacted thickness shall be 6 inches.

(C) MEASURE AND PAYMENT:
The unit of measure for Aggregate Base Course shall be the cubic yard. The actual number of cubic yards of base course of variable dimensions, measured complete in place, will be paid for at the Contract unit price per cubic yard, which payment will include all labor, materials, tools, equipment, and incidentals necessary to complete the Work as specified herein. Payment will also include all compaction.

11. STEEL-BACKED TIMBER GUARDRAIL/POSTS, ITEM 603016

REMOVE/RESET TIMBER GUARDRAIL, ITEM 603019
REMOVE/RESET TIMBER POST (ANY DEPTH), ITEM 603021

This Special Provision supplements and modifies Section 603, "Guardrails and Guardrail Terminals," of the Standard Specifications.

For these items, follow Federal Highway Standard Drawings 617-60 to 617-82, https://highways.dot.gov/federal-lands/std-drawings#fp617 and DC Standard Specification Section 603 for installation of Timber Guardrail, repair Timber Guardrail, reset Timber Guardrail and installation of complete end terminals.

(A) GENERAL:
This Special Provision supplements and modifies Section 603, Guardrails and Guardrail Terminals, of the DDOT Standard Specifications for Highways and Structures (2013 Edition). It applies to the furnishing and installation of steel-backed timber guardrail systems, as well as the removal, resetting, and repair of existing timber guardrails and timber posts. The work shall be performed in accordance with the contract documents, the referenced specifications, and as directed by the CA. The work includes all labor, equipment, tools, and materials necessary to complete the installation or adjustment of timber guardrail systems at the locations indicated. All work shall comply with the applicable requirements of Section 603 of the DDOT Standard Specifications, and the Federal Highway Administration Standard Drawings numbered 617-60 through 617-82, which govern the installation of timber guardrail, repair of timber guardrail, resetting of timber guardrail, and the installation of complete end terminals. For Item 603016, Steel-Backed Timber Guardrail/Posts, all materials used shall conform to the requirements of Section 603. Timber components shall be pressure-treated and meet specified grading and species requirements. The steel backing shall be zinc (Hot-Dip Galvanized) coating in accordance with AASHTO M 111. Guardrail posts shall be timber, pressure-treated, and structurally compatible with the steel-backed system. All associated hardware, including bolts, nuts, washers, and anchors, shall be galvanized or stainless steel, and must be compatible with both timber and steel materials. For Item 603019, "Remove/Reset Timber Guardrail," existing timber guardrail and its components shall be carefully dismantled and preserved for reuse where feasible. Materials may only be reused if they are free of damage and in good condition, as determined by the CA. Damaged or deteriorated elements must be replaced with new materials that meet the original specifications. The guardrail must be reinstalled to its original line and grade, or as otherwise directed. Item 603021, "Remove/Reset Timber Post (any depth), includes the removal and resetting of timber posts at specified locations. Posts shall be reset at the correct depth, height, alignment, and spacing. Reused posts must be in good condition, structurally sound, and free of defects. Where posts are reset in existing holes, the voids shall be properly backfilled and compacted. If new holes are required, the previous holes must be properly filled and restored. Installation of new steel-backed timber guardrail shall be conducted in accordance

with the referenced Federal Highway Standard Drawings and DDOT Section 603. Posts shall be set at the prescribed spacing and depth, and rail elements must be aligned properly and fastened securely. The transitions to complete end terminals must be smooth and continuous. Where field cutting of treated timber is unavoidable, all cut surfaces shall be treated with an approved preservative to restore durability. For all remove and reset work, care must be taken to avoid damaging reusable components. Any component damaged through the Contractor's operations shall be replaced at no additional cost to the Department. The CA shall approve all replacement and reused materials before they are incorporated into the work.

(B) MEASURE:
Measurement for steel-backed timber guardrail (Item 603016) shall be made in linear feet along the centerline of rail between posts. Measurement for remove/reset timber guardrail (Item 603019) will also be made in linear feet, including associated hardware and fittings. Measurement for remove/reset timber posts (Item 603021) will be made per each post reset.

(C) PAYMENT:
Payment for accepted work shall be made at the contract unit prices for the respective items. These unit prices shall constitute full compensation for furnishing all labor, materials, tools, equipment, excavation, backfill, disposal, and all other incidental work necessary to complete the tasks described. Final acceptance of all work will be subject to inspection by the CA. Any misaligned, damaged, or otherwise non-conforming components must be repaired or replaced by the Contractor at their own expense, to the satisfaction of the Department.

12. GUARDRAIL EXIT TERMINAL

F & I GUARDRAIL COMPLETE EXIT TERMINAL SHA TYPE K, ITEM 603026

TYPE K BUFFER END SECTION, ITEM 603029
TYPE K SOIL TUBE, ITEM 603031
TYPE K ANCHOR RAIL, ITEM 603033
TYPE K WOOD POST, ITEM 603035
TYPE K CABLE ASSEMBLY, ITEM 603037
TYPE K ANCHOR BRACKET, ITEM 603039
TYPE K STRUT, ITEM 603041

F & I GUARDRAIL COMPLETE EXIT TERMINAL SHA TYPE K BROWN COLOR, ITEM 603051

TYPE K BUFFER END SECTION BROWN COLOR, ITEM 603055
TYPE K SOIL TUBE BROWN COLOR, ITEM 603057
TYPE K ANCHOR RAIL BROWN COLOR, ITEM 603059
TYPE K CABLE ASSEMBLY BROWN COLOR, ITEM 603061

TYPE K ANCHOR BRACKET BROWN COLOR, ITEM 603063
TYPE K STRUT BROWN COLOR, ITEM 603065

(A) GENERAL

This Special Provision modifies Section 603 of the DDOT Standard Specifications for Highways and Structures (2013 Edition).

Work under this item consists of furnishing and installing a complete SHA Type K Guardrail Exit Terminal system, brown color, including buffer end section, soil tube, anchor rail, cable assembly, anchor bracket, strut, wood posts, hardware, and all materials necessary for a complete and operational installation.

The terminal system shall conform to Maryland Standard MD 605.10-01 were referenced in the contract documents and shall meet MASH Test Level 3 (TL-3) requirements.

Brown color components shall be fabricated from A606 Type 4 weathering steel or shall be powder-coated galvanized steel as specified in the contract documents. Surface finish shall be uniform and factory applied.

All materials shall be new unless reuse is specifically approved by the CA. Work shall include all excavation, grading, backfill, concrete footings or anchor blocks if required, surface restoration, and adjustments necessary to match existing guardrail and roadway slope. Posts shall be installed plumb and at the required depth and spacing. The completed system shall be properly aligned and fully functional.

Where shown on the plans or directed by the CA, this item shall also include removal and resetting of an existing Type K terminal and its components. Salvageable materials shall be carefully removed, stored, and reinstalled. Non-salvageable materials shall be disposed of legally off-site.

(B) CONSTRUCTION METHODS

Installation shall be performed in strict accordance with the manufacturer's approved instructions and MASH TL-3 requirements. Foundation areas shall be prepared to match adjacent grades and cross slopes. Hardware shall be installed and tightened to specified torque values.

During removal operations, components shall be detached carefully to prevent damage. Reusable parts shall be cleaned and inspected prior to reinstallation. Any disturbed areas shall be backfilled, compacted, and restored to original condition. The completed installation shall align with adjacent guardrail and meet all safety and performance requirements to the satisfaction of the CA.

(C) MEASUREMENT AND PAYMENT

Measurement for payment shall be per each complete SHA Type K Guardrail Exit Terminal, installed or removed and reset, fully in place and accepted by the CA. Separate measurement for individual component parts will not be made.

Payment at the contract unit price per each shall constitute full compensation for furnishing all materials, removal and resetting when required, disposal of non-salvageable materials, labor, tools, equipment, excavation, grading, backfill, restoration, hardware, submittals, and all incidentals necessary to complete the work. No additional payment will be made for damage

caused by the Contractor or for correction of improper installation.
If you want, I can also prepare a slightly more "DDOT-style hardened" version that removes the Maryland standard reference entirely and phrases it as "approved equal meeting MASH TL-3," which sometimes avoids inter-agency specification friction.

13. W-BEAM GUARDRAIL (RAIL ONLY), ITEM 603071

This Special Provision supplements and modifies Section 603, "Guardrails and Guardrail Terminals," of the DDOT Standard Specifications.

(A) GENERAL:
The work under this item consists of the removal and replacement of the existing w-beam guardrail rail element only, excluding posts and terminal sections, as directed by the CA or shown on the plans. The replacement shall restore the guardrail system to full functionality and continuity.

Damaged guardrail that is intermediate in a long stretch of guardrail that does not meet MASH 2016 may be replaced in kind. Guardrail used in total replacement of installations shall meet the requirements of MASH 2016 and be installed at 31 inches high, measured from the top of the rail.

(B) MATERIALS:
New w-beam rail elements shall conform to AASHTO M180, Class A, Type II (zinc-coated) and match the profile and gauge of the existing system. All bolts, splice plates, and washers shall be galvanized in accordance with ASTM A123/A123M and provided as needed for complete connection. This work includes furnishing shop-curved sections of guardrail to a specific radius. Also included is placement of reflectors as shown on Drawing No. 603.03 of the D.C. Design Standards.

(C) CONSTRUCTION:
Remove damaged or designated existing w-beam sections carefully to avoid disturbing adjacent components. Install new rail sections to existing or reset posts using appropriate splice hardware and alignment per DDOT standards. Ensure correct lap orientation, bolt torque, and height. Any damaged posts or hardware discovered during work shall be reported to the CA and replaced as directed.

(D) MEASUREMENT AND PAYMENT:
The unit of measure shall be the number of linear feet of W-beam rail replaced. Payment includes all labor, materials, removal, disposal, installation, splicing hardware, and incidentals necessary to complete the work.

14. DOUBLE W-BEAM GUARDRAIL (RAIL ONLY), ITEM 603073

This Special Provision supplements and modifies Section 603, "Guardrails and Guardrail Terminals," of the DDOT Standard Specifications.

(A) GENERAL:
The work under this item consists of the removal and replacement of a damaged or designated double nested w-beam rail element only excluding posts and terminal components. The work shall restore the system to its intended strength and alignment.

Damaged guardrail that is intermediate in a long stretch of guardrail that does not meet MASH 2016 may be replaced in kind. Guardrail used in total replacement of installations shall meet the requirements of MASH 2016 and be installed at 31 inches high, measured from the top of the rail.

(B) MATERIALS:
Double w-beam rail elements shall meet AASHTO M180, Class A, Type II (zinc-coated) specifications and match the existing system in profile and thickness. All required connection hardware (splice plates, bolts, washers) shall be galvanized in accordance with ASTM A123/A123M. This work includes furnishing shop-curved sections of guardrail to a specific radius. Also included is placement of reflectors as shown on Drawing No. 603.03 of the D.C. Design Standards.

(C) CONSTRUCTION:
Carefully remove the existing double w-beam sections without disturbing posts or other guardrail components. Install new rail segments using appropriate splice hardware, maintaining proper height, overlap orientation, and alignment per DDOT and manufacturer guidelines. Ensure both rail layers are securely attached at all splice and post locations. Report any damage to existing posts or hardware and replace as directed by the CA.

(D) MEASUREMENT AND PAYMENT:
The unit of measure shall be the number of linear feet of w-beam rail replaced.
Payment includes removal, disposal, supply and installation of new rails, connection hardware, and all labor, tools, and equipment required to complete the work.

15. W-BEAM POST WITH BOLTED BASE (ANY LENGTH), ITEM 603075

This Special Provision supplements and modifies Section 603, "Guardrails and Guardrail Terminals," of the DDOT Standard Specifications.

(A) GENERAL:
This work consists of removing and replacing existing w-beam guardrail posts equipped with

bolted bases, of any length, at locations designated in the contract documents or as directed by the CA. The work includes disassembly, surface preparation, hardware replacement, and resetting or replacing the post to restore the structural integrity of the guardrail system.
(B) MATERIALS:
Replacement posts shall be of the same material, cross-section, and length as the existing, and shall conform to DDOT and AASHTO M180 requirements. Posts shall be fabricated with bolted base plates, matching the dimensions and bolt patterns of the existing foundations. All bolts, washers, and anchoring hardware shall be galvanized in accordance with ASTM A123/A123M.

(C) CONSTRUCTION:
The contractor shall remove the existing damaged or deteriorated post, including disconnection from the rail and unbolting from the base or foundation. Care shall be taken to avoid damage to the adjacent rail sections, base plates, and anchorage points. If the existing base plate or anchor bolts are damaged or misaligned, they shall be repaired or replaced as approved by the CA. New posts shall be properly aligned and securely bolted to the foundation or concrete pad using approved hardware, ensuring vertical alignment and appropriate spacing. Once set, the post shall be reconnected to the existing w-beam rail, with all splice and attachment points tightened to manufacturer-specified torque values. All work shall be completed in accordance with the plans, manufacturer installation guidelines, and DDOT Standard Drawings.

(D) MEASUREMENT AND PAYMENT:
The unit of measure shall be the number of linear feet of w-beam rail replaced. Payment shall include the removal of the existing post, supply and installation of the new post with bolted base, all associated hardware, disposal of removed materials, and all labor, equipment, and incidentals necessary to complete the work.

16. THRIE-BEAM GUARDRAIL (RAIL ONLY), ITEM 603077

This Special Provision supplements and modifies Section 603, “Guardrails and Guardrail Terminals,” of the DDOT Standard Specifications.

(A) GENERAL:
Work under this item consists of removing and replacing the thrie-beam guardrail rail sections, as indicated in the contract documents or as directed by the CA. The scope includes detaching the existing thrie-beam rail from posts and anchors and installing new thrie-beam rail panels to restore the guardrail system’s integrity and safety performance.
Damaged guardrail that is intermediate in a long stretch of guardrail that does not meet MASH 2016 may be replaced in kind. Guardrail used in total replacement of installations shall meet the requirements of MASH 2016 and be installed at 31 inches high, measured from the top of the rail.

(B) MATERIALS:
The thrie-beam rail shall conform to AASHTO M180 specifications for steel guardrail beams, including requirements for material strength, thickness, and galvanization. All rails must be hot-dip galvanized per ASTM A123/A123M standards to resist corrosion. Replacement rail sections shall match the existing thrie-beam profile and length. This work includes furnishing shop-curved sections of guardrail to a specific radius. Also included is placement of reflectors as shown on Drawing No. 603.03 of the D.C. Design Standards.

(C) CONSTRUCTION:
Existing thrie-beam rails shall be carefully unfastened from posts and anchor assemblies without damaging these components unless specified otherwise. The replacement rails shall be installed in accordance with the manufacturer's recommendations and the project plans. Rail sections must be aligned to ensure proper overlap, continuous barrier performance, and secured with approved fasteners tightened to the specified torque. Installation shall maintain the designed offset and height to comply with DDOT and MASH requirements for crashworthiness.

(D) MEASUREMENT AND PAYMENT:
The unit of measure shall be the number of linear feet of thrie-beam rail replaced, including removal and disposal of existing rails and furnishing and installing new thrie-beam rail sections complete with all necessary hardware.

17. W-BEAM GUARDRAIL WEATHERING STEEL (RAIL ONLY), ITEM 603079

This Special Provision supplements and modifies Section 603, "Guardrails and Guardrail Terminals," of the DDOT Standard Specifications.

(A) GENERAL:
This item includes the removal and replacement of w-beam guardrail rail sections manufactured in accordance with weathering steel. Work shall be performed at the locations indicated in the contract documents or as directed by the CA. Only the rail component shall be replaced, while existing posts and foundations are to remain in place unless otherwise specified.
Damaged guardrail that is intermediate in a long stretch of guardrail that does not meet MASH 2016 may be replaced in kind. Guardrail used in total replacement of installations shall meet the requirements of MASH 2016 and be installed at 31 inches high, measured from the top of the rail.

(B) MATERIALS:
The item shall consist of all weathering steel. This work includes furnishing shop-curved sections of guardrail to a specific radius. Also included is placement of reflectors as shown on Drawing No. 603.03 of the D.C. Design Standards.

(C) CONSTRUCTION:
The Contractor shall carefully remove existing w-beam weathering steel rail sections, avoiding damage to adjacent components. Replacement rail segments shall be installed to match the existing alignment and elevation and spliced according to AASHTO and DDOT guidelines. Rail overlaps shall be oriented in the direction of traffic, with fasteners tightened to manufacturer-specified torque levels. Care shall be taken to avoid contamination or coating of the weathering steel surface, which could interfere with proper oxide development.
(D) MEASUREMENT AND PAYMENT:
The unit of measure shall be the number of linear feet of w-beam weathering steel rail replaced. Payment shall include removal and disposal of existing weathering steel w-beam rail, furnishing and installation of new rail sections, splices, fasteners, and all labor, tools, and incidentals required to complete the work.

18. DOUBLE W-BEAM GUARDRAIL WEATHER STEEL (RAIL ONLY), ITEM 603081

This Special Provision supplements and modifies Section 603, "Guardrails and Guardrail Terminals," of the DDOT Standard Specifications.

(A) GENERAL:
This work includes the removal and replacement of double nested w-beam guardrail rail sections manufactured in accordance with weathering steel specifications. The scope covers only the rail components, both top and bottom w-beam elements. Posts and foundation elements are to remain in place unless otherwise directed. Work shall be performed at the locations shown in the contract documents or as directed by the CA.
Damaged guardrail that is intermediate in a long stretch of guardrail that does not meet MASH 2016 may be replaced in kind. Guardrail used in total replacement of installations shall meet the requirements of MASH 2016 and be installed at 31 inches high, measured from the top of the rail.

(B) MATERIALS:
The item shall consist of all weathering steel. This work includes furnishing shop-curved sections of guardrail to a specific radius. Also included is placement of reflectors as shown on Drawing No. 603.03 of the D.C. Design Standards.

(C) CONSTRUCTION:
The existing double w-beam rails shall be removed without disturbing the posts. Replacement top and bottom rails shall be installed in correct alignment, with overlaps facing the direction of traffic. The vertical spacing between rails and their connection to shared or double-post systems shall follow DDOT Standard Drawings and applicable AASHTO guidance. Bolted joints must be tightened to specified torque, and all rail sections must be free from bends, warps, or damage that

could affect performance. Care must be taken during handling and installation to preserve the exposed weathering steel surface for proper patina development.

(D) MEASUREMENT AND PAYMENT:
The unit of measure shall be the number of linear feet of w-beam weathering steel rail replaced. Payment shall include removal and disposal of the existing top and bottom w-beam rail sections, furnishing and installation of new weathering steel double rail components, splices, fasteners, and all labor, tools, and incidentals necessary to complete the work in accordance with the contract documents.

19. W-BEAM GUARDRAIL (RAIL ONLY) BROWN COLOR, ITEM 603083

This Special Provision supplements and modifies Section 603, "Guardrails and Guardrail Terminals," of the DDOT Standard Specifications.

(A) GENERAL:
This work includes the removal and replacement of brown-colored w-beam guardrail rail sections only, at the locations indicated in the contract documents or as directed by the CA. Posts and footings are to remain unless otherwise specified. The intent is to maintain aesthetic consistency with surrounding treatments, especially near parks, historic, or context-sensitive areas.
Damaged guardrail that is intermediate in a long stretch of guardrail that does not meet MASH 2016 may be replaced in kind. Guardrail used in total replacement of installations shall meet the requirements of MASH 2016 and be installed at 31 inches high, measured from the top of the rail.

(B) MATERIALS:
Replacement w-beam rail shall conform to AASHTO M180, meeting the dimensional and mechanical requirements for Class A or B beams. The rail shall be factory powder-coated or painted in brown color as approved by DDOT, matching existing installations. Coating materials must be UV-resistant and meet DDOT requirements for environmental durability. All splice plates and fasteners shall be compatible with the coating system and protected against corrosion in accordance with ASTM A123 (hot-dip galvanized), and if painted, shall be color-matched to the rail. This work includes furnishing shop-curved sections of guardrail to a specific radius. Also included is placement of reflectors as shown on Drawing No. 603.03 of the D.C. Design Standards.

(C) CONSTRUCTION:
The Contractor shall carefully remove existing w-beam rail sections without damaging adjacent posts or components. Replacement rail sections shall be aligned with the existing installation and installed in accordance with DDOT Standard Drawings and AASHTO guidelines. All splices must maintain continuity and proper alignment, and all fasteners shall be securely tightened.

Care shall be taken to protect the brown finish from damage during transport and installation. Touch-up of minor scratches shall be done using manufacturer-approved coatings.

(D) MEASUREMENT AND PAYMENT:
The unit of measure shall be the number of linear feet of w-beam rail replaced.
Payment shall include the removal and disposal of the existing rail, furnishing and installation of new brown-colored w-beam rail, splice hardware, fasteners, and all labor, equipment, and incidentals necessary to complete the work.

20. DOUBLE W-BEAM GUARDRAIL (RAIL ONLY) BROWN COLOR, ITEM 603085

This Special Provision supplements and modifies Section 603, "Guardrails and Guardrail guardrails

(A) GENERAL:
Work includes the removal and disposal of damaged double nested w-beam rail at existing locations, installation of new guardrail to restore or upgrade the location in accordance with plans, details and specifications provided by the CA. This work includes furnishing shop-curved sections of guardrail to a specific radius at no additional cost. Also included is placement of reflectors as shown on Drawing No. 603.03 of the D.C. Design Standards. The Contractor shall schedule the work in accordance with the list of work sites supplied by the CA in order of priority. Work shall not begin on any site until ample materials are in stock to complete the installation.
Damaged guardrail that is intermediate in a long stretch of guardrail that does not meet MASH 2016 may be replaced in kind. Guardrail used in total replacement of installations shall meet the requirements of MASH 2016 and be installed at 31 inches high, measured from the top of the rail.

(B) MATERIALS:
Requirements of Section 603.01(B) of the Standard Specifications shall apply. At locations, where DDOT wants to use brown color guardrail, contractor shall use PVC coated guardrail of brown color. The guardrail shall meet the requirement of section 603.01(B) of DDOT Standard Specifications, and the brown color PVC coating shall meet the requirements of manufacturer. Contractor shall submit name and address of company to be used by contractor for the brown PVC coating with complete procedure for approval from the CA. This work includes furnishing shop-curved sections of guardrail to a specific radius. Also included is placement of reflectors as shown on Drawing No. 603.03 of the D.C. Design Standards.

(C) CONSTRUCTION:
Remove damaged or designated existing w-beam sections carefully to avoid disturbing adjacent components. Install new rail sections to existing or reset posts using appropriate splice hardware

and alignment per DDOT standards. Ensure correct lap orientation, bolt torque, and height. Any damaged posts or hardware discovered during work shall be reported to the CA and replaced as directed.

(D) MEASURE AND PAYMENT:
The unit of measure shall be the number of linear feet of double w-beam rail replaced. Payment includes all labor, materials, removal, disposal, installation, splicing hardware, and incidentals necessary to complete the work.

21. F&I SHA TYPE A COMPLETE END TERMINAL, ITEM 603093

(A) GENERAL:
This special provision modifies and supplements Section 603, "Guardrails and Guardrail Terminals," of the DDOT Standard Specifications for Highways and Structures (2013 Edition). It applies to all work associated with furnishing and installing the MD State Highway Administration (SHA) Type A Guardrail Complete End Terminal. The work under this item shall include furnishing, assembling, and installing the SHA Type A Guardrail Complete End Terminal. The terminal shall serve as the starting or ending treatment of w-beam guardrail systems. All materials furnished under this item shall be new and shall conform to Section 603 of the DDOT Standard Specifications unless otherwise specified herein. The SHA Type A Complete End Terminal shall be an approved proprietary product that has been tested and accepted in accordance with MASH (Manual for Assessing Safety Hardware) Test Level 3 requirements for unidirectional impact performance.

The terminal system shall be furnished as a complete unit and shall include all components required by the manufacturer for proper installation and operation. The Contractor shall submit manufacturer's shop drawings, product data, and installation instructions to the CA for review and approval prior to installation. Installation shall follow the approved manufacturer's procedures and DDOT Standard Drawings and Maryland Roads Standard No. MD 605.01-03 Drawings, including requirements for grading, alignment, rail height, orientation, and placement. Any deviation from the approved installation requirements shall require prior approval from the CA. All site preparation work, including excavation, grading, backfilling, embankment shaping, and restoration necessary to properly install the complete end terminal shall be incidental to this item. Any required foundations, anchorage, or backup elements necessary for proper performance of the terminal shall be provided as part of the complete system and included in the unit price.

(B) MEASURE:
Measurement for payment for F&I SHA Type A Guardrail Complete End Terminal shall be per each.

(C) PAYMENT:

Payment shall be made at the Contract unit price per each for F&I SHA Type A Complete End Terminal, which shall constitute full compensation for furnishing all labor, materials, equipment, tools, submittals, excavation, grading, backfilling, disposal of surplus materials, and all incidental work required to complete the installation in accordance with the contract documents and DDOT Standard Specifications. Final acceptance shall be based on proper installation and compliance with manufacturer requirements and DDOT standards.

22. 4 INCH GUARDRAIL HEIGHT TRANSITION, ITEM 603097

(A) DESCRIPTION
This item shall consist of constructing a guardrail height transition from an existing 27 inches high guardrail to 31 inches, as measured from the top of the rail. The work includes all posts, blockouts, anchors, terminals, transition sections, nested rail elements, and associated hardware necessary to create a smooth, continuous, and safe guardrail system.

(B) MATERIALS
All materials shall conform to the requirements of the Contract and applicable DDOT/AASHTO standards. Transition sections and nested rail elements shall meet MASH or NCHRP 350 crash-test requirements. Replacement posts, hardware, blockouts, or transition elements shall be furnished and installed by the Contractor as needed to complete the height transition. Hardware used shall be compatible with the existing and new guardrail systems.

(C) CONSTRUCTION
The Contractor shall carefully install the guardrail height transition to ensure proper alignment, elevation, and structural integrity. Posts, including those below ground, shall be securely anchored. Transitions shall be constructed to provide a smooth, continuous surface to safely redirect errant vehicles. The transition shall extend from the last lower-height post to the first post at the 31-inch height. The transition shall be at least 25 feet long. Any damage to pavement, shoulder, slope, drainage facilities, or other roadway features caused by construction operations shall be repaired by the Contractor at no additional cost to the Contract.

(D) MEASURE AND PAYMENT
The measure for this item shall be each. Measurement shall be made by counting each 4 inch transition installed. Payment shall include all labor, equipment, tools, materials, hardware, posts (including those below ground), blockouts, anchors, terminals, alignment, transition sections, and all incidentals necessary to complete the work.

23. W-BEAM POSTS

W-BEAM POST (6 FT LENGTH), ITEM 603099
W-BEAM POST (8 FT LENGTH), ITEM 603101

W-BEAM POST (6 FT LENGTH) BROWN COLOR, ITEM 603103
W-BEAM POST (8 FT LENGTH) BROWN COLOR, ITEM 603105
W-BEAM POST (6 FT LENGTH) WEATHERING STEEL, ITEM 603107
W-BEAM POST (8 FT LENGTH) WEATHERING STEEL, ITEM 603109

(A) GENERAL:
The work under this item shall include furnishing, installing, repairing, and/or replacing, w-beam posts in accordance with the contract drawings, approved shop drawings, and applicable DDOT Standard Drawings. Posts shall be installed at the locations, spacing, alignment, and elevations shown in the plans or as directed by the CA.
All materials shall be new and shall conform to Section 603 of the DDOT Standard Specifications. Posts shall be compatible with standard w-beam guardrail systems and associated components, including rails, blockouts, and connection hardware.
Posts are provided in multiple configurations, including 6-foot and 8-foot lengths, and with finishes as specified in the contract, including galvanized steel, brown color coating for aesthetic applications, and weathering steel for corrosion-resistant performance.

(B) MATERIALS:
W-beam posts shall be fabricated from structural steel meeting the requirements of Section 603 and applicable referenced ASTM standards.

Posts shall be provided in the following material types as specified in the contract:

- galvanized steel posts
- galvanized steel posts with brown color coating applied in accordance with manufacturer's recommendations for durability and weather resistance
- weathering steel posts designed to develop a protective oxide layer for corrosion resistance

All posts shall be straight, uniform, and free from defects that may impair strength, durability, or installation performance. Coated posts shall have a uniform finish free from peeling, cracking, or other surface defects.

(C) CONSTRUCTION:
The Contractor shall install w-beam posts at the locations shown on the plans or as directed by the CA and in accordance with applicable standard details. Posts shall be installed to the required depth and shall be properly aligned to ensure correct guardrail height, continuity, and system performance.
Care shall be taken during handling and installation to prevent damage to coatings or material surfaces. Any damaged posts or coatings shall be repaired in accordance with manufacturer recommendations or replaced at no additional cost to the Contract.

(D) MEASURE AND PAYMENT:
Measurement for W-Beam Post shall be per each post installed and accepted, based on the type

and length specified in the contract.
Payment shall be made at the Contract unit price per each for the respective item, which shall constitute full compensation for furnishing, transporting, installing, setting, aligning, and securing the posts, including all labor, materials, equipment, tools, disposal of surplus materials, and all incidental work necessary to complete the installation in accordance with the contract documents and DDOT Standard Specifications.

24. GUARDRAIL BLOCK (W-BEAM AND THRIE-BEAM)

W-BEAM RAILS SYSTEM -BLOCK (ANY TYPE) 6"x8"x14", ITEM 603111
THRIE-BEAM RAILS SYSTEM -BLOCK (ANY TYPE) 6”x8"x22", ITEM 603113

(A) GENERAL:
The work under this item shall include furnishing, installing, repairing, and/or replacing blockouts between the guardrail and posts in accordance with the contract drawings, approved shop drawings, and applicable DDOT Standard Drawings. Blockouts (blocks) shall be installed at all locations required to maintain proper offset and performance of the guardrail system.
All materials shall be new and shall conform to Section 603 of the DDOT Standard Specifications unless otherwise specified herein. Blockouts shall be compatible with the specified guardrail system, including posts, rails, and connection hardware.

(B) MATERIALS:
Blockouts shall be of the size and type specified in the contract documents, including:

- Nominal 6 in x 8 in x 14 in for w-beam systems
- Nominal 6 in x 8 in x 22 in for thrie-beam systems

Blockouts may be fabricated from wood, recycled composite, or other approved materials in accordance with Section 603 and applicable standards. Wood blockouts shall be pressure treated as specified. Composite or alternative materials shall be approved and suitable for highway applications.
All blockouts shall be uniform in dimensions, free from defects, and capable of maintaining structural integrity and proper rail offset under service conditions.

(C) CONSTRUCTION:
The Contractor shall install blockouts in accordance with the contract plans and standard details to provide the required offset between the rail element and the post. Blockouts shall be securely fastened using appropriate bolts and hardware to ensure proper alignment and system performance.
Installation shall ensure consistent spacing, alignment, and contact between the rail, blockout, and post. Any damaged or defective blockouts shall be replaced at no additional cost to the Contract. Care shall be taken during installation to avoid splitting, cracking, or damage to blockouts, particularly for wood or composite materials.

(D) MEASURE AND PAYMENT:
Measurement for Guardrail Block shall be per each block installed and accepted, based on the type and size specified in the contract.
Payment shall be made at the Contract unit price per each for the respective item, which shall constitute full compensation for furnishing, transporting, installing, and securing the blockouts, including all labor, materials, disposal, equipment, tools, hardware, and all incidental work necessary to complete the installation in accordance with the contract documents and DDOT Standard Specifications.

25. R/R ENERGY ABSORBING SAFETY END TERMINAL

MSKT SP COMPLETE END TERMINAL, ITEM 603121
MSKT SP IMPACT HEAD, ITEM 603123
MSKT SP 12 GAUGE ANCHOR RAIL END SECTION, ITEM 603125
MSKT SP FIRST TOP POST, ITEM 603127
MSKT SP FIRST BOTTOM POST, ITEM 603129
MSKT SP SECOND TOP POST, ITEM 603131
MSKT SP SECOND BOTTOM POST, ITEM 603133
MSKT SP CABLE ANCHOR BOX, ITEM 603135
MSKT SP CABLE ANCHOR ASSEMBLY, ITEM 603137
MSKT SP STRUT, ITEM 603139
MSKT SP W-BEAM MGS RAIL SECTION (9' 4.5"), ITEM 603141

M FLEAT COMPLETE END TERMINAL, ITEM 603151

M FLEAT IMPACT HEAD, ITEM 603153
M FLEAT ANCHOR RAIL 12' 6", ITEM 603155
M FLEAT SECOND RAIL 10' 5", ITEM 603157
M FLEAT THIRD RAIL 13' 6.5", ITEM 603159
M FLEAT FIRST TOP POST, ITEM 603161
M FLEAT FIRST BOTTOM POST, ITEM 603163
M FLEAT HINGE SECOND/THIRD TOP POST, ITEM 6031165
M FLEAT HINGE SECOND/THIRD BOTTOM POST, ITEM 603167
M FLEAT CABLE ANCHOR BOX, ITEM 603169
M FLEAT CABLE ANCHOR ASSEMBLY, ITEM 603171
M FLEAT GROUND STRUT, ITEM 603173

MSKT SP BROWN COLOR COMPLETE END TERMINAL, ITEM 603183
MSKT SP IMPACT HEAD BROWN COLOR, ITEM 603185
MSKT SP 12 GAUGE ANCHOR RAIL END SECTION BROWN COLOR, ITEM 603187
MSKT SP FIRST TOP POST BROWN COLOR, ITEM 603189

MSKT SP FIRST BOTTOM POST BROWN COLOR, ITEM 603191
MSKT SP SECOND TOP POST BROWN COLOR, ITEM 603193
MSKT SP SECOND BOTTOM POST BROWN COLOR, ITEM 603195
MSKT SP CABLE ANCHOR BOX BROWN COLOR, ITEM 603197
MSKT SP CABLE ANCHOR ASSEMBLY BROWN COLOR, ITEM 603199
MSKT SP STRUT BROWN COLOR, ITEM 603201
MSKT SP W-BEAM MGS RAIL SECTION (9' 4.5 1/2") BROWN COLOR, ITEM 603203

M FLEAT BROWN COLOR COMPLETE END TERMINAL, ITEM 603213
M FLEAT IMPACT HEAD BROWN COLOR, ITEM 603215
M FLEAT ANCHOR RAIL 12' 6" BROWN COLOR, ITEM 603217
M FLEAT SECOND RAIL 10' 5" BROWN COLOR, ITEM 603219
M FLEAT THIRD RAIL 13' 6.5 " BROWN COLOR, ITEM 603221
M FLEAT FIRST TOP POST BROWN COLOR, ITEM 603223
M FLEAT FIRST BOTTOM POST BROWN COLOR, ITEM 603225
M FLEAT HINGE SECOND/THIRD TOP POST BROWN COLOR, ITEM 603227
M FLEAT HINGE SECOND/THIRD BOTTOM POST BROWN COLOR, ITEM 603229
M FLEAT CABLE ANCHOR BOX BROWN COLOR, ITEM 603231
M FLEAT CABLE ANCHOR ASSEMBLY BROWN COLOR, ITEM 603233
M FLEAT GROUND STRUT BROWN COLOR, ITEM 603235

This Special Provision supplements and modifies Section 603, “Guardrails and Guardrail Terminals,” of the Standard Specifications.

(A) GENERAL:
Work under these items consists of repairing/replacing existing damaged guardrail approach terminals and parts. The terminals may also be installed as part of new guardrail installations. All new guardrail terminals shall comply with the current MASH requirements unless specified by the CA. Work shall include removal and disposal of all damaged components of the existing unit and furnishing and installing the replacement units as shown on the detailed drawings and as directed by the CA. Also included in this work is cleaning the immediate area around the unit of debris.

These items may also be used for installation of units in locations where existing guardrail installations are being upgraded, and terminals are deemed to be necessary. All units shall meet FHWA standards for use as guardrail complete end terminals in existing locations unless specified by the CA. New installations or replacements of existing locations shall meet MASH 2016 requirements. All guardrail complete end terminals are considered generally equal in function. However, due to differences in intended use at each location and differing site conditions (lateral clearance, cross slopes, curbs, etc.), certain units will be considered more suitable than others. The CA shall make the final determination as to which unit shall be

installed. Other guardrail terminals similar in function may be proposed for substitution with the approval of the CA at no additional cost to the District.

(B) CONSTRUCTION:
When required by the CA at new locations, shop and/or detailed drawings shall be submitted illustrating the configuration of the proposed unit (anchorage, flare, etc.) and attachment to the existing guardrail or barrier. Upon approval by the CA, preparations may proceed to furnish and install the new unit. The new complete end terminal shall be installed by the Contractor with experienced workers in accordance with the recommendations of the manufacturer. Site preparation shall be done in accordance with the details shown on the shop drawings, submittals and as directed by the CA. After installation, the Contractor shall remove and dispose of the old end terminal. Also he shall remove all dirt, debris, and vegetation remaining under, near, and around the new end treatment.

(C) MEASURE AND PAYMENT:
The unit of measure shall be per each. Payment for each item will be made at the Contract unit price per each, which payment will include, shop drawings, submittals, removal and disposal of the damaged unit, clearing the immediate area of debris, fabricating, furnishing and installing the unit, parts and all labor, tools, equipment, materials, and incidentals needed to ensure a complete and serviceable unit.

26. ANCHORAGE AT STRUCTURE, BRIDGE, OR CONCRETE BARRIER (ANY TYPE GUARDRAIL), ITEM 603247

This Special Provision supplements and modifies Section 603, "Guardrails and Guardrail Terminals," of the Standard Specifications.

(A) GENERAL:
Work under these items consists of furnishing, fabricating and installing various w-beam and thrie-beam transitions to concrete safety shapes, walls, piers, abutments and other fixed objects where substandard transitions are present or where new transitions are needed. The item shall consist of all galvanized steel items shown on the referenced DDOT Standard Drawing from the attachment to the fixed object to the standard guardrail sections, including terminal connectors, anchor bolts, extra posts and transition panels. All new transitions shall be constructed at the 31 inches height or as directed by the CA. Other transitions that may be more suitable for the designated location can be found in the Standard Drawings.

(B) MATERIALS:
Guardrail Items - Requirements of Section 603.01(B) of the Standard Specifications shall apply. All steel shall be galvanized. Reinforcing Steel - AASHTO M31, Grade 60 with epoxy coating per AASHTO M264. Concrete - Class B, Structural. Epoxy Resin Adhesive (Bonding Agent) - Epoxy adhesive shall conform to AASHTO M235 Type III, two-part mix in equal parts (1:1),

thrixotropic (non-sag).

(C) SHOP DRAWINGS:
Prior to constructing the unit, the Contractor shall submit shop drawings showing the complete installation including modifications to the concrete barrier and how the unit will be attached to the barrier.

(D) CONSTRUCTION:
The transitions and concrete barrier modifications shall be constructed in accordance with the standard drawings and approved shop drawings to such a line and grade which will produce a smooth, straight approach to the fixed object.

(E) MEASURE AND PAYMENT:
The unit of measure for w-beam and thrie-beam transitions shall be per each unit furnished and installed. Payment for w-beam and thrie-beam transitions shall be made at the Contract unit price per each, which payment shall include preparation of shop drawings, fabricating, galvanizing, drilling, furnishing and installing the unit as shown in the respective standard drawing and as specified herein and all labor, tools, materials, equipment and incidentals needed to complete the specified work.

27. F&I SHA TYPE L COMPLETE END TERMINAL, ITEM 603251

ANCHOR RAIL, ITEM 603253
TIMBER POST, ITEM 603255
CABLE ANCHOR ASSEMBLY, ITEM 603257

(A) GENERAL:
This special provision modifies and supplements Section 603, "Guardrails and Guardrail Terminals," of the District Department of Transportation (DDOT) Standard Specifications for Highways and Structures (2013 Edition). It applies to all work associated with furnishing and installing the SHA Type L Guardrail Complete End Terminal (Item 603251), including all materials, hardware, excavation, backfill, and incidental construction necessary to complete the work in accordance with contract documents and the direction of the CA.

The work under this item shall include furnishing, assembling, and installing the SHA Type L Guardrail Complete End Terminal as detailed in the contract plans and manufacturer's instructions. This system shall be installed at locations shown in the plans or as directed by the CA, serving as the end treatment of w-beam guardrail systems. All materials used shall be new and comply with Section 603 of the DDOT Standard Specifications, and Maryland Roads Standard No. MD 605.13 unless otherwise specified. The terminal system shall be an approved proprietary product, tested and accepted under applicable MASH Test Level 3 standards, for unidirectional impact performance, suitable for installation on tangent or flared roadside

conditions depending on site requirements. The system includes all necessary components such as foundation elements, anchoring hardware, backup structures, and the terminal itself. The Contractor shall submit manufacturer's shop drawings and installation instructions to the CA for approval prior to installation. Installation must follow the approved manufacturer's procedures, including site grading, orientation, elevation, and hardware placement. Any deviations from these procedures require prior approval from the CA. Site preparation, including grading, excavation, or embankment necessary to ensure correct alignment and elevation of the terminal system, shall be incidental to this item. If concrete footings, anchor blocks, or backup plates are required, these shall be provided per manufacturer specifications and included in the unit price.

(B) MEASURE:
Measurement for payment for these items shall be per each.

(C) PAYMENT:
Payment shall be made at the contract unit price per each, which shall be full compensation for furnishing all labor, materials, equipment, tools, submittals, grading, excavation, and incidentals necessary to complete the work in accordance with contract documents and specifications.

28. APPROACH TRANSITION

W-BEAM APPROACH TRANSITION, ITEM 603267
THRIE-BEAM APPROACH TRANSITION, ITEM 603269
W-BEAM APPROACH TRANSITION, WEATHERING STEEL, ITEM 603271
THRIE-BEAM APPROACH TRANSITION, WEATHERING STEEL, ITEM 603273
W-BEAM APPROACH TRANSITION, BROWN COLOR, ITEM 603275
THRIE-BEAM APPROACH TRANSITION, BROWN COLOR, ITEM 603277

This Special Provision supplements and modifies Section 603, "Guardrails and Guardrail Terminals," of the Standard Specifications.

(A) GENERAL - Work under these items consists of furnishing, fabricating and installing various w-beam and thrie-beam transitions to concrete median barrier, walls, piers, abutments and other fixed objects where transitions are needed. They shall be installed according to the D.C. Standard Drawings section 603. All new transitions shall be constructed at the 31 inches height.

(B) MATERIALS:
The items shall consist of all galvanized or weathering steel, depending on the item.

(C) SHOP DRAWINGS - Prior to constructing the unit, the Contractor shall submit shop drawings showing the complete installation including modifications to the concrete barrier and how the unit will be attached to the barrier.

(D) CONSTRUCTION METHODS - The transitions shall be constructed in accordance with the standard drawings and approved shop drawings to such a line and grade which will produce a smooth, straight approach to the fixed object.

(E) MEASURE AND PAYMENT - The unit of measure for w-beam and thrie-beam transitions shall be per each unit furnished and installed. Payment for w-beam and thrie-beam transitions shall be made at the Contract unit price per each, which payment shall include preparation of shop drawings, fabricating, galvanizing, drilling, furnishing and installing the unit as shown in the respective standard drawing and as specified herein and all labor, tools, materials, equipment and incidentals needed to complete the specified work.

29. ORNAMENTAL FENCE

F&I ORNAMENTAL FENCE 4-6 FT HEIGHT, ITEM 604007
ORNAMENTAL FENCE 4-6 FT HEIGHT, ITEM 604009
F&I ORNAMENTAL FENCE 6-8 FT HEIGHT, ITEM 604011
ORNAMENTAL FENCE 6-8 FT HEIGHT, ITEM 604013
RESET ORNAMENTAL FENCE (ANY HEIGHT), ITEM 604019

(A) GENERAL:
This work consists of furnishing and installing, removing and replacing, or resetting ornamental fencing in accordance with the contract documents and as directed by the CA. Ornamental fencing shall be installed at locations identified in the plans or designated in the field. The work includes installation of new decorative metal fencing, removal and replacement of damaged or non-conforming sections, and resetting of existing fence as needed to align with site adjustments or infrastructure upgrades. For furnish and install operations, the Contractor shall supply all materials and construct a complete ornamental fence system to the specified height and design, including posts, panels, gates, and fittings. For remove and replace operations, the Contractor shall remove the existing fence and replace it with a new unit of the same design or as directed. For reset operations, the Contractor shall carefully remove and reinstall existing fencing at new or adjusted locations, ensuring alignment and structural stability.

(B) MATERIALS:
All ornamental fence components shall be fabricated from galvanized or powder-coated steel or aluminum, with finishes approved by the CA. The design and style shall match architectural and aesthetic requirements of the project area, and materials shall be resistant to corrosion, vandalism, and environmental wear. Fence panels shall include vertical pickets, horizontal rails, and decorative elements, assembled to create a uniform appearance. Fence heights shall correspond to the pay item: 4–6 feet for medium-height barriers, and 6–8 feet for taller, more secure installations. All materials shall conform to DDOT Standard Specifications and any approved ornamental fencing details in the contract drawings. Posts shall be manufactured to

match the panel material and finish and installed in concrete footings of adequate depth and size to ensure stability. Hardware and fasteners shall be tamper-resistant, weather-resistant, and consistent with the style and finish of the fencing system.

(C) CONSTRUCTION:
Installation shall be carried out by qualified personnel experienced in ornamental fence construction. Fence lines shall be set true to grade, aligned uniformly, and installed to avoid gaps or misalignments. The fence shall follow the existing ground profile or be stepped as needed to maintain a visually consistent appearance. For remove and replace work, the existing fencing shall be removed and properly disposed of. New fencing shall be installed in the same location unless otherwise directed. For reset work, the existing fence shall be carefully disassembled and reinstalled at new or adjusted positions as indicated. The Contractor shall take care to avoid damaging the finish or structural components of the fence during removal or resetting. The Contractor is responsible for restoring any disturbed areas adjacent to the fence, including landscaping, hardscaping, or adjacent structures. Any damage caused during construction shall be repaired at no additional cost to the Department.

(D) MEASUREMENT AND PAYMENT:
The unit of measure shall be the number of linear feet of ornamental fence, removed and replaced, or reset, as specified in the contract. The contract unit price shall include furnishing all labor, materials, concrete footings, tools, equipment, and all hardware incidentals required to complete the work. For furnish and install and remove and replace items, payment includes the full cost of the fence system, installation or removal and disposal, and any related site restoration. For reset items, payment includes removal, transport, storage if necessary, and reinstallation of the existing fence, including foundation work as required. No separate payment will be made for excavation, disposal, or restoration. All work shall conform to DDOT Standard Specifications and be subject to inspection and approval by the CA.

30. CHAIN LINK FENCE

F&I CHAIN LINK FENCE 4-6 FT HEIGHT, ITEM 604023
CHAIN LINK FENCE 4-6 FT HEIGHT, ITEM 604025
F&I CHAIN LINK FENCE 6-8 FT HEIGHT, ITEM 604027
CHAIN LINK FENCE 6-8 FT HEIGHT, ITEM 604029

(A) GENERAL:
This work consists of furnishing and installing, or removing and replacing, chain link fence in accordance with the contract documents and as directed by the CA. Fence installations may vary in height from 4 feet to 8 feet, depending on the location and specified pay item. The Contractor shall ensure that all work is completed using materials and installation methods that meet DDOT Standard Specifications and are appropriate for public right-of-way applications. For furnish and install operations, the Contractor shall provide all new materials and construct the fence to the

specified height and alignment. For remove and replace operations, the Contractor shall carefully remove the existing fence and install a new fence of equal or improved quality, ensuring that all posts, rails, mesh, and accessories are properly installed and aligned.

(B) MATERIALS:
All chain link fence materials shall conform to DDOT Standard Specifications and shall be suitable for urban highway environments. Fencing shall consist of galvanized steel fabric, posts, rails, and fittings, with all components resistant to corrosion and vandalism. Fence Fabric shall be woven chain link mesh with a minimum 2-inch diamond pattern and manufactured from galvanized steel wire. The gauge of the wire shall meet DDOT standards for durability and security. Vinyl-coated fabric may be used if specified in the plans or approved by the CA. Posts and Rails shall be galvanized steel pipe, appropriately sized for the fence height. Posts shall be embedded in concrete footings of sufficient depth and diameter to support the fence under typical wind and environmental loads. Fittings and Hardware shall include tension bars, bands, ties, caps, and braces, all galvanized and sized to match the fence system. All fasteners shall be tamper-resistant and weatherproof.

Fence Heights shall be as follows:

- For items specified as 4–6 feet, the installed fence height shall fall within this range, based on plan details or site conditions.
- For items specified as 6–8 feet, the installed fence shall match the specified height as directed.

(C) CONSTRUCTION:
Installation shall be carried out by skilled workers experienced in fence construction. All posts shall be installed plumb and aligned. The chain link fabric shall be stretched tightly and evenly between posts, without sagging. End, corner, and gate posts shall be braced as necessary to maintain structural stability. When replacing existing fencing, the Contractor shall remove and dispose of all components not designated for reuse. All new fencing shall be installed in the same alignment unless otherwise directed by the CA. Any damage to adjacent pavement, landscaping, or infrastructure caused during fence removal or installation shall be repaired at the Contractor's expense. Gate installation, if required, shall be performed using compatible materials and hardware and installed to allow for smooth operation and proper locking mechanisms.

(D) MEASUREMENT AND PAYMENT:
The unit of measure shall be the number of linear feet of chain link fence removed and replaced, as specified in the contract and completed in the field.

The contract unit price shall include full compensation for:

- Furnishing and installing all posts, rails, mesh fabric, fittings, hardware, concrete footings, and other accessories
- Removal and disposal of existing fencing (for replacement items)

- Labor, tools, transportation, and equipment necessary to complete the work
- Restoration of any disturbed areas
- No separate payment shall be made for excavation, concrete, or disposal. All costs associated with proper fence construction and removal are included in the unit prices for the applicable pay items.
- All work shall conform to DDOT's current Standard Specifications for Highways and Structures, and any supplemental requirements issued by the Department.

31. R/R PCC MEDIAN BARRIER

R/R PCC MEDIAN BARRIER (0 CY LESS THAN OR EQUAL TO 5 CY), ITEM 610011
R/R PCC MEDIAN BARRIER (GREATER THAN 5 CY LESS THAN OR EQUAL TO 10 CY), ITEM 610013
R/R PCC MEDIAN BARRIER (GREATER THAN 10 CY), ITEM 610015

This Special Provision supplements and modifies Section 610, "Traffic Barriers," of the Standard Specifications

(A) GENERAL:
Work under these items includes repair of PCC median barriers and construction of PCC barrier transitions.

(B) MATERIALS:
Reinforcing Steel - AASHTO M31, Grade 60 with epoxy coating per AASHTO M264
Concrete - Class B, Structural
Epoxy Resin Adhesive (Bonding Agent) - Epoxy adhesive shall conform to AASHTO M235 Type III, two parts mix in equal parts (1:1), thixotropic (non-sag)

(C) CONSTRUCTION:
The Contractor shall be prepared to conduct upgrading of sites that have all types of median barrier. This includes, but is not restricted to, New Jersey shape, F shape, single slope, and straight wall barriers. Stone or stone-faced barrier shall be paid for using another item. Removal shall not fracture any of the remaining concrete. Any concrete damaged beyond the authorized limits of removal shall be replaced by the Contractor at no cost to the District. Existing reinforcing steel shall be either bent to conform to its original configuration or replaced with new steel. If the barrier is a shape such as New Jersey or F that normally requires a standard form, a suitable form shall be provided and secured in place prior to concrete placement. Epoxy resin adhesive shall be applied to all contact surfaces between existing and new concrete.

(D) MEASURE AND PAYMENT:
This item is broken into three tiers based on the volume of PCC MEDIAN BARRIER to be placed in one work order. The unit of measure for PCC MEDIAN BARRIER shall be the cubic

yard, complete and in place. Payment for PCC MEDIAN BARRIER shall be made at the Contract unit price per cubic yard, which payment will include forming, furnishing and placement of concrete and all labor, tools, materials, equipment and incidentals needed to complete the required work.

32. R/R PORTABLE PRECAST PCC BARRIER, ITEM 610019

(A) GENERAL
Work under this item consists of removing, relocating, resetting, and reinstalling existing portable precast Portland Cement Concrete (PCC) barrier units at the locations shown on the plans or as directed by the CA. The work includes handling, temporary storage (if required), resetting, realignment, and reconnection of barrier units to maintain continuous roadway safety and traffic control.

(B) MATERIALS
Existing portable precast PCC barrier units shall be reused and shall be free of excessive cracking, spalling, or other defects that would affect performance, as determined by the CA.

- Connection Hardware: Existing pins, loops, bolts, and connectors may be reused if in good condition and approved by the Engineer. New connection hardware shall be furnished as required to replace missing, damaged, or non-compliant components.
- Delineation: Existing reflectors, delineators, or reflective panels shall be reinstalled where present. Damaged or missing delineation shall be replaced in kind and in accordance with the plans and applicable standards.
- Replacement Units (if required): Precast concrete barriers meeting DDOT and AASHTO requirements.
- Reinforcing Steel (for replacement units): AASHTO M31, Grade 60, epoxy-coated per AASHTO M264.

(C) CONSTRUCTION
The Contractor shall carefully remove existing portable precast PCC barriers without damage to the units or adjacent roadway features. Prior to resetting, the foundation surface shall be prepared to provide a firm, stable, and uniform bearing surface, free of debris and standing water. Barrier units shall be reset to the required line, grade, and alignment. Connections between barrier units shall be installed in accordance with manufacturer recommendations. Reflectors and delineators shall be properly aligned and securely fastened. Any barrier units or appurtenances damaged by the Contractor’s operations shall be replaced at no additional cost to the Contract.

(D) MEASURE AND PAYMENT
The measure for R/R Portable Precast PCC Barrier shall be the linear foot, complete and in place. Payment shall include removal, handling, transportation, surface preparation, temporary

storage (if required), resetting, realignment, anchoring, connection hardware, delineation replacement, and all labor, equipment, materials, and incidentals necessary to complete the work.

33. REMOVE PORTABLE PRECAST PCC BARRIER, ITEM 610021

(A) GENERAL
Work under this item consists of removing existing portable precast Portland Cement Concrete (PCC) barrier units from the locations shown on the plans or as directed by the CA. The work includes disconnection, handling, loading, and removal of barrier units to designated locations or disposal areas as specified. This item does not include furnishing or installing new barrier units.

(B) MATERIALS
No new materials are required under this item. Existing portable precast PCC barrier units and associated hardware shall be removed intact where salvage or reuse is required, as directed by the CA.

(C) CONSTRUCTION
The Contractor shall carefully remove portable precast PCC barrier units without damage to adjacent barriers, pavement, roadway features, or structures. Barrier connections, pins, bolts, and other appurtenances shall be disengaged prior to removal. After removal, the affected area shall be left in a clean and safe condition. Any damage to the roadway, pavement surface, or adjacent facilities resulting from removal operations shall be repaired by the Contractor at no additional cost to the Contract.

(D) MEASURE AND PAYMENT
The measure for Remove Portable Precast PCC Barrier shall be the linear foot of barrier removed. Payment shall include all labor, equipment, tools, handling, loading, transportation, and incidentals necessary to remove the barrier units complete, as specified.

34. MAINTENANCE OF HIGHWAY TRAFFIC, ITEM 612002

This Special Provision supplements and modifies Section 104.02, “Maintenance of Traffic,” and Section 612, “Traffic Control,” of the Standard Specifications.

MEASURE AND PAYMENT
Payment will be made in twelve equal installments per year.

If additional task orders are put on this contract, each task order Maintenance of Traffic (MOT) payment will be paid by calculating ratios converted to percentages of the MOT contract amounts included in the initial and subsequent ordering periods and the total

contract amounts for the initial and subsequent ordering periods amounts. The formula to calculate the task order MOT for the combined order periods are:

Ordering Period:

$$\frac{\text{Bid/Contract Lump Sum MOT Amount Current Ordering Period}}{\text{Total Contract/Bid Amount Current Ordering Period}} = \text{MOT bid/contract ratio of Current Ordering Period} = \text{Percentage to Calculate MOT for Task Orders in Current Ordering Period}$$

Task Orders MOT in Current Ordering Period:

$$\text{Task Order Amount Current Ordering Period} \times \text{Percentage to Calculate MOT for Task Orders Current Ordering Period} = \text{\$ Amount for Task Order MOT Current Ordering Period}$$

The same formulas will be applied for all contract subsequent Ordering Periods.

Ordering Period Example:

Ordering Period	
Bid/Contract Amount	$ 1,000,000.00
MOT Bid/Contract	$ 50,000.00
Ratio to calculate MOT	5.00%
Task Order Amount	$ 100,000.00
MOT	$ 5,000.00
Task Order Amount	$ 125,000.00
MOT	$ 6,250.00
Task Order Amount	$ 775,000.00
MOT	$ 38,750.00
Total MOT to be Paid for Current Ordering Period	$ 50,000.00

35. F&I IMPACT ATTENUATOR SIGN AND MARKER

F&I IMPACT ATTENUATOR NOSE WARNING SIGN, ITEM 616009
F&I IMPACT ATTENUATOR ID MARKER, ITEM 616013

This Special Provision supplements and modifies Section 616, "Traffic Signing," of the Standard Specifications.

(A) GENERAL:
Work under Impact Attenuator Nose Warning Sign, item 616009, consists of furnishing and installing a MUTCD OM3-L, OM3-C, or OM3-R sign in the dimensions specified below on the front face of all new impact attenuators (barrel, flex belt, nose cover). Work under Impact Attenuator ID Marker, item 616013, consists of furnishing and installing a MUTCD D3-1 sign except with no white border, that shall be attached to the attenuator to denote its identification number. The number for each attenuator shall be unique. Contractor shall maintain a sufficient quantity of these signs to insure prompt installation.

(B) MATERIALS:
Requirements of 616.02 apply. Reflective aluminum sheeting shall be 0.025 gauge and shall meet the requirements of Type III, High Intensity Sheeting as specified in 824.02.

(C) CONSTRUCTION:
Impact Attenuator Nose Warning Sign shall be attached to the front face of impact attenuators with speed bolts or other approved fasteners as follows: Sand Modules - A 24" x 30" sign shall be attached to the front barrel, curved to the outside diameter, and facing to the front of the installation. If more than one barrel is in the front row, attach it to the barrel closest to the traffic. Impact Attenuator (Quad Guard, TAU II and Quad Guard Elite) Units - A 48" x 24" sign shall be attached to the nose cover so that the sheeting conforms to the curvature of the unit. Impact Attenuator (SMART) Units - A 24" x 24 " width sign shall be attached to the nose cover so that the sheeting conforms to the curvature of the unit. Impact attenuator marker shall be a 12" x 6" sign with the impact attenuator's identification number on the sign. Sign shall be attached to the back of the attenuator with a metal post 12" high or attached to another structure in a way that is visible or directed by CA.

(D) MEASURE AND PAYMENT:
Payment for Impact Attenuator Nose Warning Sign, item 616009, shall be made at the Contract unit price per square foot, which payment shall include furnishing and installing Impact Attenuator Nose Warning Sign, and all materials, labor, tools, equipment and incidentals required to complete the work. Payment for Impact Attenuators ID Marker, item 616013, shall be made at the Contract unit price per each, which payment shall include furnishing and installing the units, and all materials, labor, tools, equipment and incidentals required to complete the work.

36. F&I FLEXIBLE DELINEATOR POST 28" HEIGHT, ITEM 616017

(A) GENERAL:
Work includes furnishing and installing Surface Mount Flexible Posts on heavy duty base, at locations as directed by the CA.

(B) MATERIALS:
Pexco/Davidson FG 300 UR surface mount channelizer posts or approved equivalent. The product shall be manufactured from a durable polyurethane polymer that provides high tensile and elongation properties as well as resistance to tearing and puncture. The item shall be Pexco/Davidson type FG 300 UR or approved equivalent.
Minimum requirements include:

- 28” Height
- Post color – white
- 3M high intensity grade reflective sheeting
- 1.5 lbs. heavy duty base or invisible flush mount base, as directed by the CA
- Conform to MUTCD & NCHRP 350 standards
- The Contractor shall submit samples of the product with specifications for approval by the CA before installation.

(C) CONSTRUCTION:
The installation of Flexible Post and Base shall be approved by the CA and be completed in accordance with manufacturer’s specifications. Installation on asphalt will use four threaded asphalt bolts (3/8” x 4” Tapcon or equivalent) holding base to the surface. Installation on concrete will use four wedge anchors (3/8” x 4” Red Head or equivalent) holding base to the surface. Installation on bridge decks, viaducts, other aerial or elevated structures will use epoxy adhesive (Hilti or similar) holding the base to the surface.

(D) MEASURE & PAYMENT:
The unit of measure shall be per each unit furnished and installed, which payment include all labor, equipment, material and incidentals necessary for installation.

37. RESET SAND-FILLED MODULE IMPACT ATTENUATOR, ITEM 617013

(A) GENERAL:
This item consists of resetting/moving an existing sand-filled module impact attenuator up to a maximum of 6 feet. Work may include some or all of the following: removing the sand inside the barrel, resetting it, releveling it, refilling it with sand, reinstalling the inner core (if applicable) and, and reinstalling the lid. Also included in this work is cleaning of the immediate area around the module of debris. All work shall comply with manufacturer’s specifications and DDOT and FHWA standards.

(B) MEASURE:
Measurement for this item shall be per each impact attenuator module reset and accepted by the CA.

(C) PAYMENT:
Payment will be made at the contract unit price per each module reset. Payment includes all labor, tools, equipment, and materials necessary for proper reset and adjustment of the module.

38. FURNISH & INSTALL SAND-FILLED MODULE IMPACT ATTENUATOR LID ONLY, ITEM 617015

(A) GENERAL:
This item consists of furnishing and installing a replacement lid for a sand-filled module impact attenuator. The lid shall be installed in accordance with the manufacturer's specifications to ensure structural integrity, weather protection, and proper operation of the impact attenuator.

(B) MEASURE:
Measurement for this item shall be per each lid furnished and installed, fully accepted by the CA.

(C)PAYMENT:
Payment will be made at the contract unit price per each lid, which shall include all labor, materials, tools, equipment, and incidentals necessary to complete the work as specified.

39. INSTALL SAND-FILLED MODULE IMPACT ATTENUATOR LID ONLY, ITEM 617017

(A) GENERAL:
This item consists of installing a lid for a sand-filled module found on site but not attached to the module. The lid shall be installed in accordance with the manufacturer's specifications to ensure structural integrity, weather protection, and proper operation of the impact attenuator.

(B) MEASURE:
Measurement for this item shall be per each lid furnished and installed, fully accepted by the CA.

(C)PAYMENT:
Payment will be made at the contract unit price per each lid, which shall include all labor, materials, tools, equipment, and incidentals necessary to complete the work as specified.

40. SLED TEMPORARY IMPACT ATTENUATOR

F&I TEMPORARY IMPACT ATTENUATOR MASH SENTRY LONGITUDINAL ENERGY DISSIPATOR (SLED) TL-3, ITEM 617021
CONTAINMENT IMPACT SLED WITH EMPTY MODULE, ITEM 617023
MODULE-WATER FILLED, ITEM 617025

(A) GENERAL:
This work consists of furnishing, assembling, installing, and where applicable, removing and replacing an impact attenuator that does not meet the Manual for Assessing Safety Hardware (MASH) 2016 requirements. The focus of this work is the upgrade and replacement of existing Sentry Longitudinal Energy Dissipator (SLED) TL-3 units or similar impact attenuators systems with units that are fully compliant with MASH 2016 Test Level 3 (TL-3) standards. Installation of the impact attenuators shall be performed at locations shown on the plans or as directed by the CA and in full accordance with the manufacturer's recommendations. The scope also includes the removal and proper disposal of any existing, damaged, or non-compliant impact attenuators units. Existing impact attenuators that meet the older NCHRP Report 350 (1993), TL-3 criteria may be repaired and re-used if they are not damaged beyond repair and if parts are still available. Once they are determined to be irreparable, they must be replaced with MASH 2016 compliant units. Any proposed substitute impact attenuator must also meet MASH 2016 TL-3 requirements, be approved by the FHWA, and demonstrate performance characteristics that are equal to or better than the listed SLED system.

(B) MATERIALS:
Impact attenuators shall be provided as complete, manufacturer-supplied units and assembled using only materials and components approved by the manufacturer and the Federal Highway Administration (FHWA). Impact attenuators materials must be sourced directly from the attenuator's manufacturer to ensure full compliance with design and safety standards. Components shall not be interchanged between systems unless explicitly approved in writing by the manufacturer and the CA. Backup structure requirements vary depending on site conditions. Existing concrete backup pads may be re-used if structurally sound and compatible with the new unit. If not available or suitable, the unit shall be installed with a tension strut backup as specified by the manufacturer, or a new approved backup structure shall be constructed. For payment purposes, the use of a tension strut backup shall be considered equivalent to using an existing concrete backup. However, the construction of a new backup will be considered additional work and shall be paid for under a separate contract item. Attenuator nose warning signs are required for all installed units and shall be included with this item. The marker shall be fabricated from 0.025-gauge aluminum sheet and overlaid with Type III High-Intensity Reflective Sheeting, conforming to MUTCD visibility requirements.

(C) CONSTRUCTION:
Installation shall be performed by qualified personnel experienced in the handling and assembly of the specified impact attenuators system. All installation work shall follow the latest manufacturer instructions and FHWA guidance. Activities such as concrete pad placement, excavation, or demolition of existing concrete appurtenances shall be paid for under other

applicable contract items and are not included in this item. The Contractor is responsible for ensuring all components are installed correctly and securely, with proper alignment and anchorage, to ensure full operational performance of the impact attenuators under impact conditions.

(D) SHOP DRAWINGS:
Shop drawings shall be submitted to the CA for approval prior to fabrication or installation of the unit. The drawings must indicate all details related to layout, attachment to existing backup structures, and any site modifications such as pad extensions or new foundations. If the unit to be installed matches an existing, previously approved installation and no site changes are required, submittal of shop drawings is not necessary.

(E) MEASUREMENT AND PAYMENT:

The unit of measure shall be per each unit furnished and installed, complete and in place. The contract unit price shall include all costs associated with furnishing, assembling, and installing the new impact attenuators, including:

- Removal and disposal of the existing impact attenuators or damaged module
- Submission of shop drawings, if required
- Delivery of the new unit and all associated materials
- Labor, tools, supervision, and incidentals necessary to complete the work

41. QUAD GUARD IMPACT ATTENUATORS:

F&I 1-BAY QUAD GUARD IMPACT ATTENUATOR (24"), ITEM 617031
F&I 2-BAY QUAD GUARD IMPACT ATTENUATOR (24"), ITEM 617033
F&I 3-BAY QUAD GUARD IMPACT ATTENUATOR (24"), ITEM 617035
F&I 4-BAY QUAD GUARD IMPACT ATTENUATOR (24"), ITEM 617037
F&I 5-BAY QUAD GUARD IMPACT ATTENUATOR (24"), ITEM 617039
F&I 6-BAY QUAD GUARD IMPACT ATTENUATOR (24"), ITEM 617041
F&I 6-BAY QUAD GUARD IMPACT ATTENUATOR (30"), ITEM 617043
F&I 6-BAY QUAD GUARD IMPACT ATTENUATOR (36"), ITEM 617045
F&I 6-BAY QUAD GUARD IMPACT ATTENUATOR (69"), ITEM 617047
F&I 6-BAY QUAD GUARD IMPACT ATTENUATOR (90"), ITEM 617049
F&I 8 BAY QUAD GUARD IMPACT ATTENUATOR (24"), ITEM 617051
F&I 8 BAY QUAD GUARD IMPACT ATTENUATOR (30"), ITEM 617053
F&I 8 BAY QUAD GUARD IMPACT ATTENUATOR (36"), ITEM 617055
F&I 8 BAY QUAD GUARD ELITE M10 IMPACT ATTENUATORS (24" to 36" WIDE), ITEM 617057

(A) GENERAL:
Work consists of furnishing and installing an above attenuator. Also included are removal and

disposal of an existing impact attenuator if one exists at the installation location. Impact attenuators meeting the recommended criteria found in the National Cooperative Highway Research Program (NCHRP) Report 350, 1993, Test Level 3 may be repaired as needed until they are damaged beyond repair or when parts are no longer available. Then they shall be replaced with the MASH 2016 compliant units. Impact attenuators proposed as a substitution to those listed shall also meet the MASH 2016 criteria, be approved by the FHWA and have performance characteristics equal or better than the listed unit.

(B) MATERIALS:

(1) Impact Attenuators Materials - Impact attenuators shall be furnished with materials furnished by the manufacturer of that unit and in a configuration approved by the FHWA.

(2) Backup Structure - The existing concrete backup shall be used if available. Otherwise, either the unit will be furnished with a tension strut backup or an approved backup shall be constructed. For the purpose of payment, the cost of providing the tension strut backup shall be considered equivalent to the cost of attaching the unit to an existing concrete backup. Construction of a new backup shall be considered extra and will be either paid from Contract items or the price will be negotiated separately.

(3) Attenuator Nose Warning Sign - A 24" high x 48" wide attenuator nose warning sign shall be wrapped around and securely attached to the nose of the impact attenuators facing oncoming traffic. The material shall be 0.025-gauge aluminum sheet and the legend shall be made from Type III High Intensity Reflective Sheeting.

(C) CONSTRUCTION:

Installation of the impact attenuators shall be accomplished by the Contractor with experienced workers in accordance with the recommendations of the manufacturer. Site preparation, such as excavation, placement of the concrete pad, removing or repairing existing concrete appurtenances, shall be covered under other appropriate Contract items.

(D) SHOP DRAWINGS:

Before fabricating the unit, shop drawings shall be submitted for approval by the CA. If lengthening of an existing concrete pad or construction of a new backup is needed, it shall be shown on the drawing. If no site modification is required and the same size unit has already been approved, no submittal is necessary.

(E) MEASURE AND PAYMENT:

The unit of measure for the various impact attenuators shall be per each unit installed, complete and in place. Payment for the impact attenuators shall be made at the Contract unit price per each, which payment shall include removal and disposal of the existing damaged impact attenuator, submitting shop drawings and fabricating, furnishing, assembling and installing the new impact attenuator and all labor, tools, materials, equipment and incidentals needed to complete the specified work.

42. REPLACE QUAD GUARD, QUAD GUARD ELITE, TAU II, SMART IMPACT ATTENUATOR PART

QUAD GUARD FENDER PANEL, ITEM 617081
QUAD GUARD NOSE ASSEMBLY, ITEM 617083
QUAD GUARD DIAPHRAGM, ITEM 617085
QUAD GUARD CARTRIDGE, ITEM 617087
QUAD GUARD ELITE NOSE ASSEMBLY, ITEM 617097
QUAD GUARD ELITE DIAPHRAGM, ITEM 617099
QUAD GUARD ELITE FENDER PANEL, ITEM 617101
QUAD GUARD ELITE NOSE CYLINDER 28"x30" HDPE, ITEM 617103
QUAD GUARD ELITE ME1 CYLINDER, ITEM 617105
QUAD GUARD ELITE ME2 CYLINDER, ITEM 617107
QUAD GUARD ELITE ME3 CYLINDER, ITEM 617109
QUAD GUARD MONORAIL (3-BAY), ITEM 617125
QUAD GUARD MONORAIL (4-BAY), ITEM 617127
QUAD GUARD MONORAIL (5-BAY), ITEM 617129
QUAD GUARD MONORAIL (6-BAY), ITEM 617131
QUAD GUARD MONORAIL (8-BAY), ITEM 617133
TAU II NOSE ASSEMBLY, ITEM 617143
TAU II FRONT SUPPORT LEG KIT, ITEM 617145
TAU II FRONT SUPPORT ASSEMBLY, ITEM 617149
TAU II MIDDLE SUPPORT ASSEMBLY, ITEM 617151
TAU II SLIDING PANEL, ITEM 617153
TAU II CARTRIDGE, ITEM 617155
SMART CUSHION IMPACT ATTENUATORS NOSE ASSEMBLY, ITEM 617167
SMART CUSHION IMPACT ATTENUATORS FENDER PANEL, ITEM 617169
SMART CUSHION IMPACT ATTEENUATORS DIAPHRAGM, ITEM 617171

(A) GENERAL:
The above items are used in the repair of impact attenuators. Work consists of dismantling the damaged area, removing and disposing of damaged parts, and furnishing and installing replacement parts in compliance with the manufacturer's specifications. MASH 2016-compliant impact attenuators shall be repaired with parts manufactured for those impact attenuators. Impact attenuators meeting NCHRP Report 350 shall be repaired with parts manufactured for those units. Hex-Foam replacement parts are no longer manufactured. When these units are damaged, they shall be replaced with equivalent Quad Guard units meeting MASH 2016 requirements at the Contract unit price. The Contractor shall employ properly qualified personnel who are thoroughly familiar with the refurbishment of impact attenuators. They shall work with the manufacturer's representative and follow all procedures to ensure that the work is performed properly. Care shall be taken during repair operations to ensure that additional components are not damaged. The Contractor shall be responsible for repairing any damaged that he causes

without further compensation. The Contractor shall maintain a sufficient supply of fender panels; nose covers and cartridges to insure prompt repair of the unit. All other parts may be purchased from the manufacturer as they are needed.

Work under this item includes removal of dirt, debris and vegetation under, near and around existing impact attenuator installations that have been damaged and repair work assigned, as directed by the CA.

(B) MEASURE AND PAYMENT:
The unit of measure for the above items shall be per each, complete and in place. Payment for these items shall be made at the Contract unit price per each, which payment shall include all work associated with the removal and disposal of the damaged parts, furnishing and installing replacement parts with hardware, removal of dirt, debris and vegetation, and all labor, tools, equipment and incidentals required for a complete and thorough repair. All other costs associated with the installation of these parts are considered to be incidental and shall be provided for in the unit bid price.

43. REPAIR SMART CUSHION IMPACT ATTENUATOR, ITEM 617173

(A) GENERAL:
Work consists of repairing an existing damaged Smart Cushion impact attenuator. The Contractor shall obtain a copy of the manufacturer's repair manual and shall follow the recommended procedures. The work shall ensure that the unit is in a safe and workable condition and clearly visible.

(B) REPOSITIONING:
The attenuator shall be visually inspected to ensure that the method to be utilized in the repositioning will not cause additional damage to the unit or adjacent highway appurtenances. If the impact has sheared off or damaged the anchorages in any way that will make it impossible to reposition the unit, the CA shall authorize the Contractor to replace said anchorages under the appropriate pay items. If the unit is too severely damaged, installing a replacement of the unit with a MASH-compliant unit will be authorized by the CA. The unit shall be repositioned to its full extended position and inspected to determine the extent of damage. If the unit cannot be returned to service immediately, the Contractor may be required to protect the area with sand modules. Following final repositioning, adjustment of cables, and replacement of damaged components, the Contractor shall remove all dirt, debris and vegetation remaining under, near and around the unit. If directed, the exterior surfaces of the unit shall be cleaned.

(C) MEASURE AND PAYMENT:
The unit of measure shall be per each unit repositioned and returned to service. Payment for this item shall be made at the Contract unit price per each. Work under this item includes repositioning the unit, adjusting all cables, installing any necessary parts not listed in the

schedule of items, cleaning the unit and immediate area. Also included is all labor, tools equipment and incidentals required to complete the work.

44. PCC IMPACT ATTENUATOR PLATFORM/BACKUP ITEM 703011

This Special Provision supplements and modifies Section 610, "Traffic Barriers," and Section 703, "Concrete for Structures," of the Standard Specifications.

(A) GENERAL:
Work under this item consists of constructing a concrete impact attenuator platform or backup to existing concrete barrier and other appurtenances needed during the installation of an impact attenuator. Also included is the drilling and grouting of reinforcing steel to anchor the work to existing PCC appurtenances, footings and roadways and the application of an approved epoxy resin adhesive to all contact surfaces.

(B) MATERIALS:
Concrete - Concrete shall conform to Class B structural concrete or otherwise specified, but shall contain aggregate no greater than 1/2" nominal size.

(C) CONSTRUCTION:
The impact attenuators backups and transitions shall be constructed as shown on the drawings provided and as directed by the CA.

(D) MEASURE AND PAYMENT:
The unit of measure shall be the cubic yard, complete and in place. Payment for shall be made at the Contract unit price per cubic yard, which price shall include furnishing and installing the PCC, tools, equipment, materials and incidentals needed to complete the required work.

45. R/R PLATFORM/BACKUP PCC, ITEM 703019

This Special Provision supplements and modifies Section 703, "Concrete for Structures," of the Standard Specifications.

(A) GENERAL:
Work under this item includes repair or partial reconstruction of an impact attenuator platform or backup as directed by the CA. Also included is concrete repair work associated with replacement of impact attenuator anchorages and bolted base guardrail.

(B) MATERIALS:
Concrete - Concrete shall conform to Class B structural concrete or otherwise specified, but shall contain aggregate no greater than 1/2" nominal size.

(C) CONSTRUCTION:
Existing concrete shall be carefully removed to the limits as directed by the CA. Any material removed beyond authorized limits, or any portion of remaining structure damaged as a result of negligence on the part of the Contractor, shall be replaced or repaired by the Contractor at his own expense. All materials removed and debris shall become the property of the Contractor, shall be removed daily and not be dumped or stored in the areas around the location. All items designated to be wholly or partially removed shall conform to any detailed drawings and these Special Provisions, unless otherwise approved by the CA. The use of explosives and blasting procedures is prohibited. Prior to partial concrete removal, the perimeter of the area to be removed shall be carefully saw cut to a neat line. The cut lines shall be made down to the outside layer of reinforcing steel making sure that bars to be retained are not damaged. When existing reinforcing steel is damaged during removal, the Contractor shall, at his own expense, substitute a bar of equal size drilled in and grouted to the required lap as per AASHTO requirements or attach the new bar to existing by means of an approved mechanical bar splice.

(D) MEASURE AND PAYMENT:
The unit of measure shall be the cubic yard, complete in place. Payment for this item shall be made at the Contract unit price per cubic yard, which payment shall include saw cutting to a neat line as required, removal and disposal of all old materials, furnishing and placing PCC and all labor, tools, equipment and incidentals necessary to complete the work.

46. METAL RAILING, ITEM 709005

(A) GENERAL:
This work consists of furnishing and installing metal railing located on top of the parapet of a retaining wall. The work includes fabrication, delivery, and installation of complete metal railing systems including posts, rails, brackets, base plates, anchors, fasteners, fittings, and all incidental materials necessary to provide a fully functional and finished railing system. A reference photograph of a typical installation is shown in Figures 1 and 2, and the installation configuration is illustrated in Drawing 1, provided in Appendix A and accompanying link.
https://maps.app.goo.gl/jYdrXEPRVoLqQ6m38



https://drive.google.com/file/d/1fWv4pkJD-HYbREkpAQ07aox4orEodfkX/view?usp=sharing

A typical railing drawing and some example photos are included in this special provision. Specific designs vary but are similar.
Bridge-mounted railing is not included under this item.



(B) MATERIALS:
Materials shall conform to Section 709 of the DDOT Standard Specifications and the following requirements:

(C) CONSTRUCTION:
Railing shall be installed at the alignment, grade, height, and mounting of the surrounding existing railing condition. The Contractor shall verify all field dimensions prior to fabrication and installation.

(D) MEASUREMENT AND PAYMENT:
The unit of measure shall be per linear foot of railing furnished and installed, complete and in place, measured along the top rail from end to end.

The contract unit price for shall include full compensation for:

1) Furnishing all materials
2) Fabrication of railing components
3) Delivery to the project site
4) Installation, anchorage, and alignment
5) All fasteners, hardware, and fittings
6) Surface preparation, galvanizing, painting, or coating
7) Labor, tools, equipment, supervision, and incidentals necessary to complete the work

No separate payment will be made for anchors, base plates, coatings, or incidental materials required to complete the installation.

47. EQUIPMENT:

BACKHOE/LOADER, ITEM 900011
PORTABLE AIR COMPRESSOR. ITEM 900013
DUMP TRUCK, ITEM 900015
BOOM TRUCK, ITEM 900017
SWEEP TRUCK, ITEM 900019
SERVICE TRUCK/FLATBED TRUCK, ITEM 900021
TRUCK MOUNTED ATTENUATOR - HOURLY RATE, ITEM 900023
SKID STEER LOADER, ITEM 900025

(A) GENERAL:
These items shall be used at the direction of the Engineer, for scheduled non-emergency work or non-scheduled emergency work, when said work is not suitable for compensation under other pay items in the contract. The Contractor shall be reimbursed at the contract unit price, which shall be compensation for the specified equipment including operator and required supervision but shall not include compensation for time required for traveling to or from the location of the assigned work.

The quantities for these items may be increased or decreased without any adjustment to the contract unit price or these items may be deleted entirely from the contract by the Contracting Officer without negotiation. The Contractor shall not be allowed to submit a claim against the Department for any adjustment to the contract unit price, should these items be increased, decreased or eliminated entirely. Appropriate sizes of these pieces of equipment will be agreed upon by the Engineer and the Contractor.

Equipment requirements are as follows

(1) BACKHOE/LOADER, ITEM 900011
The backhoe/loader may be either wheel-type or track-mounted, depending on site conditions and accessibility. The wheel-type unit shall include a one-cubic-yard front loader bucket and a backhoe dipper no wider than one yard, with available attachments such as trenching and grading buckets. Acceptable models include Case 780D, John Deere 710, Ford 755B, or approved equivalent. When work areas are not accessible to wheel-type machines, a track-mounted excavator may be used, equipped with a one-yard maximum width bucket and suitable attachments. Examples include Case 9010 and John Deere 490.

(2) PORTABLE AIR COMPRESSOR, ITEM 900013
The portable air compressor shall be a tow-behind unit capable of producing a minimum of 185 cubic feet per minute (CFM) at 100 psi. It shall include a minimum of 100 feet of air hose, pavement breakers, and any other air-powered tools necessary to perform the work. The equipment must be fully functional and maintained in good condition. Acceptable models include Ingersoll-Rand P185 WJD, Gardner-Denver 185, Leroi 185, or approved equal.

(3) DUMP TRUCK, ITEM 900015
The dump truck shall be a late-model, heavy-duty vehicle with a gross vehicle weight rating (GVWR) up to 60,000 pounds. It must be in good operating condition and suitable for hauling, dumping, and transporting various construction materials. The dump body must be equipped with a minimum of two gated tailgate openings to allow controlled material discharge. The truck shall comply with all applicable DDOT safety and operational standards.

(4) BOOM TRUCK, ITEM 900017

The boom truck shall be a truck-mounted hydraulic crane or lift capable of lifting and placing heavy materials and equipment in elevated or otherwise inaccessible locations. The truck must include a certified and qualified operator and shall comply with all OSHA and DDOT, safety requirements. The boom reach and lifting capacity shall be appropriate for the specific site conditions and tasks. The truck shall be a Sterling L9500 or approved equal.

(5) SWEEP TRUCK, ITEM 900019
The sweep truck shall be a self-propelled mechanical street sweeper, capable of removing dirt, dust, and debris from road surfaces, shoulders, and staging areas. The sweeper must be equipped with a functional water spray dust suppression system and all necessary safety lights and devices. The operator must be trained and experienced in operating the sweeper in active work zones. The truck shall be used prior to paving, striping, or during general cleanup operations, in accordance with DDOT requirements.

(6) SERVICE TRUCK/FLATBED TRUCK, ITEM 900021
The service truck or flatbed truck shall be used to transport equipment, materials, and tools necessary for the completion of work on the project. The truck must be of appropriate size and capacity, properly maintained, and equipped with safety tie-downs, racks, and other necessary features for securing and transporting loads.

(7) TRUCK MOUNTED ATTENUATOR - HOURLY RATE, ITEM 900023
The impact attenuator must be MASH compliant and mounted on an appropriate host vehicle. The vehicle must include an operator and be in compliance with all safety requirements.

The intended use of this item is for when the CA and project team need to investigate something in a high-speed area and need to be protected from traffic, but no work is being done.

(8) SKID STEER LOADER, ITEM 900025
The skid steer loader shall be a compact machine, either rubber-tired or track-mounted, designed for excavation, grading, material handling, and similar tasks in confined or restricted areas. The machine shall include appropriate attachments, such as buckets or forks, and must be properly maintained and operated by a trained professional. The equipment shall be used where its compact size and versatility are beneficial to the project and shall only be used when directed by the CA. Acceptable models include Cat 246D, John Deere 330G, or approved equivalent.

(B) MEASUREMENT AND PAYMENT:
Measurement and payment for all equipment listed in this provision shall be made at the contract unit price per hour for each type of equipment authorized and used. The unit price shall include the equipment, operator, supervision, fuel, maintenance, and all incidental costs. No separate payment shall be made for transportation, mobilization, or downtime unless otherwise authorized in writing by the CO.

48. LABOR:

FOREMAN, ITEM 900113
SKILLED LABORER, ITEM 900115
UNSKILLED LABORER, ITEM 900117

(A) GENERAL:
As directed by the Engineer, these pay items shall be used for scheduled non- emergency work and non-scheduled emergency work, when payment for this work is not suitable under other pay items in the contract. Compensation for each laborer, carpenter and mason shall be paid at the contract unit price per hour for the actual hours and fractions of hours worked on the job. The contract unit price shall include full compensation for all work, transportation to and from the job, required supervision, and use of tools. Under no circumstances, shall the Contractor be compensated for travel time to and from the job. The Contractor's attention is directed to the fact that work under these pay items does not constitute force account work. Consequently, the Contractor shall not receive any compensation in the form of an added percentage for overhead and profit.

The quantities for these labor items may be increased or decreased without any adjustment to the contract unit price or the labor items may be deleted entirely from the contract by the Contracting Officer without negotiation. The Contractor shall not be allowed to submit a claim against the Department for any adjustment to the contract unit price, should the labor items be increased, decreased or eliminated entirely.

(1) FOREMAN, ITEM 900113
The Contractor shall provide a foreman to supervise the activities of all Contractor’s personnel during the prosecution of work.

(2) SKILLED LABORER, ITEM 900115
The Contractor shall furnish a laborer to perform work during maintenance activities that require special skills or technical knowledge.

(3) UNSKILLED LABORER, ITEM 900117
The Contractor shall furnish a laborer to perform any work not requiring special skills or technical knowledge during the prosecution of work.

(B) MEASURE AND PAYMENT:
The contract unit price for these labor items shall be at the hourly rate for time spent on the project working. The contract price per hour for all these labor items shall include full payment for testing devices, tools, and incidental equipment necessary to properly carry out the work. Payment shall be based on bills submitted, covering all charges for labor, materials, and equipment according to the respective terms of the contract. The normal workday shall consist of eight hours worked Monday through Saturday. All time which is outside these base hours shall

be compensated as overtime. If, under the direction of the CA, the Contractor must remain after the hours mentioned above, such time shall be considered overtime. If the Contractor reports as directed by the CA, to the job site and completes his work outside of the normal base hours, he shall be compensated at a rate of 1.5 times the bid price of the respective items for those hours outside the base.

49. MISCELLANEOUS MATERIALS (NON-BID ITEM), ITEM 000099

GENERAL:
Work under this item consists of the Contractor furnishing as directed by the Engineer, these materials or parts shall be used for scheduled non-emergency work or non-scheduled emergency work, when payment for these materials or parts are not suitable under other pay items in the contract. This is a non-bid item.

These materials or parts will be provided as follows:
The Department reserves the right to provide any required materials or parts for which there is no pay item. The Contractor shall submit copies of paid invoices or bills indicating prices paid to suppliers for materials or parts actually used in this contract. Payment will be made through the materials allowance established for this contract. However, no materials or parts shall be ordered until approved by the CA and competitive prices may be required if directed by the CA.

CONSTRUCTION:
Parts shall be installed on existing units by experienced workers using procedures recommended by the manufacturer. The Contractor shall work with the manufacturer's representative to ensure that replacement parts are installed correctly and that the repaired unit will function properly as designed.

MEASURE AND PAYMENT:
The Contractor will be paid his actual cost plus 10 percent for materials or parts supplied by him/her and incorporated into the work. The Contractor shall submit copies of paid invoices or bills indicating prices paid to suppliers for materials or parts used. Payment will be made through the materials allowance established for this contract. However, no materials or parts shall be ordered until approved by the CA. Competitive prices may be required if directed by the CA.

50. APPENDIX A - DRAWINGS

Drawing 1 – Metal Railing Detail: https://drive.google.com/file/d/1fWv4pkJD-HYbREkpAQ07aox4orEodfkX/view?usp=sharing