



# CITY OF DANVILLE

Carol G. Henley, Director of Purchasing

P.O. Box 3300  
Danville, VA 24543

427 Patton Street, Rm 304  
Danville, VA 24541

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<b>INVITATION FOR BID</b>	
IFB No.:	<b>IFB 24-25-095</b>
Title:	<b>ON-CALL GUARDRAIL REPAIR AND INSTALLATION</b>
Pre-Bid Meeting: (non-mandatory)	Pre-Bid Meeting will be held April 17, 2025 at 10:00 a.m. in the 3 <sup>rd</sup> floor conference room, Municipal Building, 427 Patton St., Danville, VA <b>Remote viewing</b> of the Pre-Bid Meeting will also be available online at: <a href="https://zoom.us/j/91650668349?pwd=DnqFTslkkUyUgQkUoActdMA7zUoDq3.1">https://zoom.us/j/91650668349?pwd=DnqFTslkkUyUgQkUoActdMA7zUoDq3.1</a> Meeting ID: 916 5066 8349 Passcode: 308972
<b>Bid Due Date:</b>	<b>Sealed Bids shall be accepted no later than:</b>  <b><u>MAY 8, 2025 at 2:00 p.m.</u></b>  Submit electronically through eVA or on paper (mail or hand-deliver) to the Purchasing Department, 427 Patton Street, Room 304, Danville, VA 24541
Direct Questions to:	Carol Henley, Director of Purchasing: <a href="mailto:purchasing@danvilleva.gov">purchasing@danvilleva.gov</a> cc: Chris Franks, PE: <a href="mailto:frankcp@danvilleva.gov">frankcp@danvilleva.gov</a>
Last Date for Questions: April 24, 2025 at 5:00 p.m.	
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**NOTICE TO BIDDERS****Invitation for Bid No. 24-25-095****Bids open MAY 8, 2025 at 2:00 p.m.**

The City of Danville will receive sealed bids for ON-CALL GUARDRAIL REPAIR AND INSTALLATION

Bidders must be prequalified with the Virginia Department of Transportation (VDOT). For information about becoming VDOT Prequalified, please visit: <https://www.vdot.virginia.gov/doing-business/business-opportunities/highway-contractors/>

General work description: Repair, construct, upgrade, remove, and/or rehabilitate highway and municipal guardrail and fencing systems and perform related work incidental thereto as ordered by the Engineer on an on-call, as-needed, or emergency basis. The majority of the expected work consists of repairing guardrails, posts, and terminals damaged by vehicle impacts.

**Contract Type:** This contract is a **unit-priced indefinite delivery/indefinite quantity**. Work orders will be issued by the City as needed and will vary in location and quantity of work. The City reasonably expects to issue multiple orders with a combined total value between \$25,000 and \$125,000 per contract term; however, the actual usage may vary. The City guarantees a minimum quantity of \$25,000 for the initial contract term.

**Initial Contract Term:** One (1) year from the date of issuance of a purchase order

**Contract Renewal:** Up to three (3) additional one-year contract terms

Contract time Limits: See Supplemental General Conditions

The City of Danville in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all Bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

In the solicitation or awarding of contracts, the City of Danville does not discriminate against Bidders or offerors because of race, religion, color, sex, sexual orientation, gender identity, national origin, age, disability, status as a service-disabled veteran, or any other basis prohibited by federal or state law relating to discrimination in employment. The City of Danville does not discriminate against faith-based organizations.

This contract will be funded, in whole or in part, with local and state transportation funds (no federal funds). It is the policy of the Virginia Department of Transportation that Disadvantaged Business Enterprises (DBE) as defined in 49 CFR Part 26 must have the maximum opportunity to participate in the performance of federally funded contracts. A list of DBE firms certified by the SBSB and MWAA is maintained on SBSB's website (<https://www.SBSB.virginia.gov>) under the DBE Directory of Certified Vendors. Contractors are encouraged to take all necessary and reasonable steps to ensure that DBE firms have the maximum opportunity to compete for and perform services on contract, including participation in any subsequent supplement contracts. If the contractor intends to subcontract a portion of the services on the project, the contractor is encouraged to seek out and consider DBEs as potential subcontractors. The contractor/subcontractor is encouraged to contact DBEs to solicit their interest, capability, and qualifications. Any agreement between a contractor/consultant and a DBE whereby the DBE promises not to provide services to other contractors/consultants is prohibited. There is no established DBE participation goal for this contract. PREVAILING WAGES in compliance with the Davis-Bacon Act are not required on this contract.

A non-mandatory pre-bid conference will be held in person at the date, time, and location indicated in the Instructions to Bidders. Remote viewing may be made available online (see page 1 for online meeting link/details).

**The City will receive Bids until 2:00 p.m. local prevailing time on the date at the location indicated in the Instructions to Bidders.**

Bid bond equal to at least 5% of the bid amount is required with Bid. Performance and payment bonds each in the amount of \$50,000 will be required upon Notice of Award.

Withdrawal of bids due to error shall be subject to and in accordance with Va. Code § 2.2-4330

Electronic copies of the Bidding Documents may be obtained on eVA (<https://eva.virginia.gov/>) or from the City's bid postings website. Physical copies of project plans may be provided to Bidders if indicated in the Instructions to Bidders.

**All Bidders (including those submitting paper bids) must be registered on eVA (see Instructions to Bidders)**

City of Danville  
Director of Purchasing

**PRE-BID QUESTION FORM**

DATE: \_\_\_\_\_

PROJECT: ON-CALL GUARDRAIL REPAIR AND INSTALLATION

IFB NO.: 24-25-095

DURING BIDDING, WRITTEN (NOT ORAL) COMMENTS CONCERNING CONFLICTS (ERRORS, INCONSISTENCIES, OR OMISSIONS) IN THE BIDDING DOCUMENTS SHALL BE SUBMITTED ON THIS FORM. CONFLICTS WILL BE RESOLVED ONLY BY WRITTEN ADDENDA. THE CITY WILL NOT RECEIVE OR RESPOND TO QUESTIONS OTHER THAN WRITTEN COMMENTS CONCERNING CONFLICTS.

THE FOLLOWING CONCERNS DRAWINGS, SHEET(S) \_\_\_\_\_:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

THE FOLLOWING CONCERNS SPECIFICATIONS/BIDDING DOCUMENTS,

PAGE \_\_\_\_: PARAGRAPH \_\_\_\_\_,

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_

Name

Phone

\_\_\_\_\_  
Organization

SUBMIT FORM BY EMAIL TO: PURCHASING@DANVILLEVA.GOV  
CC: FRANKCP@DANVILLEVA.GOV

EMAIL SUBJECT LINE: IFB 24-25-095 PRE-BID QUESTION

**INSTRUCTIONS TO BIDDERS****ARTICLE 1 - GENERAL****1.1 DEFINITIONS**

When used in these instructions to bidders, unless explicit definition is otherwise given herein, the definitions and terminology of the General Conditions apply.

**1.2 BID DATE**

Sealed Bids shall be received no later than:

**2:00 p.m. on MAY 8, 2025**

Submit electronically through eVA (<https://eva.virginia.gov/>) or on paper (mail or hand-deliver) to the following address:

ATTN: IFB 24-25-095  
City of Danville  
Purchasing Department-Room 304  
427 Patton Street  
Danville, VA 24541

**1.3 PRE-BID CONFERENCE**

A non-mandatory pre-bid conference will be held at 10:00 a.m. on April 17, 2025 at:

3rd Floor Conference Room  
Municipal Building (City Hall)  
427 Patton Street  
Danville, VA 24541

Representatives of the City and the Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. The City will issue such Addenda as the Engineer considers necessary to address questions that arise at the conference.

**1.4 BIDDING DOCUMENTS****1.4.1 COPIES OF BIDDING DOCUMENTS**

Electronic copies of the Bidding Documents are available electronically on eVA (<https://eva.virginia.gov/>) or the City's bid postings website.

**1.4.2 INTERPRETATIONS OF BIDDING DOCUMENTS**

a. The Bidder shall: (1) carefully study and compare the Bidding Documents with each other, (2) examine the site and local conditions and compare with the Bidding Documents, and (3) report, at once, to the Purchasing Director errors, inconsistencies, or ambiguities discovered.

b. Bidders requiring clarification or interpretation of the Bidding Documents or requesting substitutions shall submit a written request on the Pre-Bid Question Form no later than the last date for questions indicated on the first page of the Invitation for Bids.

c. Interpretations, corrections, substitution approvals, and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections, substitution approvals, and changes of the Bidding Documents made in any other manner will not be binding.

d. When conflicts arise between local, state, and federal codes or federal-aid provisions, the federal-aid or most conservative approach shall be taken.

**1.4.3 SUBSTITUTIONS**

a. The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, and those "or-equal" or substitute or materials and equipment subsequently approved by Engineer prior to the submittal of Bids and identified by Addendum.

b. The substitution review and approval process will be handled in accordance with the provisions of the General Conditions.

#### 1.4.4 ADDENDA

- a. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.
- b. Addenda will be issued no later than ten (10) days prior to the bid date except an Addendum withdrawing the Invitation for Bids or one which includes postponement of the bid date.
- c. Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued and shall acknowledge their receipt on the Bid Form.
- d. The Bidder shall sign and submit copies of each Addendum with its Bid.
- e. When Addenda are issued, Bidders that have submitted an electronic response through eVA must resubmit their response to the latest version of the solicitation.

#### 1.5 BIDDING PROCEDURES

##### 1.5.1 PREPARATION OF BIDS

- a. Bids shall be submitted on the forms included in the Bidding Documents.
- b. All blanks on the Bid Form and required submittals shall be legibly executed in a non-erasable medium.
- c. Interlineations, alterations, and erasures must be initialed by the signer of the Bid Form.
- d. Unsigned or qualified bids shall not be accepted

##### 1.5.2 BID SECURITY

- a. Each Bid shall be accompanied by a bid security in the form and amount specified in the General Conditions. The Bidder pledges to enter into a Contract with the City on the terms stated in the Bid and will furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the City as described in the General Conditions not as a penalty, but as liquidated damages.
- b. The City will have the right to retain the bid security of Bidders to whom an award is being considered until either (1) the Contract has been executed and bonds have been furnished, or (2) the specified time has elapsed so that Bids may be withdrawn, or (3) all Bids have been rejected.

##### 1.5.3 SUBMISSION OF BIDS

- a. Bids shall be submitted either: (1) on paper (mailed or hand-delivered) to the address designated for receipt of Bids, or (2) electronically through eVA at <https://eva.virginia.gov/>. Each Bidder shall choose only one method of submission. A Bid will not be accepted if submitted both electronically and on paper.
- b. The latest dated and time stamped bid will be the only bid accepted and evaluated.
- c. **All Bidders (including those submitting paper Bids) shall be registered on eVA at <https://eva.virginia.gov/>. There is no cost for eVA registration.**
- d. Paper Submission: Envelopes shall be sealed and marked in the lower left-hand corner with "IFB 24-25-095 On-Call Guardrail Repair And Installation" and the Bidder's name and submitted to the location designated for receipt of Bids.
- e. Electronic Submission: Bid invitation can be found on eVA at <https://eva.virginia.gov/> under the Business Opportunities Tab > Virginia Business Opportunities (VBO). Search IFB 24-25-095. **When Addenda are issued, Bidders that have submitted an electronic response must resubmit their response to the latest version of the solicitation.**
- f. Bidders are expected to examine all instructions and the Bidding Documents. Failure to do so will be at the Bidder's risk.
- g. Bids shall be deposited electronically or on paper at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date for receipt of Bids will not be accepted.
- h. The Bidder shall assume full responsibility for timely delivery of its Bid electronically or on paper to the location designated for receipt of Bids.
- i. The Bidder shall furnish a unit or lump sum price as called for on the bid schedule, in numerical figures,

for each pay item listed. The Bidder shall also show the products of the unit prices and quantities in numerical figures in the column provided for that purpose and the total amount of the Bid. If a unit or lump sum price is omitted, the Bid will be rejected.

#### 1.5.4 BID SUBMITTALS

Submit the following with Bid:

- a. Fully executed Bid Form
- b. Fully executed Bid Bond on City of Danville, Virginia Bid Bond Form or other form acceptable to the City
- c. Signed copies of each Addenda (if any).
- d. Bid Items Eligible For Steel Price Adjustment Form

#### 1.5.5 MODIFICATION AND WITHDRAWAL OF BID

- a. Procedures for modification and withdrawal of Bids shall be in accordance with the General Conditions.

#### 1.6 CONSIDERATION OF BIDS

##### 1.6.1 OPENING OF BIDS

a. Properly submitted Bids will be opened publicly and read aloud on the date and at the location designated for receipt of Bids after the time for receipt of Bids has passed.

##### 1.6.2 REJECTION OF BIDS

a. The City shall have the right to reject any or all Bids. A Bid not accompanied by the required bid security or other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

##### 1.6.3 ACCEPTANCE OF BID

a. It is the City's intent to award a Contract to the lowest responsible Bidder provided the Bid is determined to be responsive (has been submitted in accordance with the requirements of the Bidding Documents) and does not exceed the funds available.

b. Upon opening Bids, the City will evaluate all bid submittals to determine whether all requirements of the Bidding Documents have been met.

c. Bids will be compared on the basis of the summation of the products of the quantities shown in the bid schedule and the unit bid prices.

d. If there is a discrepancy between the unit price and its extension, the unit price will govern. Accordingly, the City may correct arithmetical errors in the bid prior to such comparison. The results of the comparisons will be available to the public after the determination has been made to award the Contract.

e. Bids will be considered irregular and may be rejected for any of the reasons stated in the General Conditions.

f. Bids will remain subject to acceptance for sixty (60) days after the Bid opening, or for such longer period of time that Bidder may agree to in writing.

#### 1.7 POST-BID INFORMATION

##### 1.7.1 POST-BID SUBMITTALS

a. Within ten (10) days of the City's issuance of award notice, submit Certificates of Insurance showing compliance with the required types and amounts of insurance required in the Bidding Documents. Such Certificates of Insurance may be on City of Danville, Virginia Certificate of Insurance Form (attached), Form ACORD 25, or other forms as may be acceptable to the City.

b. Within ten (10) days of the City's issuance of award notice, submit Performance and Payment Bonds in the amount of \$50,000 and conforming to the Bidding Documents. Such Performance and Payment Bonds may be on City of Danville, Virginia Contract Performance Bond and Contract Payment Bond Forms (attached) or other forms as may be acceptable to the City.

**END OF SECTION**

**BID FORM**

**ARTICLE 1 - BID RECIPIENT**

1.1 This Bid is submitted to:

ATTN: DIRECTOR OF PURCHASING  
CITY OF DANVILLE  
427 PATTON ST RM 304  
DANVILLE VA 24541-1215

1.2 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the City to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in the Bidding Documents and in accordance with the other terms and conditions of the Bidding Documents.

**ARTICLE 2 - BASIS OF BID**

2.1 The Bidder will complete the Work in accordance with the Contract Documents for the unit prices indicated in Article 7 - Bid Schedule. The Bidder hereby proposes to furnish all items including materials, supervision, labor, and equipment in strict accordance with said Contract Documents for the unit prices indicated on the Bid Schedule. The sum of the unit price indicated for each line item times the line item quantity is the Total Bid which equals:

---

(write Total Bid from Bid Schedule in figures and words above)

**ARTICLE 3 - BIDDER'S ACKNOWLEDGEMENTS**

3.1 Bidder accepts all of the terms and conditions of the Bidding Documents, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing.

3.2 Bidder will sign and deliver the required number of counterparts of the Agreement with the Bonds and other documents required by the Bidding Requirements within the timeframe presented in the Instructions to Bidders.

**ARTICLE 4 - BIDDER'S REPRESENTATIONS**

4.1 In submitting this Bid, Bidder represents that:

a. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

b. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

c. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

d. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

e. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

f. Bidder is aware of the general nature of work to be performed by the City and others at the Site that relates to the Work as indicated in the Bidding Documents.

g. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents and confirms that the written resolution thereof by Engineer is acceptable to Bidder.

h. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

i. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

## **ARTICLE 5 - BIDDER'S CERTIFICATION**

5.1 The Bidder certifies that:

a. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

b. Bidder has not (directly or indirectly) induced or solicited any other entity to: (1) submit a false or sham Bid; or (2) refrain from bidding;

c. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this paragraph 5.1.c.:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of the City, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive the City of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of the City, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

## **ARTICLE 6 - TIME OF COMPLETION**

6.1 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with and on or before the date or within the number of calendar days indicated in the Contract Documents.

6.2 Bidder accepts the provisions of the Contract Documents as to liquidated damages.

## **ARTICLE 7 - BID SCHEDULE**

Bidder acknowledges that quantities of work indicated in the Bid Schedule are not guaranteed and are solely for the purpose of comparison of Bids, and that final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

(Bid Schedule begins on next page)



A	B	C	D	E	F	G	H
ITEM NO.	ITEM CODE	SPEC NO.	DESCRIPTION OF WORK	SCHED QTY	UNIT	UNIT PRICE	TOTAL PRICE (E X G)
<b>BID SCHEDULE</b>							
01	303SX20-0012	ATTD	UTILITY TEST PIT UNPAVED	25.00	EA		
02	303SX20-0013	ATTD	UTILITY TEST PIT ASPHALT CONCRETE	21.00	EA		
03	305SD20-0001	305	BORROW EXCAVATION	10.00	CY		
04	305SP20-0003	ATTD	AGR. BASE MAT. TY.I OR II NO. 21A OR 21B	100.00	TON		
05	305SP20-0005	ATTD	MACHINING SHOULDERS	200.00	LF		
06	502SX20-0010	502	NS SAW CUT H.C.C. ITEMS CURB, GUTTER, ENTRANCES	50.00	LF		
07	505SD20-0009	505	REMOVE EX. GUARDRAIL TERMINAL	20.00	EA		
08	505SD20-0011	505	GUARDRAIL GR-MGS1	300.00	LF		
09	505SD20-0012	505	GUARDRAIL GR-MGS1A	25.00	LF		
10	505SD20-0013	505	GUARDRAIL GR-MGS1, 9' POST	8.00	EA		
11	505SD20-0014	505	RADIAL GUARDRAIL GR-MGS1	50.00	LF		
12	505SD20-0015	505	RADIAL GUARDRAIL GR-MGS1A	14.00	LF		
13	505SD20-0016	505	RADIAL GUARDRAIL GR-MGS1, 9' POST	36.00	LF		
14	505SD20-0017	505	GUARDRAIL TERMINAL GR-MGS2	13.00	EA		
15	505SD20-0018	505	GUARDRAIL END ANCHORAGE GR-MGS3	5.00	EA		
16	505SD20-0019	505	GUARDRAIL HEIGHT TRANSITION GR-MGS4	5.00	EA		
17	505SD20-0027	505	GUARDRAIL TERMINAL GR-6 NCHRP 350	25.00	LF		
18	505SD20-0029	505	GUARDRAIL TERMINAL GR-11	4.00	EA		
19	505SD20-0030	505	GUARDRAIL GR-2	750.00	LF		
20	505SD20-0032	505	GUARDRAIL GR-2 8' POST	25.00	EA		

A	B	C	D	E	F	G	H
ITEM NO.	ITEM CODE	SPEC NO.	DESCRIPTION OF WORK	SCHED QTY	UNIT	UNIT PRICE	TOTAL PRICE (E X G)
<b>BID SCHEDULE</b>							
21	505SD20-0033	505	GUARDRAIL GR-2A	25.00	LF		
22	505SD20-0034	505	RAD. GUARDRAIL GR-2	120.00	LF		
23	505SD20-0035	505	RAD. GUARDRAIL GR-2A	12.00	LF		
24	505SD20-0040	505	GUARDRAIL GR-10	60.00	LF		
25	505SD20-0045	505	FIXED OBJECT ATTACH. GR-FOA-1 TY. I	1.00	EA		
26	505SD20-0046	505	FIXED OBJECT ATTACH. GR-FOA-1 TY. II	1.00	EA		
27	505SD20-0053	505	FIXED OBJECT ATTACH. GR-FOA-2 TY. I	1.00	EA		
28	505SD20-0054	505	FIXED OBJECT ATTACH. GR-FOA-2 TY. II	1.00	EA		
29	505SD20-0059	505	MEDIAN BARRIER MB-3	20.00	LF		
30	505SD20-0060	505	MEDIAN BARRIER MB-3A	10.00	LF		
31	505SD20-0067	505	BULL NOSE BARRIER	1.00	EA		
32	505SD20-0068	505	IMPACT ATTENUATOR IA-2	1.00	EA		
33	505SD20-0069	505	IMPACT ATTENUATOR IA-1	1.00	EA		
34	505SD20-0071	505	GUARDRAIL BEAM	750.00	LF		
35	505SD20-0073	505	REMOVE EXISTING GUARDRAIL	1120.00	LF		
36	505SP20-0002	ATTD	W BEAM TERM CONNECTOR	2.00	EA		
37	505SP20-0005	ATTD	W BEAM END SECT ROUNDED	2.00	EA		
38	505SP20-0006	ATTD	W BEAM BACKUP PLATE	4.00	EA		
39	505SP20-0007	ATTD	RADIAL GUARDRAIL BEAM	200.00	LF		
40	505SP20-0008	505	RUB RAIL	7.00	LF		

A	B	C	D	E	F	G	H
ITEM NO.	ITEM CODE	SPEC NO.	DESCRIPTION OF WORK	SCHED QTY	UNIT	UNIT PRICE	TOTAL PRICE (E X G)
<b>BID SCHEDULE</b>							
41	505SP20-0010	ATTD	WOOD, CONC., OR STEEL POST	110.00	EA		
42	505SP20-0011	505	OFFSET BLOCK RUB RAIL	5.00	EA		
43	505SP20-0012	505	OFFSET BLOCK	110.00	EA		
44	505SP20-0014	ATTD	DRILL HOLE	50.00	EA		
45	505SP20-0015	ATTD	REALIGN POST	20.00	EA		
46	505SX20-0001	ATTD	NS HAND DIG GUARDRAIL POST	25.00	EA		
47	505SX20-0058	505	NS GUARDRAIL FIXED OBJECT ATTACHMENT VAR. TYPES	1.00	EA		
48	505SX20-0058	505	NS GUARDRAIL GUARDRAIL TERMINAL SITE PREPARATION, 4' MODERATE	3.00	EA		
49	505SX20-0058	505	NS GUARDRAIL GUARDRAIL TERMINAL SITE PREPARATION, 6' MODERATE	5.00	EA		
50	505SX20-0058	505	NS GUARDRAIL GUARDRAIL TERMINAL SITE PREPARATION, MINOR	8.00	EA		
51	505SX20-0058	505	NS GUARDRAIL MB-3 GUARDRAIL TERMINAL	1.00	EA		
52	505SX20-0058	505	NS GUARDRAIL POST LEAVE-OUT	10.00	EA		
53	505SX20-0058	505	NS GUARDRAIL SAFETY CAP FOR STEEL GUARDRAIL POSTS	110.00	EA		
54	505SX20-0058	505 701	NS GUARDRAIL GUARDRAIL/TERMINAL OBJECT MARKER SIGN PANEL	10.00	EA		
55	505SX20-0070	505	NS IMPACT ATTENUATOR RESET/REPAIR EXIST. IMPACT ATTEN.	10.00	EA		
56	505SX20-0070	505	NS IMPACT ATTENUATOR NOSE SECTION	5.00	EA		
57	505SX20-0070	505	NS IMPACT ATTENUATOR CARTRIDGE	10.00	EA		
58	505SX20-0070	505	NS IMPACT ATTENUATOR DIAPHRAGM ASSEMBLY	5.00	EA		
59	505SX20-0070	505	NS IMPACT ATTENUATOR SIDE PANEL	5.00	EA		
60	505SX20-0070	505	NS IMPACT ATTENUATOR TRANSITION	1.00	EA		

A	B	C	D	E	F	G	H
ITEM NO.	ITEM CODE	SPEC NO.	DESCRIPTION OF WORK	SCHED QTY	UNIT	UNIT PRICE	TOTAL PRICE (E X G)
<b>BID SCHEDULE</b>							
61	505SX20-0070	505	NS IMPACT ATTENUATOR TENSION STRUT, BACK-UP DIAPHRAGM	1.00	EA		
62	505SX20-0070	505	NS IMPACT ATTENUATOR FRAME	1.00	EA		
63	507SX20-0013	507	NS FENCE 6' CHAINLINK FENCE GALVANIZED	50.00	LF		
64	507SX20-0013	507	NS FENCE 6' CHAINLINK FENCE VINYL COATED	50.00	LF		
65	507SX20-0019	507	NS GATE 3' CHAINLINK GATE GALVANIZED	5.00	EA		
66	507SX20-0019	507	NS GATE 3' CHAINLINK GATE VINYL COATED	5.00	EA		
67	510SX20-0017	510	NS RESET EXIST. GUARDRAIL	137.50	LF		
68	512SD20-0023	512	TRUCK MOUNTED ATTENUATOR	200.00	HR		
69	512SD20-0025	512	PORT.CHANGEABLE MESS. SIGN	100.00	HR		
70	512SD20-0026	512	ELECTRONIC ARROW BOARD	200.00	HR		
71	512SD20-0027	512	FLAGGER SERVICE	200.00	HR		
72	513SX20-0002	ATTD	EMERGENCY MOBILIZATION	2.00	EA		
73	605SX20-0010	ATTD	NS LANDSCAPE SELECTIVE TREE REMOVAL	2.00	EA		
74	702SD20-0010	702	GUARDRAIL DELINEATOR (POST TOP DELINEATORS)	140.00	EA		
						<b>TOTAL BID =</b>	

**ARTICLE 8 - NON-STANDARD AND "ATTD" BID ITEM DESCRIPTIONS AND SPECIAL NOTES**

The following describes measurement and payment and other applicable stipulations and information for selected items listed on the bid schedule and supersedes conflicting language that may be found in the Plans, Specifications, and VDOT Special Provisions:

8.1 See Special Provisions for pay items marked Non-Standard (NS) or "ATTD".

**THIS AREA INTENTIONALLY BLANK**

**ARTICLE 9 - ATTACHMENTS TO THIS BID FORM**

9.1 Several forms are attached to this Bid Form for Bidder's use. The following forms must be fully executed and submitted with Bid:

1. City of Danville, Virginia Bid Bond form (or may use other form acceptable to the City)

9.2 Specific forms are not provided for the following items, but are required to be provided and submitted by the Bidder with its Bid:

1. Signed copies of each Addenda (if any)

9.3 The following forms are not required to be submitted with the Bid, but may be required to be submitted after the bid opening:

1. City of Danville, Virginia Certificate of Insurance Form (or other acceptable form) must be submitted within ten (10) days of the City's issuance of notice of award.

2. City of Danville, Virginia Contract Performance Bond and Contract Payment Bond forms must be submitted within ten (10) days of the City's issuance of notice of award.

3. Bid Items Eligible For Steel Price Adjustment Form

**THIS AREA INTENTIONALLY BLANK**

**ARTICLE 10 - BID SUBMITTAL**

This Bid is submitted by:

Bidder: [Indicate legal name of bidding entity]

\_\_\_\_\_

Doing Business As: \_\_\_\_\_  
(if entity is an individual or if entity doing business under name other than legal name)

By [Signature]: \_\_\_\_\_

Printed Name: \_\_\_\_\_  
(authorized representative)

Attest [Signature]: \_\_\_\_\_

[Printed Name]: \_\_\_\_\_

Title: \_\_\_\_\_

Submittal Date: \_\_\_\_\_

Address for giving notices: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Contact Name and e-mail address: \_\_\_\_\_

Federal Taxpayer Identification Number: \_\_\_\_\_  
(EIN, ITIN, or SSN as applicable)

Va. Contractor License No.\*: \_\_\_\_\_  
\*Note: If licensed. (License not required to submit a Bid)

City of Danville Business License No.\*: \_\_\_\_\_  
\*Note: If licensed. (License not required to submit a Bid)

Va. State Corporation Commission No.\*: \_\_\_\_\_  
\*Note: Or attach explanation why organization is not required to be authorized in accordance with Va. Code § 2.2-4311.2

CITY OF DANVILLE, VIRGINIA
BID BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE \_\_\_\_\_ As

principal, and \_\_\_\_\_ Surety, are held and firmly bound unto the City of Danville, Virginia as obligee, in the amount of FIVE PERCENT OF THE DOLLAR VALUE OF THE BID, lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally and firmly by these presents.

SIGNED, sealed and dated this \_\_\_\_\_ Day of \_\_\_\_\_, 20 \_\_\_\_\_

WHEREAS, the above said principal is herewith submitting its proposal for:

PROJECT NUMBER:

NOW, THEREFORE, the condition of the above obligee is such, that if the aforesaid principal shall be awarded the contract upon said proposal and shall within the time specified in the Specifications after the notice of such award enter into a contract and give bond for the faithful performance of the contract, then this obligation shall be null and void; otherwise to remain in full force and effect and the principal and surety will pay unto the obligee the difference in money between the amount of the bid of the said principal and the amount for which the obligee may legally contract with another party to perform the said work if the latter amount be in excess of the former; but in no event shall the liability exceed the penal sum hereof.

\_\_\_\_\_  
(Principal\*)

\_\_\_\_\_  
(Surety Company)

By: \_\_\_\_\_  
(Officer, Partner or Owner) (Seal)

By: \_\_\_\_\_  
(Attorney-in-Fact\*\*) (Seal)

\_\_\_\_\_  
(Principal\*)

\_\_\_\_\_  
(Address)

By: \_\_\_\_\_  
(Officer, Partner or Owner) (Seal)

By: \_\_\_\_\_  
(Surety Company)

\_\_\_\_\_  
(Principal\*)

\_\_\_\_\_  
(Attorney-in-Fact\*\*) (Seal)

By: \_\_\_\_\_  
(Officer, Partner or Owner) (Seal)

By: \_\_\_\_\_  
(Address)

\*Note: If the principal is a joint venture, each party thereof must be named and execution made by same hereon. If there is more than one surety to the bid bond, each surety must be named and execution shall be made by same hereon.

\_\_\_\_\_  
Bid Bond ID#

\_\_\_\_\_  
Company/Bidder Name

\_\_\_\_\_  
Signature and Title

\*\*Attach copy of Power of Attorney

## CITY OF DANVILLE, VIRGINIA CERTIFICATE OF INSURANCE

This form must be completed and returned within 10 business days of Notice of Award to:

**Director of Purchasing  
427 Patton Street  
Danville, VA 24541**

This is to certify that the \_\_\_\_\_  
Insurance Company

Assured \_\_\_\_\_  
Company

Address \_\_\_\_\_  
Street City/County State ZIP

### Policies of Insurance Described as Follows:

Kind of Policy	Worker's Compensation	Bodily Injury Liability and Property Damage Liability
Policy Number		
Effective Dates	From: To:	From: To:
Limits of Compensation	Provided by Worker's Compensation Laws of Commonwealth of Virginia	Each Occurrence: \$ _____ Aggregate: \$ _____
Exact Location Covered		
Classification of Work Covered (detail)		

This Certificate is issued at the request of the City of Danville, Virginia, 427 Patton Street, Danville, VA 24541.

Dated at: \_\_\_\_\_  
City/County State Agency

On the \_\_\_\_\_ of \_\_\_\_\_, 20\_\_\_\_ By: \_\_\_\_\_  
Day Month Year Authorized Representative



**CITY OF DANVILLE, VIRGINIA  
CONTRACT PERFORMANCE BOND**

Know all men by these presents. That we \_\_\_\_\_

Hereinafter called the ("principal") and \_\_\_\_\_

\_\_\_\_\_ (hereinafter called the "Surety"), are held and firmly bound

unto the City of Danville, Virginia (hereinafter called the "Owner"), in full and just sum of \_\_\_\_\_

\_\_\_\_\_ Dollars ( \$ \_\_\_\_\_ ) lawful money of the United States of America to be paid to said "Owner." Its successors, and assigns, to which payment well and truly to be made we bind ourselves, executors, administrators, successors, and assigns jointly and severally and firmly by these presents:

Whereas, The above bounden: "Principal" has entered into a contract with the said "Owner" by and through the Purchasing Director of the City of Danville, Virginia, said contract being attached hereto, for constructing or otherwise improving

Project: \_\_\_\_\_

Located \_\_\_\_\_

Contract ID Number: \_\_\_\_\_

upon certain terms and conditions in said contract more particularly mentioned: and

Whereas. It was one of the conditions of the award of the "Owner" pursuant to which said contract was entered into, that these presents shall be executed:

Now: Therefore. The conditions of this obligation is such that if the above burden "Principal" shall in all respects comply with the terms and conditions of said contract and his obligations thereunder, including the "Specifications", with amendments thereto, "Special Provisions," "Proposal," and plans therein referred to and made a part thereof, and such alterations as may be made in said plans and specifications as therein provided for, and shall indemnify and save harmless the said "Owner" against or from all cost, expenses, damages, injury or as loss to which the said "Owner" may be subjected by reason of any wrongdoing, misconduct, want of care or skill, negligence or default, including patent infringements, delay or failure to comply with contract provisions, on the part of said "Principal," his agents or employees, in the execution or performance of said contract, including errors in the plans furnished by the "Principal," and shall pay all just claims for damages and injury to property then this obligation to be void; otherwise, to be and remain in full force and virtue in law.

Witness, The signature of the "Principal" and the signature of the "Surety" by its Attorney-in-fact and its corporate seal duly attached by their Attorney-in-fact,

hereunto affixed this \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_

\_\_\_\_\_  
(Principal)

\_\_\_\_\_  
(Surety Company)

By: \_\_\_\_\_  
(Officer, Partner or Owner) (SEAL)

By: \_\_\_\_\_  
Attorney-in-fact (SEAL)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

(Continued)

**CITY OF DANVILLE, VIRGINIA  
CONTRACT PAYMENT BOND**

Know all men by these presents. That we \_\_\_\_\_

Hereinafter called the "Principal" and \_\_\_\_\_

\_\_\_\_\_ (hereinafter called the "Surety"), are held and firmly bound  
unto the City of Danville, Virginia (hereinafter called the "Owner"), in full and the just sum of \_\_\_\_\_

\_\_\_\_\_ Dollars ( \$ \_\_\_\_\_ ) lawful money of the United States of America to be paid to said "Owner." Its successors, and assigns, to which payment well and truly to be made we bind ourselves, executors, administrators, successors, and assigns jointly and severally and firmly by these presents:

Whereas, The above bounden "Principal" has entered into a contract with the said "Owner" by and through the Purchasing Director of the City of Danville, Virginia, said contract being attached hereto, for constructing or otherwise improving

Project: \_\_\_\_\_

Located: \_\_\_\_\_

upon certain terms and conditions in said contract more particularly mentioned: and

Whereas, It was one of the conditions of the award of the "Owner" pursuant to which said contract was entered into, that these presents shall be executed:

Now: Therefore. The conditions of this obligation is such that if the above burden "Principal" shall promptly pay all just claims for labor and material (including public utility services and reasonable rental of equipment when such equipment is actually used at the site) performed for or supplied to said "Principal" or any subcontractor in the prosecution of the work contracted for then this obligation is to be void; otherwise; to be and remain in full force and virtue in law.

Witness, the signature of the "Principal" and the signature of the "Surety" by its Attorney-in-fact and its corporate seal duly attached by their Attorney-in-fact,

hereunto affixed this \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_

\_\_\_\_\_  
(Principal)

\_\_\_\_\_  
(Surety Company)

By: \_\_\_\_\_  
(Officer, Partner or Owner) (SEAL)

By: \_\_\_\_\_  
Attorney-in-fact (SEAL)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

**BID ITEMS ELIGIBLE FOR STEEL PRICE ADJUSTMENT**

Instructions: Write YES or NO in the space provided under the "OPTION" column for each eligible bid item listed.

YES indicates that you wish to have Steel Price Adjustment applied to that particular bid item.

NO indicates that you do not wish to have Steel Price Adjustment applied to that particular bid item.

Other responses or blanks will be considered a NO response. If this form is not signed, dated, and submitted to the Engineer within the timeframe required in the attached Special Provisions, Steel Price Adjustment will not be applicable.

Item Number	Item Description	Option (YES OR NO)
505SD20-0011	GUARDRAIL GR-MGS1	
505SD20-0012	GUARDRAIL GR-MGS1A	
505SD20-0013	GUARDRAIL GR-MGS1, 9' POST	
505SD20-0014	RADIAL GUARDRAIL GR-MGS1	
505SD20-0015	RADIAL GUARDRAIL GR-MGS1A	
505SD20-0016	RADIAL GUARDRAIL GR-MGS1, 9' POST	
505SD20-0017	GUARDRAIL TERMINAL GR-MGS2	
505SD20-0018	GUARDRAIL END ANCHORAGE GR-MGS3	
505SD20-0019	GUARDRAIL HEIGHT TRANSITION GR-MGS4	
505SD20-0027	GUARDRAIL TERMINAL GR-6 NCHRP 350	
505SD20-0029	GUARDRAIL TERMINAL GR-11	
505SD20-0030	GUARDRAIL GR-2	
505SD20-0032	GUARDRAIL GR-2 8' POST	
505SD20-0033	GUARDRAIL GR-2A	
505SD20-0034	RAD. GUARDRAIL GR-2	
505SD20-0035	RAD. GUARDRAIL GR-2A	
505SD20-0040	GUARDRAIL GR-10	
505SD20-0059	MEDIAN BARRIER MB-3	
505SD20-0071	GUARDRAIL BEAM	
505SP20-0007	RADIAL GUARDRAIL BEAM	
505SP20-0008	RUB RAIL	
507SX20-0013	NS FENCE 6' CHAINLINK FENCE GALVANIZED	
507SX20-0013	NS FENCE 6' CHAINLINK FENCE VINYL COATED	

Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**ARTICLE 1 - GENERAL****1.1 DEFINITIONS**

In the Bidding Documents, the following terms and definitions apply unless otherwise specified:

- 1.1.1 "Addenda" means written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Documents or proposed Contract Documents.
- 1.1.2 "Agreement" means the written instrument between City and Contractor covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.
- 1.1.3 "Bid" means the offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- 1.1.4 "Bidder" means an individual or entity that submits a Bid to the City.
- 1.1.5 "Bidding Documents" means the Bidding Requirements and the proposed Contract Documents (including all Addenda).
- 1.1.6 "Bidding Requirements" means the advertisement or invitation for bid, Addenda, Notice to Bidders, Instructions to Bidders, the Bid Form with any supplements or attachments, Bid security of acceptable form, and the General Conditions.
- 1.1.7 "City" means the City of Danville, Virginia.
- 1.1.8 "City Code" means the Code of the City of Danville, 1986, as amended.
- 1.1.9 "Contract" means the entire and integrated written agreement between City and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.
- 1.1.10 "Contract Documents" means the following items which, together, comprise the Contract: the Agreement, the Bidding Requirements, the General Conditions, the Supplemental General Conditions, the General Administrative Requirements, the Specifications, the Drawings, items designated in the Agreement including exhibits and attachments to the Agreement, Work Change Directives, Change Orders, the VDOT Specifications, the VDOT Standard Drawings, the Contractor's Performance Bond and Payment Bond, the Contractor's certificates of insurance, and any affidavits or documents required to be made a part of the Contract by any federal or state law in effect on the date bids are due.
- 1.1.11 "Contract Times" means the number of days or the dates by which the Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion and final completion of the Work; and (c) complete the Work.
- 1.1.12 "Contractor" means the individual or entity with whom the City has entered into the Agreement.
- 1.1.13 "Drawings" means that part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
- 1.1.14 "Engineer" means the City Engineer or his duly authorized representative or the individual or entity named as such in the Agreement.
- 1.1.15 "Laws and Regulations" means any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
- 1.1.16 "Milestone" means a principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
- 1.1.17 "MUTCD" means the 2009 edition of the Manual on Uniform Traffic Control Devices with Revision Numbers 1 and 2 incorporated, dated May 2012; and the 2011 edition of the Virginia Supplement to the MUTCD with Revision Number 1 dated September 30, 2013.
- 1.1.18 "Owner" means the individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed. The Owner is the City.
- 1.1.19 "Project Manual" means the written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, forms, Specifications, and proposed Contract

Documents. The contents of the Project Manual may be bound in one or more volumes.

1.1.20 “Shop Drawings” means all drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

1.1.21 “Site” means lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

1.1.22 “Specifications” means that part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain applicable administrative requirements and procedural matters.

1.1.23 “Subcontractor” means an individual or entity having a direct contract with Contractor or with any other Subcontractor for: the performance of a part of the Work at the Site or furnishing materials to be incorporated into the Work that are prepared or assembled specifically for the Project. Suppliers of common, ordinary commercial materials are not considered Subcontractors.

1.1.24 “Substantial Completion” means the time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.

1.1.25 “Supplier” means a manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.

1.1.26 “VDOT Specifications” means the Virginia Department of Transportation Road and Bridge Specifications, dated 2020 and the Supplement thereto, dated 2022.

1.1.27 “VDOT Standard Drawings” means the 2016 edition of the Virginia Department of Transportation Road and Bridge Standards including all addenda or revisions thereto issued by the Virginia Department of Transportation prior to the date bids are due.

1.1.28 “Work” means the entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

1.1.29 “VWAPM” means the 2011 edition of the Virginia Work Area Protection Manual with Revision Number 2.1 incorporated, dated November 1, 2020.

1.1.30 The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed,” or similar terms to authorize an exercise of professional judgment by Engineer. The adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” and similar adjectives describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to any other provision of the Contract Documents.

## 1.2 BIDDER ELIGIBILITY

1.2.1 Bidder shall be prequalified by VDOT in accordance with VDOT Specifications.

1.2.2 Bidder may be required to submit evidence demonstrating its qualifications and ability to perform the Work:

- a. Submit additional data that Bidder has practical knowledge of the particular work bid upon and that they have the financial resources to complete the proposed work if requested by the City.

## 1.3 BID SUBMITTAL

### 1.3.1 EXAMINATION OF SITE AND PROJECT INFORMATION

a. Bidders shall investigate and inspect the sites of the Work contemplated before preparing their Proposals in order to acquaint themselves as to the actual nature, character, conditions, quality requirements of the Work, subsurface conditions, and accuracy of estimated quantities.

b. All information given on the drawings or in the contract documents relating to existing subsurface and surface conditions and other structures is from the best sources at present available to the City. All such information is furnished only for the information and convenience of the Bidders.

c. It is agreed and understood that the City does not warrant or guarantee that the existing conditions or other structures encountered during the construction will be the same as those indicated on the drawings or in Contract Documents. The Bidder must be satisfied regarding the character, quantities and conditions of the various materials and the work to be done.

d. It is further agreed and understood that the Bidder will not use any of the information made available or obtained in any examination in any manner as a basis or ground of claim or demand of any nature against the City or Engineer arising from or by reason of any variance which may exist between the information offered and the actual conditions, materials, or structures encountered during the Work, except as may otherwise be provided for in the Contract Documents.

### 1.3.2 BID PREPARATION

a. Bids shall be prepared and submitted as specified in the Instructions to Bidders, Bid Form, and applicable provisions of the Bidding Documents.

### 1.3.3 INTERPRETATION

a. If any person or entity contemplating the submission of a bid is in doubt as to the true meaning of any part of the Bidding Documents, he should submit a written request for an interpretation thereof to the Director of Purchasing or the Engineer. An interpretation of the bid invitation document will be made only by written addendum issued to each potential Bidder. The City will not be responsible for explanations or interpretations of bid invitation documents except as issued in accordance herewith.

b. All notices, requests, instructions, approvals, and proposals, must be in writing.

c. If during performance of the project, the Contractor finds a conflict, error, or discrepancy in the Contract Documents, he shall so report to the Engineer in writing at once before proceeding and shall obtain a written interpretation or clarification from the Engineer.

d. When conflicts arise between local, state, and federal codes or federal-aid provisions, the federal-aid or most conservative approach shall be taken.

### 1.3.4 IRREGULAR BID PROPOSALS

Bids may be considered irregular for any of the following reasons:

a. Any reason stated in Section 102.06 of the VDOT Specifications.

b. The bid is on a form other than that furnished by the City, if the City's form is altered, or if any part of the proposal form is detached.

c. There are unauthorized additions, conditional or alternate pay items, or irregularities of any kind, which make the proposal incomplete, indefinite, or otherwise ambiguous.

d. The Bid does not contain a unit or lump sum price for each pay item listed in the proposal.

e. The Bid is not accompanied by the proposal guaranty specified by the City.

f. The Bidder fails to acknowledge all Addenda or fails to include signed copies of each Addenda with its Bid.

g. The prices in the bid are obviously mathematically and materially unbalanced, either in excess or below the cost analysis values as determined by the City. A mathematically unbalanced bid is a bid containing lump sum or unit price items that do not include reasonable labor, equipment, and material costs plus a reasonable proportionate share of the Bidder's overhead costs, other indirect costs, and anticipated profit. A materially unbalanced bid is when the City determines that an award to the Bidder submitting a mathematically unbalanced bid will not result in the lowest ultimate cost to the City.

h. The Bidder fails to submit a statement concerning collusion.

- i. The bid submitted identifies a project different than the project for which the bid is submitted.
- j. Attachments included in the bid are detached or altered when the Bid is submitted except as otherwise provided for herein.
- k. The bid is not properly signed.
- l. If required to be VDOT prequalified, the Bidder fails to provide Certification of Prequalification Classification.
- m. The Bidder adds any provisions reserving the right to accept or reject an award or enter into a contract pursuant to an award except as otherwise permitted in the Specifications.
- n. The Bidder submits its bid both electronically and on paper.

#### 1.3.5 WITHDRAWAL OF BID DUE TO ERROR

Withdrawal of bids due to error shall be subject to and in accordance with Va. Code § 2.2-4330.

#### 1.3.6 DISQUALIFICATION OF BIDDER

a. A Bidder shall be considered disqualified for any of the following reasons. Such reasons for disqualification are not exclusive and disqualification may occur based on other requirements in the Specifications.

- 1. Any reason stated in Section 102.08 of the VDOT Specifications.
- 2. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
- 3. Evidence of collusion among Bidders. Bidders participating in such collusion shall be disqualified as Bidders for any future work of the City until any such participating Bidder has been reinstated by the City as a qualified Bidder.
- 4. Uncompleted work under contract with the City that in the judgment of the Engineer might hinder or prevent prompt completion of additional work if awarded.
- 5. Failure to promptly pay or settle satisfactorily all undisputed bills for materials, labor, equipment, supplies, or other items specified in contracts in force at the time the new work comes under consideration for award.
- 6. Failure to cooperate properly with representatives of the City inspecting, monitoring or administering construction or disorderly conduct toward any such representative in contracts.
- 7. Default under a previous contract with the City.
- 8. Failure to pay any amounts owed to the City.
- 9. Making materially false statements in a bid or certified statement submitted to the City.

b. Disqualified Bidders may challenge and appeal their disqualification according to the Rules Governing Prequalification Privileges, a VDOT publication.

#### 1.4 AWARD CRITERIA

1.4.1 Unless otherwise specified all formal bids submitted shall be binding for sixty (60) calendar days following bid opening date.

1.4.2 Award will be made to the lowest responsible and responsive Bidder.

1.4.3 The City reserves the right to reject any or all offers and to waive informalities and minor irregularities in offers received.

1.4.4 After notice from the City, the successful Bidder has ten (10) days to enter into a contract or forfeit its bid security (bid bond or other security as applicable) as liquidated damages. By executing the contract, the Contractor certifies that he has reviewed the Contract Documents and the project area and accepts the conditions of each.

#### 1.4.5 NEGOTIATION



a. Unless cancelled, withdrawn, or rejected, a responsive bid from the lowest responsible bidder shall be accepted as submitted, except that, if the bid from the lowest responsible bidder exceeds available funds, the City may negotiate with the apparent low bidder to obtain a contract within available funds pursuant to Sec. 30-59 of the City Code.

## 1.5 CONTRACTOR'S GENERAL WARRANTY AND GUARANTEE

1.5.1 The Contractor shall guarantee that all the materials used and all the work done under the contract shall fully comply with the requirements of the plans and specifications and the instructions of the City.

1.5.2 Any defects in the completed work or failure of the construction to fully perform or endure the service for which it is intended, which in the opinion of the City are caused by or due to the use of materials, skill, or workmanship not in compliance with the said plans, specifications, and instructions, that may appear in the work within a period of twelve (12) months after acceptance by the City shall be regarded as prima facie and conclusive evidence that the Contractor has failed to comply with the said specifications, plans, and instructions. The Contractor in this event, shall at his own expense, at such time and in such manner as the Engineer may direct, repair or take up and reconstruct any such defective work, in full compliance with the original specifications, plans, and instructions.

The repairs required to be made by the Contractor shall extend only to making good any inherent defects which become manifested in the materials and workmanship under ordinary conditions, and shall not be held to cover any breakage or damage caused by improper use or by accident from circumstances over which the Contractor has no control.

1.5.3 All direct, indirect, and consequential costs of the City in exercising such rights and remedies will be charged against the Contractor and will be deducted from any monies due the Contractor.

1.5.4 The Contractor shall not be allowed an extension of the contract time because of any delay in performance of the work attributable to the exercise by the City of the City's rights and remedies hereunder.

## 1.6 COVERED WORK

1.6.1 If any Work is covered contrary to the written directive of the Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense. If required by the Engineer, the Contractor shall correct all defective work, whether or not fabricated, installed, or completed, or, if the work has been rejected by Engineer, remove it from the site and replace it with non-defective work. The Contractor shall bear all direct, indirect and consequential costs of such correction or removal, including but not limited to fees and charges of engineers, architects, attorneys, and other professionals. Upon failure of the Contractor to correct the deficiency within a reasonable time, the City may, after seven (7) days written notice to the Contractor, correct and remedy any such deficiency and deduct the costs from any monies due the Contractor.

1.6.2 If the Engineer considers it necessary or advisable that covered work be inspected or tested by others, the Contractor, shall uncover, that portion of the work in question, furnishing all necessary labor, material, and equipment. If it is found that such work is defective, the Contractor shall bear all direct, indirect, and consequential costs of such uncovering, exposure, observation, inspection and testing, and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, Contractors, attorneys, and other professionals), and the City shall be entitled to an appropriate decrease in the contract price. If, however, such work is not found to be defective, the Contractor shall be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction.

## 1.7 BONDS, INSURANCE, ETC.

### 1.7.1 BONDS

a. Each Bidder shall submit with its Bid, a bid bond issued by a surety authorized to do business in Virginia in the amount of five percent (5%) of his bid total. Alternative forms of bid security such as those described in Va. Code § 2.2-4338 will not be acceptable.

b. The successful Bidder shall be required to provide performance and payment bonds each in the amount of one hundred percent (100%) of the contract price.

### 1.7.2 INDEMNIFICATION

a. The Contractor shall indemnify the City, its agents, officers, and employees against any damages to property or injuries to or death of any person or persons, including property and employees or agents of the City, and shall defend and indemnify the City, its agents, officers, and employees from any claims, demands, suits, actions, or

proceedings of any kind, including workers' compensation claims, of or by anyone, in any way resulting from or arising out to the operations in connection with the work described in the contract, including operations of subcontractors and acts or omissions of employees or agents of Contractor or Contractor's subcontractors. Contractor shall procure and maintain, at Contractor's own costs and expense, any additional kinds and amounts of insurance that, in Contractor's own judgment, may be necessary for Contractor's proper protection in the prosecution of the work.

b. The Contractor shall, at his own expense, appear, defend, and pay all charge of attorneys and other expenses arising there from or incurred in connection therewith, and, if any judgment shall be rendered against the City, and/or its officers, agents, and employees, in any such action, the Contractor shall, at his own expense, satisfy and discharge the same. The Contractor expressly understands and agrees that any performance bond or insurance protection required by this contract, or otherwise provided by the Contractor, shall in no way limit the responsibility to indemnify, keep, and save harmless and defend the City, its agents, officers, and employees as herein provided.

c. The Contractor shall assume all risks and responsibilities for casualties of every description in connection with the work, except that he shall not be held liable or responsible for delays or damage to the work caused by acts of God, acts of Public Enemy, acts of Government, quarantine restrictions, general strikes through the trade, or by freight embargoes not caused or participated in by the Contractor. The Contractor shall have charge and control of the entire work until completion and acceptance of the same by the City.

d. The Contractor shall alone be liable and responsible for, and shall pay, any and all loss or damage sustained by any person or party either during the performance or subsequent to the completion of the work under this agreement, by reason of injuries to persons and damage to property, building, and adjacent work, that may occur either during the performance of the work covered by this contract or that may be sustained as a result of or in consequence thereof, irrespective of whether or not such injury or damage be due to negligence or the inherent nature of the work. Contractor will be responsible to reimburse City for cost incurred for damages caused by the Contractor's negligence or non-compliance with contract requirements.

e. The Contractor shall bear all losses resulting from the amount or character of the work being different, or because the nature of the premises on which the work is done is different from what was expected or on account of the weather, or similar causes.

f. The Contractor, however, will not be obligated to indemnify the City, its officers, agents, or employees against liability for damage arising out of bodily injury to persons or damage to property caused by or resulting solely from the negligence of the City or its officers, agents, and employees.

### 1.7.3 INSURANCE

The Contractor shall not commence work under any contract until he has obtained all the insurance required hereunder and such insurance has been approved by the City; nor shall the Contractor allow any Subcontractor to commence work on his subcontract until all similar insurance has been so obtained and approved. Approval of the insurance by the City shall not relieve or decrease the liability of the Contractor hereunder.

a. Worker's Compensation including Occupational Disease and Employer's Liability Insurance: The Contractor shall take out and maintain during the life of the Contract, Workers' Compensation and Employer's Liability Insurance for all of his employees to be engaged in work on the project under this Contract in an amount no less than the minimum allowed by the State Corporation Commission, and in case any such work is sublet, the Contractor shall require the Subcontractor similarly to provide Workers' Compensation and Employer's Liability Insurance for all of the latter's employees to be engaged in such work.

b. Comprehensive General Liability Insurance: The Contractor shall maintain during the life of the Contract comprehensive general liability insurance as shall protect him and the City of Danville and its officers, agents, and employees from claims for damages for personal injury, including death, as well as from claims for property damage, which may arise from operations under the Contract, whether such operations be by himself or by any Subcontractor, or by anyone directly or indirectly employed by either of them. The amount of such insurance shall be not less than a combined single limit of \$1,000,000.00 per occurrence on bodily injury and property damage and \$1,000,000.00 aggregate on completed operations. The comprehensive general liability insurance shall provide the following coverage:

- Comprehensive
- Premises--Operation
- Products/Completed Operations Hazard
- Contractual Insurance
- Underground Hazard

- Explosion & Collapse Hazard
- Independent Contractor and Subcontractor
- Broad Form Property Damage
- Personal Injury

c. Automobile liability insurance with minimum combined single limits of \$1,000,000.00 per occurrence. This insurance shall include bodily injury and property damage for the following vehicles:

- Owned Vehicles
- Non-owned Vehicles
- Hired Vehicles

d. Umbrella Policy: At the option of the Contractor, primary limits may be less than required, with an umbrella policy providing the additional limits needed. This form of insurance will be acceptable provided that the primary and umbrella policies both provide the insurance coverage's herein required. However, any such umbrella policy must have minimum coverage limits of \$3,000,000.00.

e. The Contractor, at his cost, shall effect and maintain in the names of the City, the Engineer and the Contractor, fire, vandalism and extended coverage insurance (or all-risk, builder's risk insurance if approved by the City), upon the entire structure or structures on which the work of this Contract is to be done and upon all material in or adjacent thereto and intended for use thereon to one hundred percent (100%) of the Contract amount. Such insurance may include a deductible provision if the City consents to such provision; however, the Contractor in such case will be liable for paying to the City the amount of such deduction whenever a claim arises. The loss, if any, is to be made adjustable with and payable to the City as trustee for whom it may concern. Written evidence of the insurance required herein shall be filed with the City not later than ten (10) days following the date of the award of the Contract. A copy of the evidence of insurance shall be filed with the Director of Purchasing.

f. All policies shall name the City of Danville, its officers, agents, and employees as additional insured. This coverage shall be reflected on the Certificates of Insurance (including any endorsements or riders thereto) which will be provided to the City. Each Certificate of Insurance shall require that notice be given to the Director of Purchasing thirty (30) days prior to cancellation or material change in the policies.

g. The insurance required by this Article shall include contractual liability insurance applicable to the Contractor's indemnity obligations under 1.7.2.

h. The Contractor shall either (1) require each of his subcontractors to procure and to maintain during the life of his contract "Subcontractor's Insurance" of the type and in the same amounts as specified in the preceding schedule or (2) insure the activities of his subcontractors in his own policy.

## 1.8 MATTERS OF LAW

### 1.8.1 AUTHORITY

a. The Director of Purchasing as the designee of the City Manager has the sole responsibility and authority for placing, issuing, and when necessary modifying each and every invitation to bid, purchase order, or other award issued by the City of Danville. In the discharge of these responsibilities, the Director of Purchasing may be assisted by assigned buyers. No other City officer or employee is authorized to order supplies or services, enter into purchase negotiation, or in any way obligate the government of the City of Danville for an indebtedness. Any purchases contrary to these provisions and authorities shall be void and the City shall not be bound thereby.

b. This procurement process, including appeals or protests, is governed by the "Procurement Code of the City of Danville, Virginia". Copies of the Procurement Code may be obtained by writing the City of Danville Purchasing Department, PO Box 3300, Danville, Virginia 24543. The City of Danville does not discriminate against faith based organizations.

### 1.8.2 ENFORCEMENT

This Agreement and the performance thereof shall be governed by and enforced under the laws of the Commonwealth of Virginia, and if legal action by either party is necessary for or with respect to the enforcement of any or all of the terms and conditions hereof, then exclusive venue therefor shall lie in the City of Danville, Virginia.

### 1.8.3 EQUAL EMPLOYMENT

During the performance of the contract, the Contractor agrees as follows:

a. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. The Contractor also shall not discriminate against any handicapped person in violation of any state or federal law or regulation and shall also post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this additional nondiscrimination clause.

b. The Contractor, in solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such contractor is an equal opportunity employer.

c. Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

d. The Contractor will include the provisions of the foregoing paragraphs a, b, and c in every subcontract or purchase order of or over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

e. The Contractor will otherwise comply with all other applicable provisions of local, State, and Federal law.

#### 1.8.4 NON-APPROPRIATION

In the event that sufficient funds are not appropriated by the Council of the City of Danville, Virginia; or, if appropriated, are not allocated or available; or, in the event the amounts due hereunder are to be paid with funds given to the City by another private or government entity, and such funds are not sufficient for continuation of this agreement during any fiscal year after the City's first fiscal year; the City may, without breach, upon prior written notice to Contractor, terminate the contract in whole or in part.

#### 1.8.5 NOVATION

The Contractor shall not assign or transfer, whether by Assignment or Novation, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under the Agreement without the written consent of the City; provided, however, that assignments to banks, trust companies or other financial institutions for the purpose of securing a bond may be made without the consent of the City. Assignment or Novation of the Agreement shall not be valid unless the Assignment or Novation expressly provides that the assignment of any of the Contractor's rights or benefits under the Agreement is subject to a prior lien for labor performed, services rendered and materials, tools, and equipment supplied for the performance of the work under the Agreement in favor of all persons, firms, or corporations rendering such labor or services or supplying such materials, tools, and equipment.

#### 1.8.6 OBSERVANCE OF LAWS

a. The Contractor at all times shall observe and comply with all Federal, State, and City laws, bylaws, ordinances and regulations in any manner affecting the conduct of the work or applying to employees on the project, as well as all orders or decrees which have been promulgated or enacted, by any legal bodies or tribunals having authority or jurisdiction over the work, materials, employees or contract.

b. Federal Immigration Reform and Control Act of 1986: Contractor does not, and shall not during the performance of the contract for goods and services in the Commonwealth knowingly employ an unauthorized alien as defined in the Federal Immigration Reform and Control Act of 1986.

c. Compliance with state law; foreign and domestic businesses authorized to transact business in the Commonwealth.

1. A Contractor organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth of Virginia as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the Code of Virginia or as otherwise required by law.

2. A Bidder or offeror organized or authorized to transact business in the Commonwealth of Virginia pursuant to Title 13.1 or Title 50 shall include in its bid or proposal the identification number issued to it by the State Corporation Commission. Any Bidder or offeror that is not required to be authorized to transact business in the Commonwealth of Virginia as a foreign business entity under Title 13.1 or Title 50 or as otherwise required by law shall include in its bid or proposal a statement describing why the Bidder or offeror is not required to be so authorized.

3. Any Bidder or offeror described in the preceding paragraph 2 that fails to provide the required information shall not receive an award unless a waiver of this requirement and the administrative policies and procedures established to implement this section is granted by the City Manager.

4. Any business entity described in the preceding paragraph 1 that enters into a contract with the City pursuant to this article shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth of Virginia, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of the contract.

5. The City may void any contract with a business entity if the business entity fails to remain in compliance with the provisions of this article.

#### 1.8.7 PATENTS

The Contractor agrees to indemnify and save harmless the City, and all personnel from all suits and actions of every nature and description brought against them, for or on account of the use of patented appliances, products, or processes, and he shall pay all royalties and charges which are legal and equitable. Evidence of such payment or satisfaction shall be submitted upon request of the City as a necessary requirement in connection with the final execution of any contract in which such patented appliances, products, or processes are used.

#### 1.8.8 PERMITS

The Contractor shall, at his own expense, secure any business or professional licenses, permits or pay any fees required by the City of Danville or Commonwealth of Virginia to include securing a City of Danville business license.

a. City Business License: Bidders are not required to possess a City Business License in order to submit a bid or to be considered for award of contract. Upon execution of a contract, the Contractor and all subcontractors performing work at the Site shall obtain a City Business License prior to beginning work.

#### 1.8.9 DRUG-FREE WORKPLACE

During the performance of this contract, the contractor agrees to:

- a. provide a drug-free workplace for the contractor's employees;
- b. post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;
- c. state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and
- d. include the provisions of the foregoing clauses in every subcontract or purchase order of or over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

"Drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a contractor in accordance with this article, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession, or use of any controlled substance or marijuana during the performance of the contract.

#### 1.8.10 SUBCONTRACTS

- a. Unless otherwise authorized by the Engineer, the Contractor shall perform with its own organization contract work amounting to at least 30 percent of the original contract value.
- b. The Contractor shall furnish a competent superintendent employed by the Contractor's own organization and any additional project staff that may be needed to assure the performance of the Contract.
- c. The Contractor shall obtain written consent from the Engineer prior to subcontracting any work.
- d. The Contractor shall be as fully responsible to the City for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them as he is for the acts and omissions of persons directly employed by him.

e. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to require compliance by each subcontractor with the applicable provisions of the Contract for the improvements embraced in this Contract.

f. Nothing contained in the Contract shall create any contractual relation between any subcontractor and the City.

## 1.9 SPECIFICATIONS AND PRODUCT DESCRIPTION

1.9.1 When brand names, model numbers, trade names, catalog numbers, or cuts are listed, they are, unless otherwise specified, included for the purpose of furnishing Bidders with information concerning the style, type, or kind of article desired and a Bidder may offer an article which he certifies to be equal in quality, performance and other essential characteristics. Any available printed material or literature which describes the product being offered for sale shall be included with the bid. The City shall be the sole judge of suitability of substitutes offered. When a formal numbered specification is referred to in this invitation, no deviation will be permitted and the Bidder will be required to furnish articles in conformity with that specification.

1.9.2 After the execution of the Contract, substitution of equipment other than those named in the Contract will be considered for one reason only: that the equipment or material proposed for substitution is equal or superior in construction, efficiency, durability or maintenance to that named in the contract.

1.9.3 To receive consideration, the Contractor's request for substitution must be accompanied by documentary proof of the actual difference in the equipment or material in the form of certified copies of specifications and statement of actual cost difference. Product samples or location of representative installation may be required for submission to receive approval. The City shall receive the full benefit of the saving in cost involved in any substitution.

1.9.4 In all cases, the burden of proof that the equipment or material offered for substitution is equal or superior to that named in the Contract shall rest on the Contractor, and unless the proof is satisfactory to the City, the substitution will not be approved.

1.9.5 It will be considered that the Contractor, in his Proposal, has contacted manufacturers giving a delivery time which will permit completion of the Project within the specified Contract Time.

1.9.6 The Engineer will issue in writing any approved substitutions. In the event the Contractor obtains the Engineer's approval on equipment or materials other than that specified, the Contractor shall, at his own expense, make any changes in the assemblies, structures, or substrates or whatever is necessary to accommodate the substituted equipment or material.

1.9.7 In the event that the Engineer is required to provide additional engineering services as a result of substitution of materials or equipment which are not "or equal" by the Contractor, or changes by the contractor in dimension, weight, power requirements, etc., of the equipment and accessories furnished, or if the Engineer is required to examine and evaluate any changes proposed by the Contractor for the convenience of the Contractor, then the Engineer's charges in connection with such additional services shall be charged to the Contractor by the City.

1.9.8 Structural design shown on the Contract Drawings is based upon typical weights for major items of equipment as indicated on the contract Drawings and specified. If the equipment furnished exceeds the weights of said equipment, the Contractor shall assume the responsibility for all costs of redesign and for any construction changes required to accommodate the equipment furnished, including the Engineer's expenses in connection herewith.

1.9.9 In the event that the Engineer is required to provide additional engineering services as a result of Contractor's errors, omissions, or failure to conform to the requirements of the Contract Documents, or if the Engineer is required to examine and evaluate any changes proposed by the Contractor solely for the convenience of the Contractor, then the Engineer's charges in connection with such additional services shall be charged to the Contractor by the City.

## 1.10 JOBSITE SAFETY MEASURES

1.10.1 Construction site safety is the responsibility of the Contractor.

1.10.2 The Contractor shall comply with all local, state and federal laws and the Occupational Safety and Health Act in protecting the public, the worksite, and adjacent property from damage. The Contractor shall provide all sheeting, shoring, barricades, warning lights, signs, and fences required for this protection.

1.10.3 The Contractor shall provide ample sanitary facilities and drinking water for the workers in accordance with State and City health regulations.

## 1.10.4 EXCAVATION

- a. No more than two hundred (200) feet of ditch may be opened at any one time without prior approval from the Engineer or his representative.
- b. Unless otherwise permitted by the Engineer, all ditches shall be backfilled at the end of each work day with the exception of the pipe laying area.
- c. Ditches left open overnight shall be kept to a minimum, however, any ditches left shall be properly flared or barricaded.
- d. All ditches shall be backfilled and protected for each weekend unless prior approval for leaving a ditch open is obtained from the Engineer or his representative.

1.10.5 SHORING

All trenches and other excavations shall be supported to provide safe working conditions. The US Department of Labor Occupational Safety and Health Administration (OSHA) requires that all excavations over five feet deep be sloped, shored, sheeted, braced, or otherwise supported. When soil conditions are unstable, excavations shallower than five (5) feet also must be sloped, supported, or shored. The type and method to be used may vary on each different project and that which will provide the safest working conditions will be utilized.

1.10.6 LIMITATIONS OF WORK AREA

- a. The Contractor shall be limited to a specific area for storage of equipment, supplies, and building materials. This area shall be designated by the City and established during the Pre-construction conference.
- b. Parking area for employees of the Contractor shall be designated in the vicinity of the project, and it shall be the responsibility of the Contractor to require his personnel to park in this designated area and not in any area which may interfere with the normal operations in and around the construction area or with access and use of the facility by the City.

1.11 COMPLETION SCHEDULE

1.11.1 TIME OF COMPLETION

- a. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment are of the essence of the Contract and shall be as set forth in the Supplemental General Conditions.

1.11.2 LIQUIDATED DAMAGES

- a. The Contractor and the City recognize that all time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment are of the essence of the Contract and that the City will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, the Contractor and the City agree that as liquidated damages for delay (but not as a penalty), the Contractor shall pay the City the amount stipulated in the Supplemental General Conditions for each calendar day (including weekends and holidays) that expires after the time specified in the Bidding Documents for Substantial Completion, final completion and readiness for payment, and any Milestones (subject to any extensions of time duly granted under the Contract).
- b. In the event that the amount of liquidated damages is not stipulated in the Supplemental General Conditions, the amount shall be based on the original contract amount and determined using the following schedule of liquidated damages from Section 108.06 of the VDOT Specifications:

<b>Schedule of Liquidated Damages</b>	
<b>Original Contract Amount in Dollars</b>	<b>Daily Charge in Dollars</b>
0.00 - 500,000.00	350
500,000.01 - 2,000,000.00	600
2,000,000.01 - 8,000,000.00	1,350
8,000,000.01 - 15,000,000.00	2,500
15,000,000.01 or more	3,100

c. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.

d. The City shall be authorized to deduct liquidated damages owed by the Contractor from any monies due the Contractor.

#### 1.12 TRAFFIC CONTROL

1.12.1 The method of controlling the traffic passing through a work zone and all traffic control and street closed signs and barricades shall be in accordance with the MUTCD and VWAPM. The Contractor shall not close or excavate within the right-of-way of a street or alley without obtaining the approval of and any required permits from the City.

1.12.2 The Contractor shall provide and maintain, at his expense, all signs, cones, stands and flagmen required to control and protect traffic passing through a work zone (note: traffic control may or may not be a separate pay item).

1.12.3 When practical, the Contractor shall keep all street intersections open to traffic. When work is perpendicular to the street, the Contractor shall work in no more than one-half (1/2) of the street width, at one time. The first half of work must be completed and the street passable prior to working in the second half.

1.12.4 The Contractor shall provide the necessary diversion ditches, dikes or temporary culverts required to prevent mud and debris from being washed onto the streets or property. The Contractor's vehicles shall be kept reasonably clean to prevent mud from being deposited on streets.

#### 1.13 PROPERTY MAINTENANCE AND COORDINATION

1.13.1 The Contractor shall notify property owner(s) forty-eight (48) hours prior to working within easements located upon private property in order to coordinate a means of ingress and egress to the work area and determine a storage area for materials.

1.13.2 The Contractor shall maintain a safe and passable pedestrian and vehicular entrance to all private or public property. The Contractor shall notify the property owner(s) twelve (12) hours in advance of the blocking of an entrance. The entrance shall not be blocked for more than twelve (12) hours at any time, without approval of the Engineer. Sidewalks shall remain clear and open at all times during the work, unless approved otherwise by the property owner or City.

1.13.3 Existing lawn, trees, shrubs, fences, utilities, culverts, walls, walks, driveways, poles, signs, right-of-way monuments, mailboxes and the like shall be protected from damage during the work under this contract. Any damage caused to such items shall be repaired or replaced by the Contractor at the Contractor's expense.

1.13.4 Tree and plant roots or branches that may interfere with the work shall be trimmed or cut only with the approval of the property owner. Any trees or plants which are shown to remain and do not interfere with the work but are accidentally damaged by the work shall be repaired or replaced by the Contractor at the Contractor's expense.

#### 1.14 PROGRESS OF WORK

##### 1.14.1 CONFERENCES

Prior to the issuance of a "Notice to Proceed", the Engineer and Contractor, or their duly appointed representatives, shall meet in a pre-construction conference to organize, schedule, and determine responsibilities for the work as it pertains to this project.

##### 1.14.2 PROGRESS CHARTS

a. The Contractor shall within five (5) days or within such time as determined by the Engineer, after date of commencement of work, prepare and submit to the Engineer for approval a practicable schedule showing the order in which the Contractor proposes to carry on the work, the date on which he will start the several salient features (including procurement of materials, plans, and equipment) and the contemplated dates for completing the same.

b. The Contractor shall submit a schedule in accordance with the VDOT Category I Scheduling Special Provision included in the Contract Documents. If the Contractor fails to submit a progress schedule within the time herein prescribed, the Engineer may withhold approval of progress payment estimates until such time as the Contractor submits the required progress schedule.

##### 1.14.3 SCOPE OF WORK

The Contractor shall include in his bid price the placing and furnishing of all materials, labor, tools, equipment, traffic control, and incidentals necessary to complete the work in accordance with the Contract



Documents and in accordance with all applicable sections of the VDOT Specifications.

#### 1.14.4 CONTROL OF WORK

a. The Engineer will not be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, and Engineer will not be responsible for Contractor's failure to perform or furnish the work in accordance with the Contract Documents.

b. The Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

c. On all questions relating to quantities, the acceptability of materials and equipment, or work, and the interpretation of the Contract Documents, the decision of the Engineer is final and binding, and shall be precedent to any payment under the contract.

d. All work and material are subject to the inspection and approval of the Engineer. Unless otherwise authorized, work shall be done only in the presence of the Engineer or his authorized representatives. Any work done without proper inspection will be subject to rejection. Inspection of the work shall not relieve the Contractor of the obligation to fulfill all conditions of the contract.

e. The Engineer may require the Contractor to remove from the work any employee that the Engineer may deem incompetent, careless, or insubordinate.

f. Certain items of work may be performed by forces of the City. The Contractor shall cooperate fully in scheduling and coordinating with the Engineer such that no delay will result in the performance of such work. If the Contractor claims that such work delays or causes additional costs, he shall make claims as provided in 1.17, 1.21, and 1.22.

g. The City may award, or may have awarded, contracts to others for other work. The Contractor shall cooperate fully with such other Contractors by scheduling his own work with that to be performed under other contracts as may be directed by the City. The Contractor shall not commit or permit any act, which will interfere with the performance of work by any other Contractor as scheduled. If the Contractor claims that such work delays or causes additional costs, he shall make claims as provided in 1.17, 1.21, and 1.22 .

h. Neither the final certificate of payment nor any provision in the contract documents, nor partial or entire occupancy of the premises by the City, shall constitute an acceptance of work not done in accordance with the contract documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall remedy any defects in the work and pay for any damage to other work resulting there from, which shall appear within a period of one year from the date of final acceptance of work unless a longer period is specified. The City will give notice of observed defects with reasonable promptness.

#### 1.14.5 RESPONSIBILITIES OF THE CONTRACTOR

a. Any equipment used on this project must be of sufficient design to accomplish every facet of this work and maintained in a satisfactory working condition throughout the time of construction so as not to delay prompt execution of the project.

b. Any vehicle operated by the Contractor on new pavement or existing pavement remaining in service shall be equipped with pneumatic tires. The Contractor shall take necessary precautions to ensure that the new pavement is not damaged. All damaged areas shall be repaired by the Contractor at his cost, in a manner approved by the City.

c. The Contractor shall remove and dispose of all excavated material and shall take necessary precautions to prevent soiling of curbs and adjacent areas. All soiled areas shall be cleaned immediately in a manner approved by the City.

d. The Contractor will be responsible for investigations of subsurface conditions at the project site, and may obtain soil borings at his own expense.

e. When required by the Engineer, the Contractor shall submit certification that all materials supplied meet the requirements of the specifications.

f. Trees, shrubbery, fences, poles, and all other property shall be protected unless their removal is shown on the drawings or authorized in writing by the Engineer. When it is necessary to cut roots and tree branches, such cutting shall be done under the supervision and direction of the Engineer.

g. The Contractor shall protect any work done from disfigurement by vandals, vehicular traffic, or his own employees. Any damaged work must be repaired, if possible, or removed and replaced as directed by the Engineer.

Contractor shall protect fresh laid concrete from all potential hazards.

#### 1.14.6 CONSTRUCTION ENGINEERING

a. The Engineer will furnish, upon request by the Contractor, available data pertaining to centerline, benchmarks, or other reference data in the Engineer's possession necessary for the execution of the work.

b. The Contractor shall, at his own expense, furnish competent construction survey services in accordance with the Specifications and shall be responsible to furnish and maintain accurate, detailed records of such services. The Contractor shall be responsible for all coordination and scheduling of the work. After any construction stakeout or field monumentation activity is completed, the Contractor shall be responsible for all costs to maintain and, whenever necessary, to replace such work except as may be provided in the Specifications or authorized in writing by the Engineer.

c. The Contractor shall identify and protect all existing survey monuments and property corners discovered on the Site. Replacement of damaged, disturbed, removed, or destroyed survey monuments and property corners shall be replaced by a Virginia registered Professional Land Surveyor and shall be at the Contractor's expense.

#### 1.14.7 WORKING HOURS

Unless otherwise authorized by the Engineer, work at the Site shall be performed between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday. Work shall not be performed at the Site on holidays observed by the City.

#### 1.14.8 USE OF EXPLOSIVES

Blasting or other use of explosives will not be permitted on this Project.

#### 1.14.9 SUBCONTRACTS

a. The Contractor shall not subcontract or sublet any portion of the Work before submitting a written request to the Engineer and subsequently receiving the Engineer's approval. The written sublet request shall be submitted on VDOT Form C-31.

b. No proposed subcontractor shall be disapproved by the City except for cause.

c. The Contractor shall be as fully responsible to the City for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them as he is for the acts and omissions of persons directly employed by him.

d. The Contractor shall cause appropriate provision to be inserted in all subcontracts relative to the work to require compliance by each subcontractor with applicable provisions of the Contract for the improvements embraced in the Contract.

e. Nothing contained in any agreement shall create any contractual relation between any subcontractor and the City.

f. Subcontractors shall maintain required registrations, licenses, and prequalification status as required by the Contract Documents.

### 1.15 REMUNERATION

#### 1.15.1 QUANTITIES

All quantities indicated on the Bid Form are estimated quantities only and the Contractor will be paid the unit prices for actual quantities measured and approved as stipulated in the Specifications.

#### 1.15.2 MEASUREMENT OF QUANTITY

a. All work completed under the Agreement will be measured by the Engineer or his designee as prescribed in the Specifications.

b. The determination of quantities of items required under the terms of the Agreement or as directed by the Engineer will be made by the Engineer based on measurements taken by him or caused to be taken by him as prescribed in the Specifications.

c. Quantities designated on the Bid Form to be paid on the basis of "Plan Quantity" (i.e. the line item quantity on the Bid Form) will be paid in one or more installments on a pro-rated basis or as otherwise described in the

## Specifications.

## 1.15.3 PAYMENTS TO THE CONTRACTOR

a. The City will promptly pay for completed delivered goods or services by the required payment date. The required payment date shall be either: (1) the date on which payment is due under the terms of a contract for the provision of goods or services, or (2) if a date is not established by contract, not more than 45 days after said goods or services are received or not more than 45 days after an invoice for said goods or services is rendered, whichever is later.

b. Separate payment dates may be specified for contracts under which goods or services are provided in a series of partial executions or deliveries to the extent that the contract provides for separate payment for partial execution or delivery.

c. Within 20 days after the receipt of an invoice for completed delivered goods or services, the City will notify the Contractor of any defect or impropriety that would prevent payment by the required payment date.

d. In the event that the City fails to make payment by the required payment date, unless otherwise provided under the terms of the contract, the City will pay any finance charges assessed by the supplier not to exceed one percent per month.

e. Unless otherwise provided under the terms of the contract, interest shall accrue at the rate of one percent per month.

f. In cases where payment is made by mail, the date of postmark shall be deemed to be the date payment is made.

g. The Contractor shall submit invoices to the Engineer on such forms and in the format the Engineer prescribes. The invoice shall be accompanied by all required submittals and documentation including, but not limited to: updated schedules, Buy America certifications, mill test reports, product invoices, inspection forms, quality control documentation, and copies of materials tickets.

h. At the option of the Engineer, partial payment up to the estimated value may be allowed for stored materials not yet incorporated in the Work, pursuant to the following conditions:

1. Equipment or materials stored on the site shall be properly stored, protected, and maintained by the Contractor.

2. The Contractor shall submit, with his monthly progress payment request, bills or invoices from each material or equipment supplier indicating actual payment.

3. The Contractor shall submit evidence that he has paid for materials or equipment stored and for which the Engineer has authorized partial payment and previous progress payments, prior to submission of the next monthly payment request.

i. In making payments, retainage will not be withheld except for cause. As used in this paragraph, "cause" shall be determined by the Engineer and may include (but not be limited to): failure to submit required documentation, unsatisfactory work progress, and other repetitive failures to deliver contract requirements. To the extent required by Va. Code § 2.2-4334, the Contractor will be entitled to the option to use an escrow account procedure for utilization of such funds as described in that Code section.

j. All material and work covered by payments shall thereupon become the sole property of the City, but this provision shall not be construed as relieving the Contractor from the sole responsibility for all material and work upon which payments have been made, or the restoration of any damaged work, or as waiving the right of the City to require the fulfillment of all the terms of the contract.

k. Upon completion, final inspection, and acceptance any amounts withheld shall be paid to the Contractor.

## 1.15.4 CONTRACTOR PAYMENTS TO SUBCONTRACTORS

a. Within seven (7) days after the receipt of amounts paid to the Contractor by the City for work performed by any subcontractor under this contract, the Contractor shall either:

1. pay the subcontractor for the proportionate share of the total payment received from the City attributable to the work performed by the subcontractor under this contract; or
2. notify, in writing, the City and subcontractor of the contractor's intention to withhold all or in part of the subcontractor's payment with the reason for nonpayment.

b. The Contractor shall pay interest to any subcontractor on all amounts owed by the Contractor that remain unpaid after seven (7) days following receipt by the contractor of payment from the City for work performed by the subcontractor under this agreement, except for amounts withheld as stated in (2) above.

c. Unless otherwise provided under the terms of this Agreement, interest shall accrue at the rate of one percent per month.

d. The Contractor shall include in each of its subcontracts a provision requiring each subcontractor to include or otherwise be subject to the same payment and interest requirements with respect to each lower-tier subcontractor.

e. The Contractor's obligation to pay and interest charged to a subcontractor pursuant to this section may not be construed to be an obligation of the City. No contract modification may be made for the purpose of providing reimbursement for such interest charge. A cost reimbursement claim may not include any amount for reimbursement for such interest charge.

## 1.16 TERMINATION, STOPPAGES, ETC.

### 1.16.1 POSSESSION PRIOR TO COMPLETION

a. Prior to Substantial Completion of the project, the Engineer may request the Contractor in writing to permit him to use a specified part of the project, which he believes he may use without significant interference with construction of the other parts of the project. If Contractor agrees, he will certify to the City that said part of the project is substantially complete and request the Engineer to issue a certificate of Substantial Completion for that part of the project. Within a reasonable time thereafter, the Engineer shall make an inspection of the part of the Project to determine its status of completion.

b. If the Engineer does not consider that it is substantially complete, the Engineer will notify the Contractor in writing giving his reasons therefore. If Engineer considers that part of the Project is substantially complete, Engineer will execute and deliver a certificate to that effect, fixing the date of Substantial Completion as to that part of the project, attaching thereto a tentative list of items to be completed or corrected before Substantial Completion of the entire project and fixing the responsibility between City and Contractor for maintenance, heat, and utilities as to that part of the project.

c. The City shall have the right to exclude the Contractor from any part of the project, which the Engineer has so certified to be substantially complete, but the City shall allow the Contractor reasonable access to complete items on the tentative list.

### 1.16.2 SUSPENSION OF WORK

The work may be suspended by the Engineer whenever he deems it is in the best interest of the City to do so.

### 1.16.3 TERMINATION

a. If the Contractor fails to begin the work under the contract within the time specified, or fails to perform the work with sufficient workmen and equipment or with sufficient materials to insure the completion of said work within the specified time, or shall perform the work in an unsatisfactory manner, or shall neglect or refuse to remove materials or perform anew such work as shall be rejected as defective or unsuitable, or shall discontinue the prosecution of the work, or if the Contractor shall become insolvent or be declared bankrupt, or shall commit any act of bankruptcy or insolvency, or shall make an assignment for the benefit of creditors, or from any other cause whatsoever shall not carry on the work in an acceptable manner, the City shall give notice in writing to the Contractor and his surety of such failure, delay, neglect, refusal, or default.

b. If the Contractor, within a period of seven (7) days after such notice, shall not proceed in accordance therewith, then the City Manager shall, have full power and authority to declare the forfeiture of the contract, and to forfeit the rights of the Contractor. The City Manager at his option may call upon the surety to complete the work in accordance with the terms of this contract or may have the City take over the work, including any or all materials and equipment on the ground as may be suitable and acceptable to the City and may complete the work by or on its own employees, or may enter into a new contract for the completion of the work. All costs and charges incurred by the

City, together with the cost of completing the work, shall be deducted from any monies due or which may become due on the contract.

#### 1.17 WORK CHANGES

1.17.1 The City, without invalidating any construction contract, and without notice to any surety, may order changes in the work within the general scope of the contract consisting of additions, deletions, or other revisions, providing the total amount added or eliminated does not exceed twenty-five percent (25%) of the total contract price, or \$50,000, whichever is greater. All such changes in the work shall be authorized by change order, and shall be executed under the applicable conditions of the contract documents.

1.17.2 The cost or credit to the City resulting from a change in the work shall be determined by unit prices subsequently agreed upon or by mutual acceptance of a lump sum properly itemized, or on the basis of Cost of the Work plus a Contractor's Fee for

1.17.3 The term "Cost of the Work" means the sum of costs necessarily incurred and paid by Contractor in the proper performance of the work. Except as otherwise may be agreed to in writing by the City, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized under 1.17.4.

a. Payroll costs for employees in the direct employ of the Contractor in the performance of work under schedules of job classifications agreed upon by the City and the Contractor. Payroll costs for employees not employed full time on the work shall be apportioned on the basis of their time spent on the work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise and payroll taxes. Workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by the City.

b. Cost of all materials and equipment furnished and incorporated in the work, including costs of transportation and storage thereof, and manufacturer's field services required in connection therewith. All trade discounts, rebates, and refunds that are for installed materials and equipment shall accrue to the City, and the Contractor shall make provisions so that they may be obtained. All trade discounts, rebates, and refunds and all returns from the sale of surplus materials and equipment shall accrue to the Contractor.

c. Payments made by the Contractor to Subcontractors for work performed by Subcontractors. All Subcontracts shall be subject to the provisions of the Contract Documents.

d. Supplemental costs including the following:

1. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the work, and cost less market value of such items used but not consumed which remain the property of Contractor.

2. Rentals of all construction equipment and machinery, whether rented from the Contractor or others, shall be negotiated between the Engineer and the Contractor. These rates shall include all fuel, lubricants, insurance, and other operating expenses as approved by the Engineer. Equipment rental charges shall not exceed the prorated monthly rental rates listed in the current edition of the Compilation of Rental Rates for Construction Distributors. Charges per hour shall be determined by dividing the monthly rates by 176. The rental of any such equipment and machinery shall close when the use thereof is no longer necessary for the work.

3. Sales, consumer, use, or similar taxes imposed by Laws and Regulations in connection with the work and for which Contractor is liable.

4. Deposits lost for causes other than negligence of Contractor, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

1.17.4 The term "Cost of the Work" shall not include any of the following:

a. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnership and sole proprietorships: general managers, engineers, architect, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by Contractor

whether at the site or in Contractor's principal or branch office for general administration of the work and not specifically included in the agreed upon schedule of job classifications referred to in 1.17.3.a, all of which are to be considered administrative costs covered by the Contractor's Fee.

b. Expenses of Contractor's principal branch offices other than Contractor's office at the site.

c. Any part of Contractor's capital expenses, including interest on the Contractor's capital employed for the work and charges against the Contractor for delinquent payments.

d. Costs due to the negligence of the Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective work, disposal of materials or equipment wrongly supplied and making good any damage to property.

e. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in 1.17.3.c.

1.17.5 The Contractor's Fee allowed to the Contractor for overhead and profit shall be based on the following:

a. for costs stated under in 1.17.3.a & b, the Contractor's Fee shall not exceed ten (10) percent. Contractor's Fee shall not be applied to payroll taxes, social security contributions, or unemployment taxes;

b. for costs stated in 1.17.3.c, the Contractor's Fee shall not exceed five (5) percent;

c. no fee shall be payable on the basis of costs itemized under 1.17.3.d and 1.17.4;

d. the amount of credit to be allowed by the Contract to the City for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in Contractor's Fee by an amount equal to ten (10) percent of the net decrease; and

e. when both additions and credits are involved in any one change, the adjustment in Contractor's Fee shall be computed on the basis of the net change in accordance with this article.

1.17.6 The Contract Times may be extended in an amount equal to time lost due to delays beyond the control of Contractor if a claim is submitted in writing to the Engineer for consideration with the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. Delays considered beyond the control of the Contractor include, but may not be limited to, acts of neglect by City or others performing additional work as contemplated and specified elsewhere, or fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God. No claim for an adjustment in Contract Times will be valid if not submitted in accordance with the requirements of this article 1.17, article 1.21, or article 1.22.

1.17.7 The Contractor may be entitled to compensation for a compensable delay. Compensable delays are critical delays that are not the Contractor's fault or responsibility and are the City's fault or responsibility. Compensable delays may include, but are not limited to:

- Delays due to alteration of quantities or character of work as described in the VDOT Specifications
- Delays due to differing site conditions as described in the VDOT Specifications
- Delays due to an Engineer-ordered suspension
- Delays due to the acts or omissions of the City or its failure to act in a timely manner

1.17.8 If the Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of the City, Contractor, and those for which they are responsible, then the Contractor may be entitled to an equitable adjustment in Contract Times. Such an adjustment will be the Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to:

- Acts or omissions of the Contractor, its agents, employees, subcontractors or suppliers or causes within their control; or conditions that the Contractor could reasonably have foreseen or avoided.
- Floods, tidal waves, tornadoes, hurricanes, lightning strikes, earthquakes, fires, epidemics, or similar natural phenomena.
- Normal adverse weather.
- Extraordinary, unforeseen, and unavoidable delays in material deliveries.
- Acts of government entities other than the Department.
- Unforeseen and unavoidable industry-wide labor strikes affecting the Contractor or its subcontractors' or

suppliers' workforce that are beyond the Contractor's control.

- Actions of third parties that are not the responsibility of the Contractor or within its or the Department's control.
- Civil disturbances or sovereign acts of the State, including but are not limited to states of emergency or epidemic or quarantine restrictions.

1.17.9 Concurrent delays are separate delays to critical activities that occur at the same time. When a non-compensable delay is concurrent with a compensable delay, the Contractor shall not be entitled to compensation, but may be entitled to an extension of the Contract Times.

1.17.10 When the Contractor encounters a differing site condition as defined in the VDOT Specifications, then, within a mutually agreed upon timeframe, he shall submit a written request for the additional compensation, excluding anticipated profits, he seeks as a result of such condition. The Contractor's request shall be in sufficient detail to enable the Engineer to determine the basis for and extent of the Contractor's entitlement to additional compensation.

Failure on the part of the Contractor to furnish sufficient documentation or to qualify his reason for failure to do so will delay the determination of entitlement to additional compensation. If such delay occurs, it will in no way relieve the Contractor of his obligation to meet the Contract time limits or other Contract requirements or constitute basis for a claim of any kind.

If the Engineer determines that the conditions materially differ and cause an increase or decrease in the cost required for the performance of any of the Work, an adjustment, excluding anticipated profits, will be made and the Contract may be modified accordingly.

#### 1.18 UTILITY MAINTENANCE AND COORDINATION

1.18.1 Before the work is started, the Contractor shall notify all companies, corporations, municipalities and individuals who own utilities on the construction site, in the right of way or immediately adjacent to the construction area of the work to be performed. The Contractor shall arrange to have the various utilities located and to have them removed or relocated as required, or to determine the method of protection acceptable to the respective utility owner, if the method of protection is not specified hereinafter. Any cost incurred with removing or relocating utilities shall be borne by the Contractor unless indicated otherwise.

1.18.2 The location of existing utilities shown on the drawings was taken in part from records and in part from field surveys, and may not represent exact location. The Contractor shall excavate to locate buried utilities far enough in advance of pipeline laying to allow for adjustments in any pipe laying both horizontally and vertically.

1.18.3 The work shall be coordinated and performed in a manner so that all existing fire hydrants, without exception, shall be accessible at any time during the work.

1.18.4 The Contractor shall maintain the existing streams, ditches, drainage structures, culverts and flows at all times during the work. The Contractor shall pay for all personal injury and property damage, which may occur as a result of failing to facilitate drainage.

1.18.5 The Contractor shall ascertain the exact location of each existing utility that may interfere with the work. The Contractor may obtain field utility locations by calling "Miss Utility" (1-800-552-7001) forty-eight (48) hours prior to working in the vicinity of existing utilities. If the utilities fail to locate, a second call shall be made providing an additional three (3) hour notice.

1.18.6 The Contractor shall repair or replace any existing sanitary sewer or storm drain utility damaged or misaligned during or due to the work. All other utilities shall be repaired or replaced by the respective Utility Company(s) at the expense of the Contractor.

1.18.7 The Contractor shall coordinate all work within the vicinity of the existing utilities with the respective Utility Company. The work shall be conducted in a manner to avoid unnecessary service interruption and in accordance with the rules and regulations of the respective Utility Company.

1.18.8 When the work is approaching an existing utility or structure that may be in conflict with, or connected to, the work; the Contractor shall excavate test pits to verify the location or elevation of the existing utility or structure. By taking this precaution the Contractor may adjust the work or have the existing utility relocated as necessary. Failure to take such precautions may result in the Contractor adjusting the work or having the existing utility relocated, at the Contractor's expense.

1.18.9 When the existing utilities cross the trench excavation, they shall be adequately supported and protected from damage due to the work as required, specified or directed. All methods for supporting and maintaining the utilities

shall be subject to the approval of the respective Utility Company and the City. Any utilities removed as part of the work, and not indicated to be removed or abandoned, shall be restored using materials and installation equal to the utilities' standards.

1.18.10 The Contractor shall exercise care to ensure that the grade and alignment of the existing utility be maintained and that no joints or connections are disturbed. Backfill shall be carefully placed and compacted to prevent the future damage or settlement to the existing utility.

1.18.11 The Contractor shall maintain sewage flow at all times by pumping and/or diversion, or other means acceptable to the Engineer. At no time shall the Contractor allow raw sewage to flow out of the sewerage system to adjacent land or waterways. At no time shall the Contractor cause sewage to surcharge the sewerage system such that sewage backs up into any service connection. In the event such backup occurs, the Contractor shall correct and pay for all damage caused.

1.18.12 No water pipes shall pass through or come in contact with any part of a sewer or storm drain manhole.

## 1.19 ENVIRONMENTAL PROTECTION

1.19.1 Environmental protection considerations for the purpose of any City construction consist of, but are not limited to, the following factors: natural resources including air, water and land; solid waste disposal; noise; control of toxic substances, hazardous materials and radiation; the presence of chemical, physical and biological elements and agents which adversely effect or alter ecological balances; degradation of the aesthetic use of the environment; impact on daily activities such as traffic, and historical, archeological and cultural resources.

The Contractor shall not use equipment from which factory installed anti-pollution and noise control devices have been removed or rendered ineffective through lack of proper maintenance.

1.19.2 The Contractor shall provide and maintain during the life of the contract, the environmental protection as defined herein. His operation shall comply with all Federal, State, and City laws, ordinances and regulations pertaining to the provisions of this and various other sections of this specification shall also be his responsibility.

1.19.3 The Engineer will notify the Contractor in writing of any perceived or observed noncompliance with the aforementioned Federal, State, or City laws or regulations. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. The Contractor shall, after receipt of such notice, immediately inform the Engineer of proposed corrective action and take such action as may be approved. If the Contractor fails or refuses to comply promptly, the Engineer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor.

1.19.4 It is intended that the natural resources within the project boundaries and outside the limits of permanent work performed under this contract be preserved in their existing condition or be restored to an equivalent of the existing condition, as approved by the Engineer, upon completion of the work. The Contractor shall confine his construction activities to areas defined by the work schedule, plans, and specifications.

1.19.5 Except in areas indicated to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy trees, shrubs and vegetation without special permission from the Engineer. No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorage unless specifically authorized by the Engineer. Where such use is permitted, the Contractor shall be responsible for any damage resulting from such use.

1.19.6 At all times, special measures shall be taken to prevent oil or other hazardous substances from entering the ground, drainage areas and local bodies of water in such quantities as to affect normal use, aesthetics or produce a measurable ecological impact on the area.

1.19.7 Any and all items having apparent historical or archeological interest, which are discovered in the course of construction activities, shall be carefully preserved in place and reported immediately to the Engineer for determination of action to be taken. Work in the immediate area shall be halted and the artifacts or other evidence shall be protected from all damage, including that resulting from the elements, vandalism, and the effects of excavation, demolition, removal and construction operations until such time as qualified officials are able to conduct appropriate investigations. Work in the immediate area shall not proceed until authorization to proceed is obtained from the Engineer. Any such evidence or artifacts found during construction operations or subsequent investigations required by this section shall be delivered into the custody of the City and shall not become the property of the Contractor.

1.19.8 The Contractor shall comply with the Toxic Substance Control Act, PL 94-469, (TSCA) which includes, but is not limited to, the regulation of Polychlorinated biphenyl's (PCBs). Since these chemicals are used in some existing



insulation, existing fixed and vehicular transformers on some railroads, the Contractor shall assure proper marking, handling, and disposal of any PCBs in accordance with PL 94-469 and the implementing regulations of 40 CFR 761. In order to avoid any inadvertent violation of the law the following rules shall apply:

a. No Polychlorinated biphenyl (PCB) chemical substance, mixture, equipment, container, sealant, coating, or dust control agent will be used a part of the project except as in accordance with all provisions of the Toxic Substance Control Act (PL 94-469) as interpreted by the rules and regulations of 40 CFR 761.

1.19.9 Trash shall be picked up and placed in containers, which shall be emptied on a regular schedule. All handling and disposal shall be so conducted as to prevent contamination of the site and other areas and shall not be disposed of in wetlands and shall not be burned. On completion, the area shall be left clean and re-vegetated as described in required. Rubbish and debris shall be transported off the construction site and disposed of by the Contractor in a manner that complies with Federal, State, and City requirements. A permit or license and the location of the disposal area shall be provided prior to transporting any material off the project area. Waste materials shall not be burned within the project area.

1.19.10 Dust shall be kept down at all times including non-working hours, weekends, and holidays. Soil at the site, haul roads, and other areas disturbed by the Contractor's operations and materials stockpiled for the project shall be sprinkled or treated with dust suppressers or covered as to control dust. No dry power brooming will be permitted. Vacuuming, wet mopping, wet sweeping or wet power brooming shall be used instead. Only wet cutting of concrete, concrete and asphalt will be permitted.

1.19.11 The Contractor shall comply with all applicable provisions of the National Emission Standards for Asbestos (40 CFR 61 Subpart B).

1.19.12 The Contractor shall inspect all vehicles for dirt prior to their leaving the construction site; dirt, soil, and rubble likely to be dislodged during transit shall be removed from the trucks and other vehicles prior to leaving the site. He shall insure that all equipment transporting material that may become airborne is covered.

## 1.20 EROSION CONTROL

1.20.1 The erosion control system shall protect adjacent properties, shall be in accordance with the Virginia Erosion and Sediment Control Handbook (VESCH) and City ordinances, and shall be approved by the Engineer. All erosion control measures shall be placed prior to commencement of grading. All elements of the erosion control system shall be sized and designed in accordance with the criteria specified in the VESCH.

1.20.2 Temporary measures shall be applied throughout the construction of the project to control erosion and to minimize siltation of adjacent property, streets, drainage ditches, storm drains and waterways. The Contractor shall comply with all minimum standards on the drawings and specified herein. Disturbed areas that are to be left unfinished for more than thirty (30) days shall be seeded temporarily within seven days of completion of grading operations.

a. Stockpiled material shall be surrounded at the base with a temporary sediment barrier. Slopes of stockpiled material shall not exceed 2 to 1.

b. Vehicles leaving the construction site shall be cleaned to remove mud prior to entrance onto public rights of way.

c. The Contractor shall be responsible for weekly inspection of temporary erosion control system to insure maximum effectiveness of the protective measures. Any damaged areas of the erosion control system shall be immediately repaired.

1.20.3 Minimum required measures (applicable VESCH standard):

- a. Silt fence (3.05)
- b. Storm drain inlet protection (3.07)
- c. Temporary seeding (3.31)
- d. Temporary Construction Entrance (3.02)

1.20.4 In the event the Contractor repeatedly fails to satisfactorily control erosion and siltation, the City reserves the right to employ outside assistance or to use its own forces to provide the erosion control measures indicated and specified. The cost of such work, plus related engineering costs, will be deducted from monies due the Contractor for other work.

1.20.5 RIPRAP

a. Materials: Riprap shall be dry riprap, Class II, except where Class III is indicated, as defined in Section 414 of the VDOT Specifications. The diameter of the largest stone shall not exceed 2.75 feet for Class III Riprap, and 2.25 feet for Class II Riprap.

b. Riprap shall be placed in accordance with Section 414 of the VDOT Specifications. The riprap shall be placed so that it produces a dense well-graded mass of stone with a minimum of voids. Riprap shall be placed on filter fabric. Materials for filter fabric shall be approved by VDOT and installed in accordance with the manufacturer's instructions. The desired distribution of stones throughout the mass may be obtained by selective loading at the quarry, controlled dumping of successive loads during final placing, or by a combination of these methods. The riprap shall be placed to its full thickness in one operation. The riprap shall not be placed in layers. The riprap shall not be placed by dumping into chutes or similar methods, which are likely to cause segregation of the various stone sizes. Care should be taken not to dislodge the underlying material when placing the stones.

c. The finished slope shall be free of pockets of small stone or clusters of large stones. Hand placing may be necessary to achieve the required grades and a good distribution of stone sizes. Final thickness of the riprap blanket shall be within plus or minus 1/4 of the specified thickness. The thickness shall be 2.75 feet for Class III riprap, and 2.25 feet for Class II riprap.

1.20.6 Where indicated, soil stabilization mat shall be provided in ditches in accordance with the details on the drawings and VDOT Standard EC-3B. The fabric shall conform to Sections 244 and 606 of the VDOT Specifications and the manufacturer's recommendations. The soil stabilization mat material shall be as approved by VDOT for velocities of 7 to 10 feet per second. The mat shall extend under the riprap at channel ends per manufacturer's recommendations.

## 1.21 CLAIMS MANAGEMENT PROCESS

1.21.1 The City's contractual dispute resolution policy promotes a cooperative attitude between the Engineer and Contractor. Emphasis is placed on resolving issues while still current, at the project level or through the partnering process. Open sharing of information is encouraged by all parties involved so the information provided completely and accurately reflects the issues and facts.

1.21.2 In the event that an issue cannot be resolved through normal administrative change processes prescribed in the Contract Documents, the procedure for consideration of contractual claims shall be as follows:

a. Any contractual claim by the Contractor against the City, whether for money or other relief, not disposed of by mutual agreement or through normal administrative change procedures prescribed in the Contract Documents, shall be submitted in writing no later than sixty (60) days after final payment as prescribed in this section; however, a written statement of the Contractor's intention to file such a claim shall have been submitted to the Engineer at the time of the occurrence or beginning of the services upon which the claim is based. The written statement shall clearly inform the Engineer that it is a "notice of intent to file a claim." Submission of a notice of intent to file a claim as specified shall be mandatory. Failure to submit such notice shall be a conclusive waiver of such claim by the Contractor. An oral notice or statement will not be sufficient nor will a notice or statement after the event. Oral statements recorded in meeting minutes also will not be sufficient.

b. In addition, at the time of each and every occurrence or prior to providing the services upon which any claim or subsequent action will be based, the Contractor shall furnish the Engineer an itemized fee proposal for which additional compensation will be claimed. The Contractor shall keep a separate record of actual cost for the services. Failure on the part of the Contractor to afford the Engineer proper records of actual costs will constitute a waiver of a claim for such extra compensation except to the extent that it is substantiated by the Engineer's records.

c. The filing of notice of intent to file a claim by the Contractor and the keeping of cost records by the Contractor shall in no way establish the validity of a claim. The data furnished by the Contractor shall be subject to a complete audit by the City or its authorized representative if they are to be used as a basis for claim settlement.

d. Upon completion of the Contract, the Contractor may, within sixty (60) days from the date of final payment, submit to the City Manager, with a copy to the Director of Finance, a written claim for the amount he deems he is entitled to under the Agreement. However, written notice of the Contractor's intention to file such a claim shall have been given to the Engineer as prescribed in paragraph (a). The final payment date shall be that date the City certifies that it has reviewed, approved, and sent forward the final estimate to the Finance Department for payment. The written claim shall set forth the facts upon which the claim is based and shall include all pertinent data and correspondence that may substantiate the claim.

e. Within thirty (30) days from receipt of the claim, the City Manager will appoint a disinterested person or panel (the "Investigator") to conduct an investigation into the claim. Such investigation shall include a hearing at which

Contractor may present any additional pertinent information prior to the conclusion of the investigation. The investigator shall notify the Contractor in writing of the time and date of the hearing, such time and date to be within thirty (30) days of receipt of the claim, unless a later time and date is requested by the Contractor.

f. Within thirty (30) days from the date of the hearing, the Investigator will investigate the claim, including the additional facts presented, and notify the Contractor in writing of the final decision.

g. The Contractor may not institute legal action prior to receipt of the Investigator's decision on the claim, unless the Investigator fails to render such decision within thirty (30) days of the date of the hearing. In the case that the Investigator fails to render a final decision within the time specified, it shall be deemed a final decision denying the Contractor's claim by the City.

h. The final decision resulting from this claims procedure shall be final and conclusive unless the Contractor institutes legal action within six (6) months of the date of final decision.

i. Any monies that become payable as the result of claim settlement after payment of the final estimate or final audit dispute resolution will not be subject to payment of interest unless such payment is specified as a condition of the claim settlement.

j. Nothing herein shall preclude a contract from requiring submission of an invoice for final payment within a certain time after completion and acceptance of the work or acceptance of the goods. Pendency of claims shall not delay payment of amounts agreed due in the final payment.

k. The only entity that may assert a contractual claim against the City is the Contractor. Subcontractors or other entities under a subcontract with the Contractor may not assert a contractual claim against the City.

#### 1.22 EXTENSIONS TO CONTRACT TIMES

a. The Engineer will not consider any request for an extension of Contract Times that is based on a claim that the time limits established in the Contract Documents is insufficient to complete the Work.

b. When Contract execution is not within the time limit indicated in the Bidding Documents or when the Contractor is unable to commence work because of any failure of the City, the Contractor will be given an extension of time based on the number of days delayed beyond said time limit. No time extension will be allowed for a delay in the date of Contract execution when the delay is the fault of the Contractor.

c. The Engineer will determine if an extension of the Contract Times is warranted by additions or alterations to the Contract. The Contractor shall inform the Engineer, in writing, of a request for time extensions. The written request shall include supporting data for any such request for time extension due to quantity additions or additional or altered work.

d. During prosecution of the work, the Contractor shall identify the causes for any delays attributable to conditions he deems to be beyond his control and shall identify the particular construction operations affected, their criticality to project milestones or overall Contract completion, and the significant dates that encompass the periods of delay. The Contractor shall furnish all such information necessary for the Engineer to make an adequate evaluation of any request received from the Contractor for an extension of the Contract Times within 3 days of experiencing such a delay.

e. The Contractor shall take into consideration normal conditions considered unfavorable for the prosecution of the work, and shall place sufficient workers and equipment on the project to complete the work in accordance with the Contract Times specified in the Contract Documents.

f. If the Contract identifies a contract-specific Notice to Proceed date and the Contract is not executed by that date, the Contractor will receive an extension of time equal to the number of days between the contract-specific Notice to Proceed date and the eventual date of Contract execution.

g. If the Notice to Proceed date is selected by the Contractor and after prior approval the Engineer directs the Contractor not to begin work on that date, the Contractor will receive an extension of time equal to the number of days between the Contractor's selected Notice to Proceed date and the eventual date the Engineer informs the Contractor that he may commence the work.

h. The Engineer may give consideration for extension of time when a delay occurs due to unforeseen causes beyond the control of or without the fault or negligence of the Contractor. However, consideration will not be given to extensions of time attributable to normal adverse weather conditions or conditions resulting from normal adverse weather. As used in this paragraph, "normal adverse weather" is defined as that which is not considered extraordinary or catastrophic and is not reasonably conducive to the Contractor progressively prosecuting critical path work under the Contract. Weather events considered extraordinary or catastrophic include, but are not limited to tornados, hurricanes, earthquakes, and floods that exceed a 25-year storm event as defined by National Oceanic and Atmospheric Administration (NOAA) for the NOAA data gathering location that is nearest the project site.

i. ENGINEER-ORDERED WORK SUSPENSIONS

1. If the Engineer orders the Contractor in writing to suspend performance of all or any portion of the Work for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the Contractor believes that additional compensation or an extension of the Contract Times is due as a result of such suspension, the Contractor shall submit to the Engineer a written request for adjustment in accordance with the applicable provisions of the General Conditions within 7 days after receipt of the notice to resume work. The Contractor's request shall set forth the reasons and support for such adjustment.

2. Upon receipt, the Engineer will review the Contractor's documentation and evaluate the Contractor's request. If the Engineer agrees that the cost or time required for the performance of the Contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the Contractor, his suppliers, or subcontractors at any tier, and was not caused by weather, the Engineer will make an adjustment (excluding profit and consequential damages) and modify the Contract in writing accordingly. The Engineer will notify the Contractor of the determination regarding whether or not an adjustment of the Contract is warranted.

j. No Contract adjustment will be allowed unless the Contractor has submitted the request for adjustment within the time and in the manner prescribed herein.

k. No Contract adjustment will be allowed to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of the Contract.

**END OF SECTION.**

**SUPPLEMENTAL GENERAL CONDITIONS****PART 1 - GENERAL****1.1 SCOPE OF WORK**

The Contractor shall provide all labor, material, equipment, supervision, and incidentals required to perform the Work of the Project as described herein. The Work is described in the Contract Documents and generally consists of, but may not be limited to, the following:

Repair, construct, upgrade, remove, and/or rehabilitate highway and municipal guardrail and fencing systems and perform related work incidental thereto as ordered by the Engineer or the Engineer's Representative on an on-call, as-needed, or emergency basis. The majority of the expected work consists of repairing guardrails, posts, and terminals damaged by vehicle impacts.

**A. CONTRACT TYPE**

1. This Contract is a unit-priced indefinite delivery/indefinite quantity contract. Work Orders will be issued by the Engineer or the Engineer's Representative as needed and will vary in location and quantity of work. The City reasonably expects to issue multiple orders with a combined total value between \$25,000 and \$125,000 per term; however, the actual usage may vary.

**B. CONTRACT RENEWAL**

1. The City may renew the Contract after the completion of the initial term for up to three (3) additional one-year terms, provided the City and Contractor are in agreement.
2. Should the Contractor desire to not renew, he shall formally submit a written request by certified mail and by electronic mail to both the Engineer's Representative and the Purchasing Director as soon as possible but not later than sixty (60) days prior to the expiration date of the active contract term.

**C. MINIMUM QUANTITY OF WORK**

1. The guaranteed minimum quantity of work is \$25,000 for the initial contract term.

**D. MAXIMUM QUANTITY OF WORK**

1. Maximum Per Individual Order: \$1,000,000
2. Maximum Per Term: \$10,000,000 per one-year term (sum of all individual orders in one term).

**1.2 UNIT PRICES**

- A. The established contract items of work and contract unit prices shall apply over the initial contract term and each subsequent term unless modified by a duly executed bilateral change order. Contract renewal itself shall not constitute a basis for a change to contract unit prices.
- B. Adjustments to applicable unit-priced steel items will be made based on the relative price of steel as set forth in the special provisions.
- C. Adjustment for fuel described in the VDOT Specifications and the *Virginia Department of Transportation Special Provision For Optional Adjustment For Fuel* does not apply to this Contract. Adjustments to unit-priced items for fuel will not be considered.

**1.3 BONDS REQUIRED**

- A. Bonds required for this Contract are as follows:
  1. Bid bond in the amount of five (5) percent of the Total Bid.
  2. Performance bond in the amount of fifty thousand dollars (\$50,000).
  3. Payment bond in the amount of fifty thousand dollars (\$50,000).

**1.4 TIME OF COMPLETION**

- A. The initial term of the Contract shall be for one (1) year from the date of issuance of a purchase order by

the City to the Contractor.

- B. The City may renew the Contract after the completion of the initial term for up to three (3) additional one-year terms, provided the City and Contractor are in agreement.
- C. The City may extend the Contract in order for the Contractor to complete scheduled work or work underway.
- D. Time of completion of individual orders shall be as set forth in the Specifications or as otherwise specified in the individual order.

#### 1.5 LIQUIDATED DAMAGES

- A. Liquidated damages for failure to attain Milestones, Substantial Completion, or final completion and readiness for payment shall be **three hundred fifty (350) dollars per day** including Saturdays, Sundays, and holidays.

#### 1.6 TERMINATION

- A. In addition to the provisions of the General Conditions pertaining to contract termination, the following provisions also apply:
  1. Termination for Convenience: The City may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in the City's best interest. The Contractor shall be paid its costs, including contract close-out costs, and profit on work performed up to the time of termination. The Contractor shall promptly submit its termination claim to City to be paid the Contractor. If the Contractor has any property in its possession belonging to the City, the Contractor will account for the same, and dispose of it in the manner the City directs.
  2. Termination for Default [Breach or Cause]: If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, the City may terminate this contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the Contractor is in default. The Contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.

If it is later determined by the City that the Contractor had an excusable reason for not performing, such as a strike, fire, or flood, events which are not the fault of or are beyond the control of the Contractor, the City, after setting up a new delivery of performance schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

- B. Opportunity to Cure: The City in its sole discretion may, in the case of a termination for breach or default, allow the Contractor ten (10) days or an otherwise appropriately short period of time in which to cure the defect. In such case, the notice of termination will state the time period in which cure is permitted and other appropriate conditions.
- C. If Contractor fails to remedy to City's satisfaction the breach or default of any of the terms, covenants, or conditions of this Contract within ten (10) days (or as otherwise specified in the Contract Documents, whichever is stricter) after receipt by Contractor of written notice from City setting forth the nature of said breach or default, City shall have the right to terminate the Contract without any further obligation to Contractor. Any such termination for default shall not in any way operate to preclude City from also pursuing all available remedies against Contractor and its sureties for said breach or default.
- D. Waiver of Remedies for any Breach: In the event that City elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this Contract, such waiver by City shall not limit City's remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.
- E. Termination for Default (Construction): If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will ensure its completion within the time specified in this contract or any extension or fails to complete the work within this time, or if the Contractor fails to comply with any other provisions of this contract, the City may terminate this contract for default. The City shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. In this event, the City may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the City resulting from the Contractor's refusal or failure

to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the City in completing the work.

F. The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause if:

1. the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include: acts of God, official acts of the City, acts of another Contractor in the performance of a contract with the City, epidemics, quarantine restrictions, strikes, freight embargoes; and
2. the Contractor, within ten (10) days (or as otherwise prescribed in the Contract Documents, whichever is more restrictive) from the beginning of any delay, notifies the City in writing of the causes of delay. If in the judgment of the City, the delay is excusable, the time for completing the work shall be extended. The judgment of the City shall be final and conclusive on the parties, but subject to appeal under applicable claims and dispute resolution provisions.

G. If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the City.

- 1.7 All excavation is unclassified. The Engineer makes no claims or assumptions as to the nature of any existing project soils. Geotechnical information, if provided, is provided solely for informational purposes and shall not be taken to provide an accurate representation as to the subsurface characteristics of the project site.
- 1.8 The Contractor shall accommodate the City of Danville Public Works Department during snow response and other inclement weather activities including but not limited to making traffic control modifications as needed.
- 1.9 The Contractor shall provide one authorized person on site who is an employee of the Contractor to be responsible to direct and supervise the work of subcontractors any time subcontractors are performing work.
- 1.10 The Engineer or the City's Inspector is authorized to stop work due to an apparent safety hazard or violation without waiving contract time extensions. This shall not in any way be construed to either relieve the Contractor of his sole responsibility for safety or hold the City responsible for the safety of the work zone.
- 1.11 Under no circumstance shall the Contractor create and leave hazards overnight including, but not limited to, the following: guardrail blunt ends, gaps in guardrail, loose guardrail posts, debris, spoils, open excavations, tripping hazards, or unfinished guardrail terminals.
- 1.12 All unfinished guardrail work shall remain protected from traffic in accordance with the VWAPM and the Engineer until the Work is complete and the guardrail is ready to be placed in service.

## PART 2 - COMPLIANCE

- 2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.
- 2.2 All guides, manuals, instruments, documents, plans, standards, bulletins, memoranda, and other publications that may be referenced herein but that may not be physically incorporated herein are hereby incorporated by reference as if fully set forth and physically incorporated herein.
- 2.3 The Contractor shall comply with the provisions of the following:
  - A. The Virginia Supplement to the 2009 Manual on Uniform Traffic Control Devices, 2011 Edition with Revision 1 dated September 30, 2013 which may be obtained online at [https://www.vdot.virginia.gov/media/vdotvirginiagov/doing-business/technical-guidance-and-support/technical-guidance-documents/traffic-operations/Revision\\_1\\_Entire\\_Supplement.pdf](https://www.vdot.virginia.gov/media/vdotvirginiagov/doing-business/technical-guidance-and-support/technical-guidance-documents/traffic-operations/Revision_1_Entire_Supplement.pdf))

- B. The 2009 MUTCD with Revision Numbers 1 and 2 incorporated which may be obtained online at <https://mutcd.fhwa.dot.gov/pdfs/2009r1r2/mutcd2009r1r2edition.pdf>
- C. The 2011 Virginia Work Area Protection Manual (the "VWAPM") with Revision 2.1 dated November 2020 ([https://www.vdot.virginia.gov/media/vdotvirginiagov/doing-business/technical-guidance-and-support/technical-guidance-documents/traffic-operations/2011\\_WAPM\\_REV\\_2\\_1.pdf](https://www.vdot.virginia.gov/media/vdotvirginiagov/doing-business/technical-guidance-and-support/technical-guidance-documents/traffic-operations/2011_WAPM_REV_2_1.pdf))
- D. The Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, (the "VESCH") which may be obtained from the Virginia Department of Environmental Quality (DEQ) or online at: <https://www.deq.virginia.gov/our-programs/water/stormwater/stormwater-construction/handbooks>
- E. Contract change orders and work change directives
- F. Supplemental Agreements and modifications to the Agreement
- G. The Agreement
- H. Addenda, with those of later date having precedence over those of earlier date
- I. The Bidding Documents
- J. Special Provisions
- K. Supplemental Specifications
- L. The Plans:

The project work may be detailed and described by physically incorporated or attached plans, sketches, drawings, illustrations, figures, images, and details in addition to such that are incorporated by reference or contained within other instruments incorporated by reference.

All are referred to herein, collectively, as the Plans or the Project Plans or the Drawings. It is understood that the Plans may be updated, amended, changed, subtracted-from, or added-to from time to time by addendum, supplemental agreement, change order, and as required by the Engineer.

The Plans include the following:

The plans, sketches, drawings, illustrations, figures, images, details, and standards:

- 1) attached to or referenced in the Bidding Documents;
- 2) incorporated by addendum, supplemental agreement, or change order; and

- M. The Virginia Department of Transportation 2020 Road and Bridge Specifications including the 2022 Supplement, both of which may be obtained online at <https://www.vdot.virginia.gov/doing-business/technical-guidance-and-support/technical-guidance-documents/road-and-bridge-specifications/>
- N. The VDOT 2016 Road and Bridge Standards, including all revisions as of April 2024, which may be obtained online at <https://www.vdot.virginia.gov/doing-business/technical-guidance-and-support/technical-guidance-documents/road-and-bridge-standards/>
- O. The Virginia Uniform Statewide Building Code (USBC), as amended.
- P. The International Building Code (IBC)

#### 2.4 TITLE VI NON-DISCRIMINATION

The City of Danville in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all Bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

- A. U.S. DOT 1050.2A -- Appendix A

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

1. Compliance with Regulations: The Contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S.



Department of Transportation, the Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the Contractor's obligations under this contract and the Acts and the Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the Recipient or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:
  - withholding payments to the Contractor under the contract until the Contractor complies; and/or
  - cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

B. U.S. DOT 1050.2A -- Appendix E

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Nondiscrimination Authorities:

1. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
2. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
3. Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
4. Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
5. The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);

6. Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
7. The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
8. Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
9. The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
10. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non- discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
11. Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
12. Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

**END OF SECTION**

**GENERAL ADMINISTRATIVE REQUIREMENTS****PART 1 - GENERAL****1.1 ENGINEER'S REPRESENTATIVE**

- A. Jonathan Sharp, PE is designated as the Engineer's Representative having authority over the issuance of work orders and general contract administration matters.

**1.2 ISSUANCE OF WORK ORDERS**

- A. The Engineer or the Engineer's Representative will, from time to time, issue work orders (WO) to the Contractor. The WO will indicate the repair status, location(s), whether classified as emergency or non-emergency, and other details as appropriate.
- B. The Contractor shall then promptly review the location(s) and make all appropriate notifications, including MISS Utility, within the timeframes specified herein for emergency or non-emergency as applicable. A City employee will be made available to accompany the Contractor to the site for the initial site review if requested.
- C. For non-emergency repairs, the Contractor shall mobilize and begin physical work within fifteen (15) calendar days of the date of WO issuance, or, if a specific Notice to Proceed date is stipulated in the WO, by the WO Notice to Proceed Date.
- D. For emergency repairs, the Contractor shall make appropriate notifications including MISS Utility within twenty-four (24) hours and begin physical work within ninety-six (96) hours.
- E. The Contractor shall continuously prosecute the work to completion (including restoration). If the Contractor opts to suspend work temporarily on a WO or portion thereof, the Contractor shall notify the Engineer's Representative at least 24 hours in advance of the time and date he plans to pull off the work site. The Contractor shall ensure the work site has been properly and safely secured to protect the traveling public in accordance with the VWAPM, the MUTCD, and the Contract Documents before leaving the work site. Temporary suspension of the work does not relieve the Contractor of the obligation to complete the WO on or before the date specified in the WO or Notice to Proceed nor will it delay liquidated damages assessment.
- F. Liquidated damages may be assessed for failure to commence work within the specified timeframe or for failure to continuously prosecute the work to completion once initiated.

**1.3 EXTENT OF REPAIRS**

- A. The extent of repairs for damaged guardrail systems, where not otherwise specified, shall be limited to that which is necessary to repair or replace the damaged elements or to bring damaged non-compliant guardrail terminals into compliance in accordance with VDOT Specifications and guidance as of the date of advertisement.
- B. If, upon review of the site, the Contractor discovers additional damage along the same run of guardrail or otherwise near the general location of the Work Order, the Engineer shall be notified immediately for review. The Engineer may request repair of these additionally damaged areas to be completed concurrently with the original planned work.

**1.4 INSPECTION**

- A. The Contractor may request inspection of the work by the City prior to demobilization. Such request shall be made to the Engineer's Representative at least two (2) business days in advance of the completion of the work.
- B. The Contractor shall bear all costs, including but not limited to remobilization, removal, disposal, and traffic control costs, associated with correcting deficient work or for failure to complete the work as specified by the Engineer.

**1.5 DOCUMENTATION**

- A. Submit updated two week lookaheads (TWLA) or schedules of operations on a weekly basis to the Engineer's Representative.
- B. Submit date-stamped photographs of the Site before and after completion of the Work to the Engineer's

Representative.

- C. Submit other documents including, but not limited to: materials tickets, data sheets, sources of material, Buy America and other certifications, payrolls, daily work reports/records, field sketches, and quality control documentation.
- D. All materials tickets and invoices for materials including, but not limited to: stone weight tickets, concrete tickets, asphalt weight tickets, pipe materials, structures, and all other permanently incorporated products and materials shall be labeled with the Project UPC/IFB and WO Number, the material specification number, and other information so as to clearly link the material to the precise location and project in which the material was incorporated.

#### 1.6 APPLICATION FOR PAYMENT

- A. Submit an itemized price sheet with quantities installed, unit price, and extension for each discrete work order broken down by location. Clearly indicate the work location on the form. The form may be provided by the City to the Contractor.
- B. Submit invoices for completed work monthly. The cutoff date for each pay period is the last day of the month. Clearly indicate the City PO Number, WO ID number and work locations, invoice number, and amounts for each work order/location. Submit all required documentation including copies of price sheets for each individual work location for each WO included in the invoice.
- C. All applications for payment shall include an overall summary of the total amounts requested for each task/project/work location along with detailed, itemized invoices for each. At a minimum, the itemized invoices shall include the date the task was issued or authorized, the date work was completed, the task order or service request number, address and location of work, line item quantity totals and unit prices from the contract, and any material invoices, concrete load tickets, stone tickets, photo of the completed work, Contractor's daily work reports, quality control documentation including test reports, Buy America and other required material certifications, and other backup documentation that may be required by the specifications or requested by the project manager or the Engineer.

#### 1.7 PROGRESS MEETING

- A. The Engineer's Representative may require progress meetings periodically to review work progress and quality or to discuss other project matters.

#### 1.8 SUBMITTALS

- A. During performance of the contract, the Contractor shall submit all forms and other data as required by the Contract Documents or as requested by the City or VDOT. The following list is not meant to be all-inclusive:
  1. Submit, within fourteen (14) business days after Contract execution, copies of all subcontract agreements.
  2. If any additional subcontract agreement is executed during the performance of the Contract, submit such subcontract agreement as stated in paragraph (1) upon execution.
  3. Submit all other required submittals and documentation as specified in the Contract Documents and as required by the Project Manager.
- B. Invoices/Applications for Payment
  1. Contractor shall submit application for payment on the forms and in the format prescribed by the project manager or Engineer. All applications for payment shall include an overall summary of the total amounts requested for each task/project/work location along with detailed, itemized invoices for each. At a minimum, the itemized invoices shall include the date the task was issued or authorized, the date work was completed, the task order or service request number, address and location of work, line item quantity totals and unit prices from the contract, and any material invoices, concrete load tickets, stone tickets, photo of the completed work, Contractor's daily work reports, quality control documentation including test reports, Buy America and other required material certifications, and other backup documentation that may be required by the specifications or requested by the project manager or the Engineer.

- 2. Requests for payment shall be submitted on a calendar month basis encompassing the period beginning on the first day of the month and ending on the last day of the month.
- 3. All materials tickets and invoices for materials including, but not limited to: stone weight tickets, concrete tickets, asphalt weight tickets, pipe materials, structures, and all other permanently incorporated products and materials shall be labeled with the Project UPC/IFB Number, WO number, the material specification number, and other information so as to clearly link the material to the precise location and project in which the material was incorporated.

C. Materials

- 1. All proposed materials shall be from an approved source of materials or be accompanied by a Manufacturer’s Certification/Locality Certifications.
- 2. Submit all other required submittals and documentation as specified in the Contract Documents and as required by the Project Manager.

1.9 CITY PROJECT REPRESENTATIVES

Jonathan Sharp, P.E., Division Director of Streets	434-799-5245 ext. 2085
Christopher E. Meadows, Construction Inspections	434-799-5019 ext. 2534
Brian L. Dunevant, P.E., City Engineer	434-799-5019 ext. 2530

**END OF SECTION**

**VDOT SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS**

The following special provisions, special provision copied notes, and supplemental specifications shall apply to this contract. The 2022 Supplement to the 2020 VDOT Road and Bridge Specifications shall also apply to this contract and may be found online at:

<https://www.vdot.virginia.gov/doing-business/technical-guidance-and-support/technical-guidance-documents/road-and-bridge-specifications/>

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cn100-000051-05

**VDOT SUPPLEMENTAL SPECIFICATIONS (SSs), SPECIAL PROVISIONS (SPs) AND SPECIAL PROVISION COPIED NOTES (SPCNs)**

Where Virginia Department of Transportation (VDOT) Supplemental Specifications, Special Provisions and Special Provision Copied Notes are used in this contract, the references therein to “the Specifications” shall refer to the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2020 and the Supplement thereto, dated 2022. References to the “Road and Bridge Standards” shall refer to the *Virginia Department of Transportation Road and Bridge Standards*, dated 2016 with revisions issued online as of the advertisement date for this project incorporated. References to the “Virginia Work Area Protection Manual” shall refer to the 2011 edition of the *Virginia Work Area Protection Manual with Revision Number 2.1* incorporated, dated November 1, 2020. References to the “MUTCD” shall refer to the 2009 edition of the *MUTCD with Revision Numbers 1 and 2* incorporated, dated May 2012; and the 2011 edition of the *Virginia Supplement to the MUTCD with Revision Number 1* dated September 30, 2013.

Where the terms “Department”, “Engineer”, “Contract Engineer”, “Construction Engineer”, Materials “Engineer”, and “Operations Engineer” appear in VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes used in this contract and the VDOT publications that each references, the authority identified shall be according to the definitions in Section 101.02 of the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2020. Authority identified otherwise for this particular project will be stated elsewhere in this contract.

VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes used in this contract and the VDOT publications that each reference are intended to be complementary to the each other. In case of a discrepancy, the order of priority stated in Section 105.12 of the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2020 shall apply.

VDOT Special Provision Copied Notes in this contract are designated with “(SPCN)” after the date of each document. VDOT Supplemental Specifications and Special Provision Copied Notes in this contract are designated as such above the title of each document.

The information at the top and left of each VDOT Special Provision Copied Note in this contract is file reference information for VDOT use only. The information in the upper left corner above the title of each VDOT Supplemental Specification and VDOT Special Provision in this contract is file reference information for VDOT use only.

7-1-22 (SPCN)

cn105-000140-00

**SECTION 105.14—MAINTENANCE DURING CONSTRUCTION** of the Specifications is amended by the following:

**Section 105.14(a)3 – Flagging Traffic** is replaced with the following:

- 3. **Flagging Traffic:** Flaggers shall be able to communicate to the traveling public in English while performing the job duty as a flagger at the flagger station.

**All flaggers shall** possess a valid, current flagger certification card, be it a physical or electronic card, **at all times while performing flagging duties.**

Flaggers shall be certified by the VDOT Basic or Intermediate Work Zone Traffic Control Training course or by the ATSSA’s classroom Flagger Certification Program.

The following constitutes a valid flagger certification card:

- Cards issued by VDOT following completion of the Basic Work Zone course;
- Cards issued by VDOT following completion off the Intermediate Work Zone course;
- Cards issued by ATSSA following completion of a Flagger course;
- Cards issued by VDOT following completion of the Flagger-only course, provided the cards were issued on or before December 31, 2024, and have not yet reached the expiration date (two years after date of issuance).

Flaggers who fail to possess a valid, current, flagger certification card, or refuse to allow inspection of same upon request, shall be removed from the flagging site, and operations requiring flagging shall be suspended by the Engineer. Suspended operations requiring flagging may resume once a certified flagger arrives on-site to perform flagging duties in accordance with applicable requirements. Flaggers improperly performing duties may be subject to flagger certification revocation at the sole discretion of the Engineer.

12-20-24 (SPCN)

**STEEL PRICE ADJUSTMENT** — If the Contractor chooses to have Steel Price Adjustment applied to any of the eligible bid items, the Contractor shall complete and submit with its bid the BID ITEMS ELIGIBLE FOR STEEL PRICE ADJUSTMENT form included with the Bidding Documents in accordance with the instructions contained in said form. Steel price adjustment will be calculated and applied in accordance with SP109-000120-01 herein for the items requested on the form.

4-1-25 (Danville SPCN)

cn303-000100-00

**AGGREGATE MATERIAL** shall be the size specified conforming to Section 203 of the Specifications. The aggregate shall be placed at locations shown on the plans or as directed by the Engineer. Aggregate material will be measured in units of tons for the size specified according to Section 109 of the Specifications. Payment will be made at the contract unit price per ton, which bid price shall be full compensation for furnishing, placing, and shaping and compaction, if required.

Payment will be made under:



<b>Pay Item</b>	<b>Pay Unit</b>
Aggregate Material (Size)	Ton

5-23-95c; Reissued 7-12-16 (SPCN)

**INSPECTION OF DAMAGED GUARDRAIL FOR “HITS” CONTRACTS** — The Contractor shall inspect the locations and prepare a list of materials and quantity needed for repair for the Engineer’s review prior to commencing work. The Engineer will notify the Contractor to repair the guardrail by components or to remove and replace sections of damaged guardrail.

9-30-16 (SPCN)

**EMERGENCY MOBILIZATION** shall consist of performing emergency preparatory operations, including moving personnel, materials, and equipment to the work site when emergency repair or replacement work is ordered by the Engineer.

The Contractor shall furnish the Engineer with the emergency contact information of the supervisory employee of his company who shall be available for repair calls during all hours, including weekends and holidays. The emergency contact information shall include the employee’s name, phone number(s), and email address.

The following procedures shall be used when the Contractor is required to respond to an emergency notification:

- 1) The Engineer will notify the Contractor of the location for emergency response. Notifications will be by phone, email, or other communications methods.
- 2) The Contractor shall acknowledge receipt of the Engineer’s notification within 24 hours of receiving notification. The Contractor shall respond via the same means as the original notification or by other approved method.
- 3) The Contractor shall arrive at the work site within four (4) days of the Engineer’s initial notification. The Contractor shall notify the Engineer upon arrival at the site and complete repair or replacement within seven (7) calendar days from the initial notification.
- 4) The Contractor shall assess the situation or as agreed by the Engineer and provide a condition report to the Engineer. The diagnostic report shall include details of the issue, the work necessary to complete the repair, and the estimated duration required to make the repair.
- 5) The Contractor shall immediately make the repairs or take other actions relative to the issue as directed by the Engineer.

At the time of notification or at any time while the Contractor is in route to the site, the Contractor may request additional time to respond to the designated location (site) due to inclement weather, or other circumstances beyond the Contractor’s control. Approval of additional response time will be at the Engineer’s discretion on a case-by-case basis.

The emergency repair or replacement work will be within the scope of the Contract.

The Contractor shall respond to emergency calls, mobilize as directed by the Engineer, and commence repairs or replacements operations within 4 days of notification unless otherwise approved by the Engineer. If the repair requires contacting Virginia 811, an additional 3 days will be allowed to provide time to locate and mark utilities.

If the Contractor is notified to respond to a designated site and arrives at the site fully prepared to work within the timeframe described herein, and the Engineer determines once he has arrived at the site his services are no longer needed, the Contractor will be compensated in accordance with this pay item.

**Emergency Mobilization** will be measured in units of each, per response call, and will be paid for responding to notification, performing assessment, developing recommendations for the repairs, at the contract each price. This price shall include mobilizing personnel, materials, and equipment to the project site, and demobilizing.

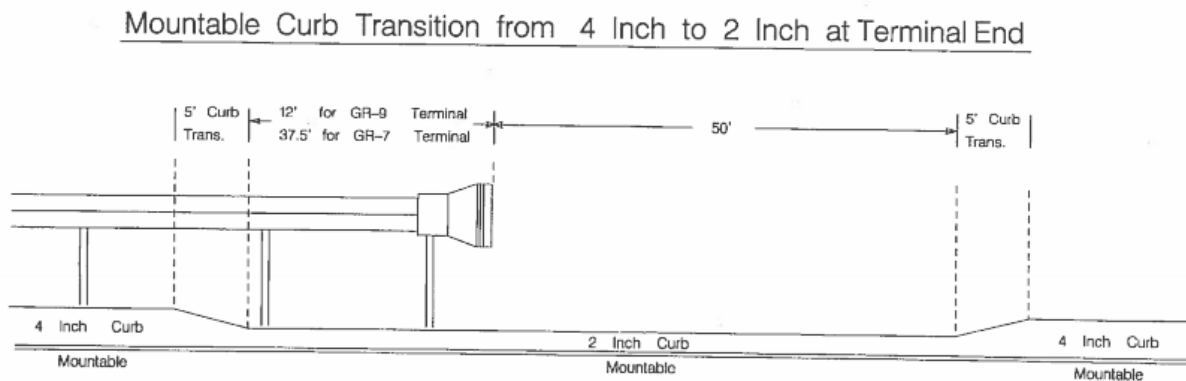
Payment will be made under:

Pay Item	Pay Unit
Emergency Mobilization	Each

4-4-19 (SPCN)

**NS SAW CUT H.C.C. ITEMS CURB, GUTTER, ENTRANCES** — This work shall consist of saw cutting curb, gutter, and entrances as shown in the detail herein or as directed by the Engineer and disposing of debris generated by saw cutting.

NS SAW CUT H.C.C. ITEMS CURB, GUTTER, ENTRANCES will be measured in linear feet of cut and will be paid for at the Contract linear foot price. This price shall include saw cutting curb, gutter, and entrances and disposing of debris.



Payment will be made under:

Pay Item	Pay Unit
NS SAW CUT H.C.C. ITEMS CURB, GUTTER, ENTRANCES	Linear foot

4-1-25 (Danville SPCN)

**SECTION 505-GUARDRAIL AND W-BEAM MEDIAN BARRIERS** is amended as follows:

**Section 505.03 (c)-Installing New or Salvaged Guardrail** is amended to include the following:

The Contractor shall auger or saw-cut guardrail post leave-outs in asphalt pavement before installing guardrail posts (except GR-3 cable guardrail posts) for guardrail runs, guardrail terminals, fixed-object attachments, or special design guardrail bridge attachments in asphalt pavement.

Unless otherwise specified by the manufacturer, leave-outs shall consist of a minimum 15-inch x 15-inch square as shown in the detail below, or a minimum 15-inch diameter circular leave-out for steel posts or a minimum 18-inch diameter circular leave-out for wood posts. Leave-outs shall be situated to provide a minimum of 7 inches behind the back of guardrail post.

Leave-outs shall extend the depth of the asphalt pavement up to a maximum depth of 8 inches.

Before installing the guardrail post, the leave-out shall be filled with Aggregate Material No. 57 in accordance with Section 305 of the Specifications, and then leveled.

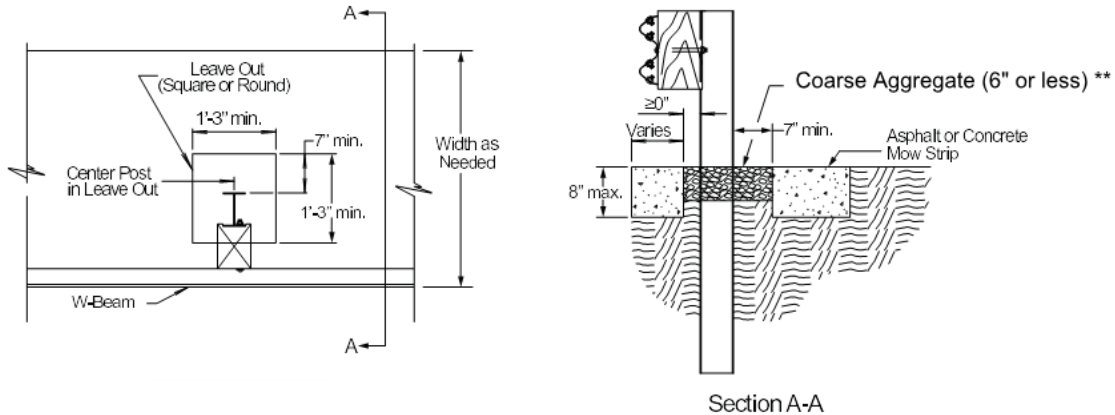
If approved by the Engineer, the Contractor may substitute flowable backfill in lieu of coarse aggregate. If used, flowable backfill shall be in accordance with Section 249 of the Specifications and shall have a maximum 28-day compressive strength of 120 psi. The Contractor shall submit the flowable backfill mix design to the Engineer for approval before use.

**Section 505.04-Measurement and Payment** is amended to include the following:

**Guardrail post leave-out** will be measured in units of each and will be paid for at the contract each price per post. This price shall include saw cutting or augering pavement, furnishing and installing aggregate material or flowable backfill, and disposing of pavement debris.

Payment will be made under:

Pay Item	Pay Unit
Guardrail Post Leave-Out	Each



\*\* Grout or two-part polyethylene foam with a 28-day compressive strength of 120 psi or less may be substituted for coarse aggregate if approved by the Engineer.

10-4-18 (SPCN)

**DAMAGED GUARDRAIL, TERMINALS, HARDWARE** — Unless otherwise specified to be salvaged, all guardrail, posts, terminals, hardware, and miscellaneous related materials that are damaged or otherwise designated to be removed or replaced shall become the property of the Contractor.

No separate measurement and payment will be made for this provision. Items specified to be salvaged will be measured and paid separately in accordance with the Contract.

7-9-19 (Danville SPCN)

**cn505-D00001-00 SAFETY CAP FOR STEEL GUARDRAIL POSTS** shall be installed per manufacturer instructions on the top rear of guardrail posts behind the rail and are intended to cover and cushion the sharp edges of steel guardrail posts used in standard guardrail systems.

Currently, the only approved product is the N-CAP as manufactured by AWN Safety Products, Inc. of Lawsonville, NC (336-831-3085). Other safety coverings with the same salient characteristics as that of the N-CAP may be submitted and will be reviewed and approved by the Engineer.

Measurement and payment for safety caps for steel guardrail posts shall be per each safety cap installed in accordance with manufacturer instructions.

4-1-25 (DANVILLE SPCN)

**cn507-D00001-00 SECTION 507—FENCES** is amended as follows:

**Add the following to 507.04—Measurement and Payment**

<b>Pay Item</b>	<b>Pay Unit</b>
6' CHAINLINK FENCE GALVANIZED	Linear foot
6' CHAINLINK FENCE VINYL COATED	Linear foot
3' CHAINLINK GATE GALVANIZED	Each
3' CHAINLINK GATE VINYL COATED	Each

3-13-25 (DANVILLE SPCN)

**cn601-D00001-01 SECTION 601—SELECTIVE TREE REMOVAL, TRIMMING, AND CLEANUP** is amended as follows:

**Section 601.01 – Description** is replaced by the following:

This work shall consist of selectively removing and disposing of trees when necessary for guardrail installation and performance.

Trees are defined as woody vegetation 12 inches or greater diameter breast height (DBH). Diameter Breast Height (DBH) is the diameter of the trunk or trunks of a tree measured at 4.5 feet above mean ground level at the base of the trunk or trunks. Instances where there is a dispute concerning a measurement due to a tree's excessive lean, location on a slope, or having multiple leaders, the method of measurement used shall be in accordance with the most recent version of the International Society of Arboriculture (ISA) Guide for Plant Appraisal.

Trees selected for removal and disposal will be noted on the plans, described elsewhere in the Contract, or as directed by the Engineer. No other trees shall be removed without prior approval of the Engineer. This work shall be accomplished by removing and disposing of fallen or undesirable trees; and removing the stumps by grinding or other means.

Removal and disposal of woody vegetation less than 12 inches (DBH), when necessary, shall be performed in accordance with Section 301 of the Specifications.

**Section 601.04 – Measurement and Payment** is replaced by the following:

**Selective tree removal** will be measured in units of each tree removed. Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Selective Tree Removal	Each

3-13-25 (Danville SPCN)

**cn512-000100-00** **TABLE V-1, ADT GROUPS** — The Specifications are amended to include the following table:

**TABLE V-1**  
**Average Daily Traffic (ADT) Groups**

Traffic Group	ADT	Traffic Group	ADT
I	0-9	X	2,000-2,999
II	10-24	XI	3,000-3,999
III	25-49	XII	4,000-4,999
IV	50-99	XIII	5,000-5,999
V	100-249	XIV	6,000-9,999
VI	250-399	XV	10,000-14,999
VII	400-749	XVI	15,000-19,999
VIII	750-999	XVII	20,000-29,999
IX	1,000-1,999	XVIII	30,000-39,999
		XIX	40,000 & over

7-12-16 (SPCN)

**DRUG-FREE WORKPLACE**– The Contractor shall:

- Provide a Drug-Free Workplace for the Contractor’s employees.
- Post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Contractor’s workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- State in all solicitations or advertisements for employees placed by or on behalf of the Contractor that the Contractor maintains a Drug-Free Workplace.
- Include the provisions of the foregoing clauses in every Subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each Subcontractor or vendor.

For the purposes of this provision, “Drug-Free Workplace” means a site for the performance of work done in connection with the Contract. The Contractor’s employees, and those of his Subcontractors, shall be prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession, or use of any controlled substance or marijuana during the performance of the Work.

7-3-19 (SPCN)



**SP109-000120-01****VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
PRICE ADJUSTMENT FOR STEEL**

July 2, 2019

The Department will adjust monthly progress payments up or down as appropriate for cost changes in steel used on specific items of work identified in the Contract according to this provision. The master list of standard Pay Items the Department has determined are eligible for steel price adjustment is posted on the Construction Division website.

Items eligible for steel price adjustment for this Project will be shown on Form C-21C, included with the Proposal. Only items on the form C-21C will be eligible for steel price adjustment. Non-standard Pay Items will not be eligible for steel price adjustment unless such steel items are project-specific modifications of items normally eligible, are clearly and specifically identified by a separate and distinct steel Pay Item, and the quantities present on the Project constitute major items of the work.

The Bidder shall submit Form C-21C to the State Contract Engineer no later than 15 calendar days after the date of Award Recommendation letter to identify those pay items to which he chooses to apply steel price adjustment. The Bidder may choose to have steel price adjustment applied to any, all, or none of the eligible items shown on Form C-21C. However, the Bidder's selection of items for steel price adjustment or non-selection (non-participation) may not be changed once he has submitted Form C-21C to the Department. Items the Bidder chooses for steel price adjustment must be designated by writing the word "Yes" in the column titled "Option" by each Pay Item chosen for adjustment. The Bidder's designations on Form C-21C must be written in ink or typed, and signed by the Bidder to be considered complete. Items not properly designated, or designated with "No" or left blank on the Bidder's C-21C form will automatically be removed from consideration for adjustment. No steel items will be eligible for steel price adjustment on this Project if the Bidder fails to return his Form C-21C on time.

Inventoried materials from the list of eligible items are specifically excluded for consideration. Items from the list of eligible items for which the Contractor has requested payment as Material on Hand according to Section 109.09 are also specifically excluded for consideration past the delivery date to the fabricator.

This provision shall apply only to material cost changes that occur between the date of the receipt of bids by the Department and the date the material is shipped to the fabricator. The Contractor, subcontractor, and supplier are required to place their purchase order for the steel items designated in this Contract for price adjustment within 30 calendar days after the date of execution of this Contract with the Department. The timeliness of the Contractor's response is also to ensure the receipt of such items in a timely manner that shall not adversely affect his progress schedule or Contract completion date. The items shall further be specifically stored, labeled, or tagged, recognizable by color marking, and identifiable by Project for inspection and audit verification immediately upon arrival at the fabricator.

The Contractor shall submit documentation to the Engineer for all items listed in the Contract for which the Contractor is requesting a steel price adjustment. This documentation shall consist of material price quotes, bid papers, or other similar type of documentation satisfactory to the Department and support the completion of the form establishing the average price per pound for the eligible steel bid item. The Contractor must use the format as shown with this provision; no other format for presenting this information will be permitted. The Contractor shall certify that all items of documentation are original and were used in the computation of the amount bid for the represented eligible Pay Items for the month bids were opened. This documentation shall support the base line material price ("Base Price") of the steel item only. No adjustment will be made for changes in other components of the item unit price, including, but not limited to, fabrication, shipping, storage, handling, and erection.

The Contractor will not be eligible for price adjustment of steel items if the Contractor fails to submit specifically required information (i.e., purchase order, price data, bill of lading, material information or other requested information) as noted herein.

Price adjustment of each qualifying item will only be considered if there is an increase or decrease in the cost of eligible steel materials in excess of 10 percent up to a maximum of 60 percent from the Base Price when compared with the latest published price index ("Price Index") in effect at the time material is shipped to the fabricator.

The Price Index the Department is using is based on The U.S. Department of Labor, Bureau of Labor Statistics, Producers Price Index (PPI), which measures the average price change over time of the specific steel eligible item from the perspective of the seller of goods. The specific PPI to be used to adjust the price for the eligible VDOT steel items is shown on the list posted on the Department's website. The PPI is subject to revision 4 months after original publication, therefore, price adjustments and payments will not be made until the index numbers are finalized.

Items under consideration for price adjustment will be compared to the steel category index items and the corresponding I.D. numbers in the master list of standard Pay Items eligible for steel price adjustment.

The price adjustment will be determined by comparing the percentage of change in index value beyond 10 percent above or below the index on the bid date to the index value on the date the steel material is shipped to the fabricator (Please see included sample examples). Weights and date of shipment must be documented by a bill of lading provided to the Department. The final price adjustment dollar value will be determined by multiplying this percent increase or decrease in the index (after 10%) by the represented quantity of steel shipped, by the Base Price per pound subject to the limitations herein.

**Price increase/decrease will be computed as follows:**

$$A = B \times P \times Q$$

- Where;
- A = Steel price adjustment in lump sum dollars
  - B = Average weighted price of steel submitted with bid on Project in \$ per pound
  - P = Adjusted percentage change in PPI average from shipping date to bid date minus 10% (0.10) threshold
  - Q = Total quantity of steel in pounds shipped to fabricator for specific Project

Delays to the work caused by steel shortages may be justification for a Contract time extension but will not constitute grounds for claims for standby equipment, extended office overhead, or other costs associated with such delays.

The Engineer will determine, and specify in the Change Order, the need for application of the adjustments herein to extra work on an individual basis.

This price adjustment is capped at 60 percent. This means the maximum "P" value for increase or decrease that can be used in the above equation is 50% (60%-10% threshold).

Calculations for price adjustment shall be shown separate from the monthly progress estimate and will not be included in the total cost of work for determination of progress or for extension of Contract time.

Any apparent attempt to unbalance bids in favor of items subject to price adjustment may result in rejection of the bid proposal.



20-Jan-05

**Steel Price Adjustment Sample Submission Form**  
 (All prices to be supported by project-specific quotes)

**BID DATE**

28-Apr-04

Bid Item 61720 High Strength Structural Steel

Supplier	Description of material	Unit price f.o.b supplier \$/lbs	Quantity In lbs.	Price Extension	Date of Quote
XYZ mill	Structural beams Various sizes (see quote)	\$0.28	1,200,000	\$336,000.00	21-Apr-04
ABC distributing	Various channel & angle shapes (see quote)	\$0.32	35,000	\$11,200.00	20-Apr-04

Total                      1,235,000    \$347,200.00

Average weighted price =                      \$0.2816

Note: All prices are to include any surcharges on materials quoted as if they are shipped in the month the bid is submitted. Vendors must include this surcharge along with their base price on their quotes.

20-Jan-05

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**Price Adjustment Sample Calculation (increase)**

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Project bid on April 28, 2004.

Project has 450,000 lb. of structural steel.

Orders placed in timely manner and according to contract.

Contractor's \*f.o.b. supplier price for the structural steel in bid is \$0.2816 per pound.                      \*free on board

Adjusted\*\* BLS Producers Price Index (PPI) most recently published average at time of bid is 139.6.

\*\* final change  
after 4 months

All steel shipped to fabricator in same month, October 2004.

Adjusted BLS PPI most recently published average for month of October is 161.1

Adjustment formula is as follows:

$$A = B \times P \times Q$$

- Where;
- A = Steel price adjustment in lump sum dollars
  - B = Average weighted price of steel submitted with bid on Project in \$ per pound
  - P = Adjusted percentage change in PPI average from shipping date to bid date minus 10% (0.10) threshold
  - Q = Total quantity of steel shipped to fabricator in October 2004 for this Project in pounds

$$B = \$0.2816$$

$$P = (161.1 - 139.6) / 139.6 - 0.10 = 0.054$$

$$Q = 450,000 \text{ lb.}$$

$$A = 0.2816 \times 0.054 \times 450,000$$

$$A = \$6,842.88 \text{ pay adjustment to Contractor}$$

20-Jan-05

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**Price Adjustment Sample Calculation (decrease)**

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Project bid on April 28, 2004.

Project has 450,000 lb. of structural steel.

Orders placed in timely manner and according to contract.

Contractor's \*f.o.b. supplier price for structural steel in bid is \$0.2816 per pound. \*free on board

Adjusted BLS Producers Price Index (PPI) most recently published average at time of bid is 156.6.

All steel shipped to fabricator in same month, October 2004.

Adjusted BLS PPI most recently published average for month of October is 136.3

Adjustment formula is as follows:

$$A = B \times P \times Q$$

- Where;
- A = Steel price adjustment in lump sum dollars
  - B = Average weighted price of steel submitted with bid on Project in \$ per pound
  - P = Adjusted percentage change in PPI average from shipping date to bid date minus 10% (0.10) threshold
  - Q = Total quantity of steel shipped to fabricator in October 2004 for this Project in pounds

$$B = \$0.2816$$

$$P = (156.6 - 136.3) / 156.6 - 0.10 = 0.030$$

$$Q = 450,000 \text{ lb.}$$

$$A = 0.2816 \times 0.030 \times 450,000$$

$$A = \$3,801.60 \text{ credit to Department}$$

VIRGINIA DEPARTMENT OF TRANSPORTATION  
MASTER LISTING OF  
STEEL MATERIAL ITEMS ELIGIBLE FOR PRICE ADJUSTMENT

**FOR REFERENCE ONLY – SEE FORM INCLUDED WITH BID FORMS FOR ELIGIBLE ITEMS UNDER THIS CONTRACT**

ITEM	ITEM DESCRIPTION	UNITS	BLS Series ID Number WPU used in \$ adjust.
00519	SHEET PILE, STEEL	SF	avg. 1017 & 101
00540	REINF. STEEL	LB	101704
00541	CORROSION RESISTANT REINF. STEEL CL. I	LB	101704
00542	EPOXY COATED REINF. STEEL	LB	101704
00560	STRUCTURAL STEEL JB-1	LB	avg. 1017 & 101
11030	REINF. STEEL BRIDGE APPR. SLAB	LB	101704
11181	PATCH.HYDR.CEM.CONC. PAVE.	SY	101704
13290	GUARDRAIL GR-8 (NCHRP 350 TL-3)	LF	avg. 1017 & 101
13292	GUARDRAIL GR-8A (NCHRP 350 TL-3)	LF	avg. 1017 & 101
13294	GUARDRAIL GR-8B (NCHRP 350 TL-3)	LF	avg. 1017 & 101
13310	GUARDRAIL TERMINAL GR-6 (NCHRP 350)	LF	avg. 1017 & 101
13312	GUARDRAIL TERMINAL GR-7 (NCHRP 350)	EA	avg. 1017 & 101
13315	GUARDRAIL TERMINAL GR-11	EA	avg. 1017 & 101
13320	GUARDRAIL GR-2	LF	avg. 1017 & 101
13323	GUARDRAIL GR-2A	LF	avg. 1017 & 101
13331	RAD. GUARDRAIL GR-2	LF	avg. 1017 & 101
13333	RAD. GUARDRAIL GR-2A	LF	avg. 1017 & 101
13335	GUARDRAIL GR-3	LF	avg. 1017 & 101
13345	ALTERNATE BREAKAWAY CABLE TERMINAL (GR-9)	EA	avg. 1017 & 101
13351	GUARDRAIL GR-8	LF	avg. 1017 & 101
13352	GUARDRAIL GR-8A	LF	avg. 1017 & 101
13353	GUARDRAIL GR-8B	LF	avg. 1017 & 101
13355	GUARDRAIL GR-10	LF	avg. 1017 & 101
13421	MEDIAN BARRIER MB-3	LF	avg. 1017 & 101
13450	MEDIAN BARRIER MB-5	LF	avg. 1017 & 101
13451	MEDIAN BARRIER MB-5A	LF	avg. 1017 & 101
13452	MEDIAN BARRIER MB-5B	LF	avg. 1017 & 101
13545	REINF. STEEL	LB	101704
13594	TRAF. BARR. SER. GUARD RAIL TER. GR-7	EA	avg. 1017 & 101
13594	TRAF. BAR. SER. GD. RAIL TER. GR-7	EA	avg. 1017 & 101
14502	REINFORCING STEEL	LB	101704
15290	PATCH.CEM.CONC.PAVE.TY.CRCP-A	SY	101704
15302	PATCH.CEM.CONC.PAVE. TY. II	SY	101704
15305	PATCH.CEM.CONC.PAVE.TY. IV-A	SY	101704
17323	GUARDRAIL BEAM	LF	avg. 1017 & 101
17325	RADIAL GUARDRAIL BEAM	LF	avg. 1017 & 101
17327	RUB RAIL	LF	avg. 1017 & 101
17342	STEEL TUBE GR-7	EA	avg. 1017 & 101
17348	BREAKAWAY POST GR-7	EA	101704
17353	CABLE GR-3	LF	avg. 1017 & 101
17381	POST (BENT PLATE OR S 75 X 8.5 STEEL) GR	EA	avg. 1017 & 101
22501	FENCE FE-W1	LF	avg. 1017 & 101
22643	FENCE FE-CL	LF	avg. 1017 & 101
22645	FENCE FE-CL VINYL COATED	LF	avg. 1017 & 101
23043	WATER GATE FE-4 TY.III	LF	avg. 1017 & 101
23501	FENCE FE-W1 (FABRIC ONLY)	LF	avg. 1017 & 101
45522	4" STEEL ENCASE. PIPE	LF	101706
45532	6" STEEL ENCASE. PIPE	LF	101706

ITEM	ITEM DESCRIPTION	UNITS	BLS Series ID Number WPU used in \$ adjust.
45562	16" STEEL ENCASE. PIPE	LF	101706
45572	18" STEEL ENCASE. PIPE	LF	101706
45582	24" STEEL ENCASE. PIPE	LF	101706
45584	24" JACKED STEEL ENCASMENT PIPE	LF	101706
45592	30" STEEL ENCASE. PIPE	LF	101706
50402	SIGN POST STEEL 3"	LF	101706
50404	SIGN POST STEEL 4"	LF	101706
50406	SIGN POST STEEL 6"	LF	101706
50410	SIGN POST STEEL 10"	LF	101706
50412	SIGN POST STEEL 12"	LF	101706
50414	SIGN POST STEEL 14"	LF	101706
50416	SIGN POST STEEL 16"	LF	101706
50418	SIGN POST STEEL 18"	LF	101706
51317	SIG. POLE MP-1 20' ONE ARM 30'	EA	101706
51319	SIG. POLE MP-1 20' ONE ARM 32'	EA	101706
51325	SIG. POLE MP-1 20' ONE ARM 38'	EA	101706
51327	SIG. POLE MP-1 20' ONE ARM 40'	EA	101706
51329	SIG. POLE MP-1 20' ONE ARM 42'	EA	101706
51331	SIG. POLE MP-1 20' ONE ARM 44'	EA	101706
51337	SIG. POLE MP-1 20' ONE ARM 50'	EA	101706
51339	SIG. POLE MP-1 20' ONE ARM 52'	EA	101706
51341	SIG. POLE MP-1 20' ONE ARM 54'	EA	101706
51344	SIG. POLE MP-1 20' ONE ARM 56'	EA	101706
51346	SIG. POLE MP-1 20' ONE ARM 58'	EA	101706
51347	SIG. POLE MP-1 20' ONE ARM 60'	EA	101706
51348	SIG. POLE MP-1 20' ONE ARM 62'	EA	101706
51368	SIG.POLE MP-1 20'TWO ARMS 36'& 42'	EA	101706
51400	SIG.POLE MP-1 CO.LU.ONE ARM 38	EA	101706
51402	SIG.POLE MP-1 CO.LU.ONE ARM 40	EA	101706
51408	SIG.POLE MP-1 CO.LU.ONE ARM 46	EA	101706
51412	SIG.POLE MP-1 CO.LU.ONE ARM 50	EA	101706
51414	SIG.POLE MP-1 CO.LU.ONE ARM 52	EA	101706
51416	SIG.POLE MP-1 CO.LU.ONE ARM 54	EA	101706
51418	SIG.POLE MP-1 CO.LU.ONE ARM 56	EA	101706
51420	SIG.POLE MP-1 CO.LU.ONE ARM 58	EA	101706
51422	SIG.POLE MP-1 CO.LU.ONE ARM 60	EA	101706
55162	LIGHTING POLE LP-1 30'-4'	EA	101706
55163	LIGHTING POLE LP-1 30'-6'	EA	101706
55166	LIGHTING POLE LP-1 30'-12'	EA	101706
55169	LIGHTING POLE LP-1 35'-6'	EA	101706
55171	LIGHTING POLE LP-1 35'-10'	EA	101706
55176	LIGHTING POLE LP-1 40'-8'	EA	101706
55185	LIGHTING POLE LP-2 TYPE A	EA	101706
55186	LIGHTING POLE LP-2 TYPE B	EA	101706
55187	LIGHTING POLE LP-2 TYPE C	EA	101706
55188	LIGHTING POLE LP-2 TYPE D	EA	101706
55189	LIGHTING POLE LP-2 TYPE E	EA	101706
55190	LIGHTING POLE LP-2 TYPE F	EA	101706
55192	LIGHTING POLE LP-2 TYPE H	EA	101706
60452	REINF. STEEL BRIDGE APPR. SLAB	LB	101704
61700	REINF. STEEL	LB	101704
61704	CORROSION RESISTANT REINF. STEEL	LB	101704
61705	EPOXY COATED REINF. STEEL	LB	101704

ITEM	ITEM DESCRIPTION	UNITS	BLS Series ID Number WPU used in \$ adjust.
61711	CORROSION RESISTANT REINF.STEEL CL. I	LB	101704
61712	CORROSION RESISTANT REINF.STEEL CL. II	LB	101704
61713	CORROSION RESISTANT REINF.STEEL CL. III	LB	101704
61750	STRUCT.STEEL HIGH STRG.PLT.GIRDERS	LB	avg. 1017 & 101
61811	STR.STEEL PLATE GIRDER ASTM A709 GRADE50	LB	avg. 1017 & 101
61812	STR.STEEL PLATE GIRDER ASTM A709 GRADE50	LB	avg. 1017 & 101
61813	STR.STEEL PLATE GIRDER ASTM A709 GRADEHPS50W	LB	avg. 1017 & 101
61814	STR.STEEL PLATE GIRDER ASTM A709 GRADEHPS70W	LB	avg. 1017 & 101
61820	STR.STEEL ROLLED BEAM ASTM A709 GRADE 36	LB	avg. 1017 & 101
61821	STR.STEEL ROLLED BEAM ASTM A709 GRADE50	LB	avg. 1017 & 101
61822	STR.STEEL ROLLED BEAM ASTM A709 GRADE50W	LB	avg. 1017 & 101
61990	STEEL GRID FLOOR	SF	avg. 1017 & 101
64110	STEEL PILES 10"	LF	avg. 1017 & 101
64112	STEEL PILES 12"	LF	avg. 1017 & 101
64114	STEEL PILES 14"	LF	avg. 1017 & 101
64768	DRIVING TEST FOR 12" STEEL PILE	LF	avg. 1017 & 101
64778	DRIVING TEST FOR 14" STEEL PILE	LF	avg. 1017 & 101
65200	REINF. STEEL	LB	101704
65204	CORROSION RESISTANT REINF. STEEL	LB	101704
65205	EPOXY COATED REINF. STEEL	LB	101704
65211	CORROSION RESISTANT REINF.STEEL CL. I	LB	101704
65212	CORROSION RESISTANT REINF.STEEL CL. II	LB	101704
65213	CORROSION RESISTANT REINF.STEEL CL. III	LB	101704
67086	PED. FENCE 6'	LF	avg. 1017 & 101
67088	PED. FENCE 8'	LF	avg. 1017 & 101
67089	PED. FENCE 10'	LF	avg. 1017 & 101
68091	CORROSION RESISTANT REINF.STEEL CL. I	LB	101704
68092	CORROSION RESISTANT REINF.STEEL CL. II	LB	101704
68093	CORROSION RESISTANT REINF.STEEL CL. III	LB	101704
68100	REINF. STEEL	LB	101704
68104	CORROSION RESISTANT REINF. STEEL	LB	101704
68105	EPOXY COATED REINF. STEEL	LB	101704
68107	STR.STEEL PLATE GIRDER ASTM A709 GRADE50	LB	avg. 1017 & 101
68108	STR. STEEL PLATE GIRDER ASTM A709 GR50W	LB	avg. 1017 & 101
68109	STR. STEEL PLATE GIRDER ASTM A709 GR.HPS50W	LB	avg. 1017 & 101
68110	STR. STEEL PLATE GIRDER ASTM A709 GR.HPS70W	LB	avg. 1017 & 101
68112	STR.STEEL ROLLED BEAM ASTM A709 GR.36	LB	avg. 1017 & 101
68113	STR.STEEL ROLLED BEAM ASTM A709 GR.50	LB	avg. 1017 & 101
68114	STR.STEEL ROLLED BEAM ASTM A709 GR. 50W	LB	avg. 1017 & 101
68115	STRUCT. STEEL	LB	avg. 1017 & 101
68270	REINF. STEEL BRIDGE APPR. SLAB	LB	101704
69060	SHEET PILES, STEEL	SF	avg. 1017 & 101
69091	CORROSION RESISTANT REINF.STEEL CL. I	LB	101704
69092	CORROSION RESISTANT REINF.STEEL CL. II	LB	101704
69093	CORROSION RESISTANT REINF.STEEL CL. III	LB	101704
69100	REINF. STEEL	LB	101704
69104	CORROSION RESISTANT REINF. STEEL	LB	101704
69105	EPOXY COATED REINF. STEEL	LB	101704
69110	STEEL PILES 10"	LF	avg. 1017 & 101
69112	STEEL PILE 12"	LF	avg. 1017 & 101
69113	DRIVING TEST FOR 12" STEEL PILE	LF	avg. 1017 & 101

**SP303-D00001-01****CITY OF DANVILLE  
SPECIAL PROVISION FOR  
TEST EXCAVATION**

October 18, 2018

**I. Description**

This work shall consist of excavation of test holes by hand digging or soft digging to ascertain the existence, location, elevation, size, type, and alignment of existing utilities or underground structures.

**II. General**

The City assumes no responsibility for the existence and/or location of any other utilities in the work area. It shall be the responsibility of the Contractor, to investigate and verify the existence and location of all utilities within the vicinity of the work.

The Contractor shall comply with all the provisions of the Virginia Underground Utility Damage Prevention Act (Section 56-265.14, et seq., Code of Virginia, 1950, as amended) and hold the City harmless against any loss, damages or claims of any nature whatsoever arising out of the Contractor's failure to comply with the requirements of the aforesaid act.

The excavation of test holes may, upon the approval and/or direction of the Engineer, be required to ascertain the existence, location, size, type, and alignment of existing utilities or underground structures. The dimensions of these test holes shall be the minimum required to effectively locate the utilities and underground structures.

**III. Definitions**

**Hand digging** means any excavation involving nonmechanized tools or equipment. Hand digging includes, but is not limited to, digging with shovels, picks, and manual post hole diggers, vacuum excavation or soft digging.

**Soft digging** means any excavation using tools or equipment that utilize air or water pressure as the direct means to break up soil or earth for removal by vacuum excavation.

**IV. Procedures**

1. At least forty-eight (48) hours prior to starting the work the Contractor shall verify the existence and location of all underground utilities, structures and associated appurtenances. The Contractor shall notify Miss Utility (VA811) at 811 or 1-800-552-7001 to locate all participating underground utilities. The Contractor shall be responsible for identifying all utilities in the work area which are not participating members of the one-call system. These utility operators shall be provided with a minimum forty-eight (48) hours notice to have their facilities located prior to starting the work.
2. After 48 hours, the Contractor may commence excavation only if Miss Utility is contacted to confirm that all utilities have either marked their underground line locations or reported that no lines are present within the vicinity of the excavation or demolition site. The Contractor must wait an additional 24 hours if any operators or contract locators have not responded to Miss Utility within the first 48 hours. Prior to commencing any excavation, the Contractor must inspect the site for clear evidence of unmarked facilities. If evidence of such facilities is present, the excavator must notify Miss Utility and wait an additional three (3) hours for the facilities to be marked.

3. If during the course of the excavation, a utility line has been exposed, before backfilling, the Contractor must inspect these facilities to ascertain if the facilities have been damaged. If damage of any kind is discovered or suspected, it is the Contractor's responsibility to notify the utility owner immediately.
4. The excavation of test holes shall be utilized as a means to ascertain the existence, location, elevation, size, type, and vertical alignment of existing utilities or underground structures. Failure to take such precautions may result in the Contractor adjusting the work or having the existing utility relocated at his own expense.
5. Unless otherwise approved by the Engineer, the dimensions of these test holes shall be a maximum of twelve by twelve (12x12) inches. The Contractor shall excavate test holes to evaluate the locations of the marked, indicated, or otherwise known utilities that may be crossed over or under by proposed pipe; in close proximity to proposed pipe or structures; or in conflict or located above or below proposed structures.
6. Excavation of test holes shall include cutting, breaking and removal of the pavement surface and excavation by soft digging of subsurface materials necessary to properly inspect the buried utilities or drainage structures. Excavation of subsurface materials shall be performed using conventional hand, vacuum and/or compressed air methods. Backhoes and other large equipment will not be permitted for the removal of pavement or excavation due to the dimensional limits of the test holes. All excavations and removals shall correspond to the limits as stated above.
7. All pavement and subsurface materials excavated as part of the work shall be recycled into the project or removed from the jobsite and properly and legally disposed of in accordance with the requirements of Federal, State, Local, and all applicable environmental regulations.
8. Restoration of surfacing for test holes shall be in accordance with the City of Danville Special Provision for Asphalt Patching of Existing Asphalt Surfaces or as directed by the Engineer.
9. Each crossing location indicated on the plans or profile sheets or otherwise indicated in the contract or by the Engineer shall be located by soft digging.
10. Once uncovered, the Engineer shall be notified and the elevation and location of each utility uncovered shall be reported to the Engineer in a form approved by him and shall serve as the basis of measurement and payment.
11. In the event that any gas lines, water lines, sanitary sewer lines, storm sewers and drains, electric lines, cables, conduit, and/or any other existing utility, either underground or above ground, are damaged by the Contractor during the prosecution of the work, the owner of the damaged utility shall be notified immediately. Any fine, penalty or costs associated with the repair of the damaged utility are the sole responsibility of the Contractor. The Contractor shall repair or replace any existing sanitary sewer or storm drain utility damaged or misaligned due to the work, to the satisfaction of the utility and the Engineer, at the Contractor's expense. A licensed plumber must perform all repairs to sewer service lines and customer water service lines at the Contractor's expense. All other utilities shall be repaired or replaced by the respective utility company(s) at the expense of the Contractor.



**V. Measurement and Payment**

**Test excavation** will be measured in units of each and paid for at the contract unit price per each. The price shall include all labor, tools, materials, equipment, traffic controls, surveying, excavation, sheeting/shoring, backfilling, compacting, disposal of surplus material and restoration of the disturbed area in kind, and reporting.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
UTILITY TEST PIT (UNPAVED)	Each
UTILITY TEST PIT (PAVED)	Each

**SP305-000100-01**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
 SPECIAL PROVISION FOR  
**SHOULDER RENOVATION**

October 3, 2016

**I. DESCRIPTION**

This work shall consist of renovating existing low (erosion or overlay) and high shoulders (debris buildup) and shoulders disturbed due to plant mix overlay or guardrail work as specified in the Contract Documents to provide finished shoulder designs and guardrail heights that conform to the Specifications, Standard Drawings, and Plans. For the purposes of this provision, machining shoulders and manual shoulder restoration shall be viewed as placing, grading, and compacting operations of approved shoulder materials performed by mechanized equipment or manually. Materials allowed for renovating shoulders shall include furnishing and delivery of these materials to the jobsite or to the location(s) designated in the Contract Documents.

**II. MATERIALS**

Shoulder material shall be either virgin aggregate base material (type and size as specified) or Shoulder Maintenance Material (SMM). SMM shall be: Aggregate Material; Crusher Run Aggregate; Aggregate Subbase or Base; Select Material; recycled materials including Reclaimed Asphalt Pavement (RAP) or Crushed Hydraulic *Cement* Concrete (CHCC); or combinations thereof, conforming to the followings grading when tested in accordance with VTM-25:

<b>% by Weight of Material Passing Sieve</b>		
<b>1-1/2 in</b>	<b>1 in</b>	<b>No. 4</b>
100	80-100	20-60

Shoulder Maintenance Material, if used, shall be 1-1/2 inch maximum size as determined visually, using VTM-25, or by field measurement. Shoulder Maintenance Material shall have a loose, unconsolidated consistency and shall not contain any clusters of materials that exceed the 1-1/2-inch grading requirement. Material out of conformance with the maximum size limitation will be rejected. However, a sample of material shall be tested for gradation using VTM-25; test results within the last year may be used for stockpile material.

Shoulder Maintenance Material, when comprised of blended aggregate, RAP, or CHCC, shall be thoroughly mixed (manipulated) and shall have a dappled appearance when placed, graded, and compacted.

The use of Shoulder Maintenance Material is subject to the limitations as described herein and elsewhere in the Special Provision Copied Note for Alternate Category Bid Items and Award of Contract included in the Contract.

**III. PROCEDURES**

The use of more than one type of approved material on uninterrupted runs of shoulder work will not be permitted.

The use of CHCC or any CHCC blended material as SMM will only be permitted in areas 3 feet in width or less and no more than 3 inches in compacted depth once placed.

Shoulder material shall be spread, graded, and compacted according to Section 305.03(e) of the Specifications, except as noted herein. Subgrade shaping will generally not be required unless directed by the Engineer. However, when shaping of the subgrade is required, the cost of such work shall be included in the cost of machining shoulders or manual shoulder renovation work.

The maximum compacted lift thickness of shoulder material (except CHCC or CHCC blends) shall be 6 inches. The acceptability of furnished and finished (compacted) shoulder material will be determined by visual inspection, field measurement, or a combination thereof, at the discretion of the Engineer.

Final pavement surface edge or final paved or stabilized shoulder surface edge shall include existing pavement not designated for overlay and completely compacted pavement overlays, and their corresponding shoulders.

The Contractor shall promptly remove and dispose of surplus shoulder material encountered as a result of shoulder renovation work as well as any shoulder material spilled, left or tracked on the pavement.

Grading for shoulder renovation shall be performed by the following methods:

**A. Machining shoulders** shall be performed in areas where there is no existing guardrail and none is scheduled to be placed or updated under this contract, in areas with existing guardrail where that guardrail will not be disturbed, in areas scheduled for new guardrail installation before new guardrail is installed, or in areas where existing guardrail will be removed in preparation for guardrail improvement or guardrail replacement. In each of these grading situations it is to be assumed grading can be performed by mechanized equipment unencumbered by existing or newly installed guardrail.

Machining shoulders shall include grading shoulders to appropriate slope and grade where sufficient material is present to renovate the existing shoulders, grading existing shoulders to fill in low areas after shoulder material has been placed, or grading down areas where high shoulders exist due to debris buildup.

Machining shoulders shall result in a uniformly finished slope to the shoulder break that conforms to the Standard Drawings and the included sketch after compaction. Renovated shoulders shall smoothly tie the graded shoulder edge elevation to the adjoining elevation of the final pavement surface edge and final paved or stabilized shoulder surface edge.

**B. Manual shoulder restoration** shall be used to renovate shoulders in areas where existing guardrail will be undisturbed by adjacent plant mix or other operations specified in the contract.

Manual shoulder restoration shall include grading shoulders around existing guardrail by hand or other intensive production methods to appropriate slope and grade where sufficient material is present to restore the existing shoulders, grading existing shoulders to fill in low areas after shoulder material has been placed, or grading down areas where high shoulders exists due to debris buildup.

Manual shoulder restoration shall result in a uniformly finished slope to the shoulder break that conforms to the Standard Drawings and the included sketch after compaction. Restored shoulder work shall smoothly tie the graded shoulder edge elevation to the adjoining elevation of the final pavement surface edge and final paved or stabilized shoulder surface edge.

**Note: Shoulder material specified in this Special Provision is the only allowable material for manual shoulder restoration work unless otherwise approved by the Engineer.**

Shoulder material (depending on the type of shoulder renovation operation specified in the Contract Documents or directed by the Engineer) shall be furnished and placed by the Contractor in low shoulder areas, then machined or manually graded off as necessary, and then compacted to provide a finished cross slope that conforms to the applicable Standard Drawings as well as the existing road profile grade.

Where guardrail is to be installed or reinstalled, the placement widths and limits of shoulder material shall be according to the detail requirements for the specific type of guardrail as designated in the Contract Documents and as shown in the Standard Drawings, the attached sketch, or as otherwise indicated in the Contract Documents. Guardrail height shall conform to the Standard Drawings for the applicable guardrail type once work is completed. This work shall proceed as directed by the Engineer.

**IV. MEASUREMENT AND PAYMENT**

**Machining shoulders** will be measured in linear feet along the adjacent edge of pavement and will be paid for at the Contract unit price per linear foot. The price shall include placing, grading, and compaction. This price shall also include removing and disposing of surplus, spilled, and tracked material resulting from the Contractor’s operations.

**Manual shoulder restoration** will be measured in linear feet along the adjacent edge of pavement specified in the Contract or directed by the Engineer, and will be paid for at the Contract unit price per linear foot. The price shall include placing, grading, and compaction. This price shall also include removing and disposing of surplus, spilled, and tracked material resulting from the Contractor’s operations.

**Virgin aggregate base material** will be measured in tons and will be paid for at the Contract unit price per ton. The price bid shall include furnishing and delivery.

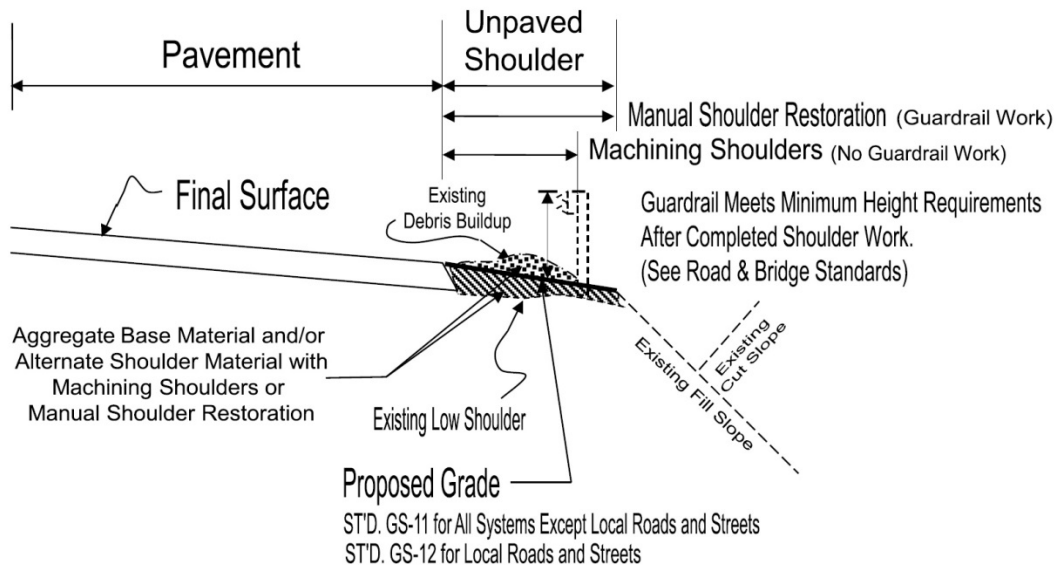
**Shoulder Maintenance Material, if requested and authorized for use**, will be measured in tons or square yards and will be paid for at the Contract unit price per ton as bid in Section 0002 of the Special Provision Copied Note for Alternate Category Bid Items and Award of Contract. The price bid shall include furnishing and delivery.

Tonnage for Shoulder Maintenance Material will be based on certified weigh tickets from the source of supply, or when supplied directly from the field, will be computed on the basis of 110 pounds per inch of depth per square yard, converted to tons.

Payment will be made under:

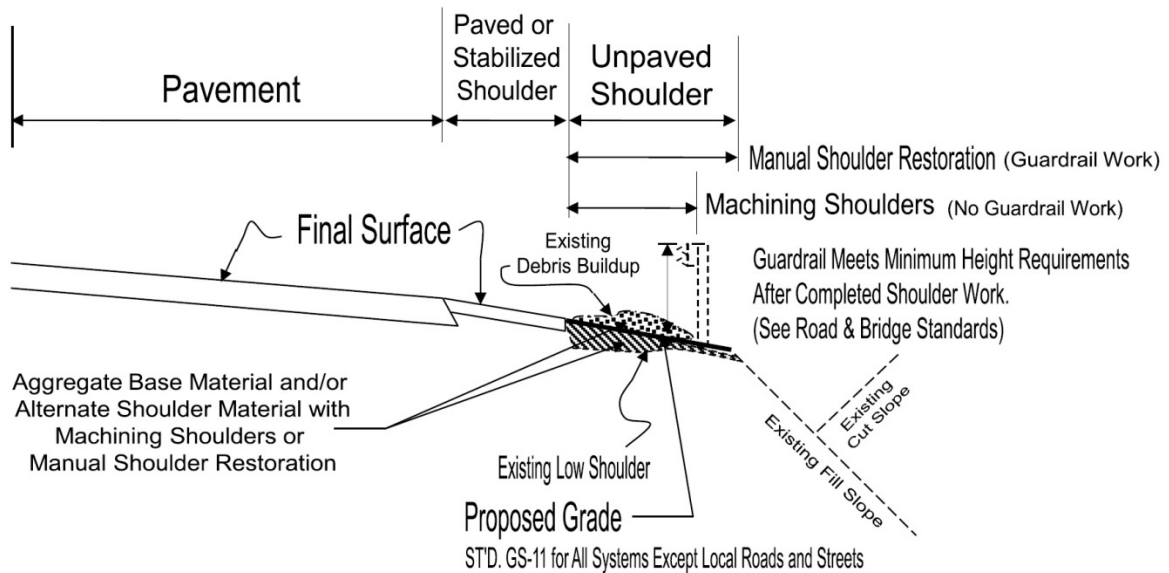
<b>Pay Item</b>	<b>Pay Unit</b>
Virgin Aggregate Base Material, Type ( ), No. ( )	Ton
Machining Shoulders	Linear Foot
Manual Shoulder Restoration	Linear Foot
Shoulder Maintenance Material	Ton

# SHOULDER RENOVATION



## Typical Section for Unpaved Shoulder

Not to Scale



## Typical Section for Paved or Stabilized Shoulder

Not to Scale

**SP505-000100-00**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**REPLACEMENT OF GUARDRAIL, MEDIAN BARRIER, IMPACT ATTENUATOR, AND GUARDRAIL  
TO BRIDGE ATTACHMENTS**

August 4, 2016

**I. DESCRIPTION**

This work shall consist of repairing or replacing damaged guardrail, median barrier, impact attenuators and bridge/guardrail attachments, in accordance with this provision, the plans and as directed by the Engineer.

**II. MATERIALS**

Guardrail and guardrail components shall conform to Section 505 of the Specifications.

Impact attenuator repair shall use replacement parts from the original manufacturing company.

Sign Panels shall conform to Section 701 of the Specifications.

Guardrail Delineators shall conform to Section 702 of the Specifications.

**III. PROCEDURES**

The Engineer will preapprove all locations requiring the drilling of holes in bridge railings or fixed objects. The Contractor shall repair any spalling due to the drilling operations in concrete fixed objects or concrete bridge railings and existing holes in concrete shall be patched with materials conforming to Section 218 of the Specifications.

The Contractor shall perform work in accordance with Section 505 of the Specifications, the *Road and Bridge Standards* and the standard drawings for "Recommended Method for Attaching Guardrail to Bridge Rails" (BR-GR). The Contractor may need to modify the method of attachment due to field conditions with the approval of the Engineer.

The Contractor shall reconstruct impact attenuators in accordance with the manufacturers' recommendations.

Pay items with the designation "Install" are materials furnished by the Department for the Contractors use in repair of guardrail installations in accordance with Sections 505 and 510 of the Specifications and as directed by the Engineer. The Engineer will indicate per site the quantity and materials to be installed and the location of the materials for the Contractors use. The Contractor shall make arrangements with the Area Headquarters 48 hours prior to picking up the materials for installation. All sites designated for use of "Install" materials will be within 25 miles of an Area Headquarters.

Damaged and salvaged guardrail materials shall become the property of the Contractor and shall be disposed of in accordance with Section 106 of the Specifications, unless otherwise specified.

All unused or abandoned guardrail post holes shall be backfilled to existing ground level with approved material placed in layers not more than 4 inches in height. Each layer shall be compacted by tamping. All unused or abandoned post holes in paved shoulder shall be backfilled, compacted

and sealed with a fine asphalt plant mix no larger than SM-9.5A. No measurement or payment will be made for this work all cost shall be included in other items of work.

Cracks in the shoulder as a result of driving or removing guardrail posts shall be repaired at no additional cost to the Department. In soil or aggregate stabilized shoulders, cracks and voids around the posts shall be filled with like material and thoroughly compacted. In asphalt paved or surfaced treated shoulders, cracks and voids around post shall be filled, compacted, and sealed with fine asphalt plant mix no larger than SM-9.5A. No measurement or payment will be made for this work all cost shall be included in other items of work.

The Contractor shall ensure all existing guardrail and end treatments left in place are correct and all bolts, are torqued properly and cables are taut. GR-9 end treatments with 4" channel shall not be repaired, but shall be replaced with new terminals that conform to Section 505.03 of the Specifications.

All guardrail to be removed shall start at the run off end and proceed to the run on end terminal, unless otherwise approved by the Engineer.

Guardrail installation shall start at the run on end terminal and proceed to the run off end, unless otherwise approved by the Engineer.

All guardrail that is removed during the course of the work day shall be replaced the same work day, unless otherwise approved by the Engineer.

No fixed objects, which includes but not limited to bridge parapet walls, piers, blunt ends, sign structures, shall not be left unprotected. The Contractor shall use an approved NCHRP 350 approved, temporary guardrail terminal or impact attenuator service before the end of each workday to protect traffic from the fixed object. No measurement or payment will be made for temporary guardrail terminal or impact attenuator service, all cost shall be included in other items of work. The Contractor shall plan and prosecute the work accordingly.

No uncompleted sections of guardrail shall be left over weekends or holidays, unless otherwise approved by the Engineer. The Contractor shall plan and prosecute the work accordingly.

All aggregate and other material placed at the guardrail terminal end section shall be included in the pay item "guardrail terminal site preparation," according to Section 505 of the Specifications.

Build-up or debris under existing guardrail in areas where guardrail is to be replaced shall be removed to the original shoulder cross slope, in accordance with the contract Special Provisions.

Reset existing guardrail shall require the removal and disassembly of the existing w-beam and blockouts to redrill the post for the reassembly of the blockouts and w-beam to the required height specified. In the event the existing post or blockouts are determined non-compliance with the standard drawings or specifications new post or blockouts will be required and will be measured and paid for separately.

#### IV. MEASUREMENT AND PAYMENT

**Guardrail, Reuse Guardrail, Radial Guardrail, Median Barrier, Radial Median Barrier, Cable Barrier, Guardrail Terminal, Median Barrier Terminal and Fixed Object Attachment** will be measured and paid for in accordance with Section 505 of the Specifications.

**Remove Guardrail, Reset Guardrail and Install Guardrail** will be measured and paid for in accordance with Section 510 of the Specifications.

**Sign Panel and Guardrail Delineator** will be measured and paid for respectively in accordance with Sections 701 and 702 of the Specifications.

**Drill Hole** will be measured in units of each and will be paid for at the contract unit price per each, which unit price shall include drilling of hole, repairing spalled areas, and patching abandoned holes.

**Re-Tension Existing Cable GR.** will be measured in units of each per cable system and will be paid for at the contract unit bid price per each for the standard specified, which shall include re-tensioning the existing cable.

The items below will include removal and disposal of existing guardrail components in the unit price bid.

**Guardrail Post, Guardrail Blockout and Offset Block** will be measured in units of each for the type and standard specified and will be paid for at the contract unit price per each which price shall include furnishing and installing post, blockout and offset block and hardware.

**W Beam Terminal Connector, W Beam End Section and Terminal Connector** will be measured in units of each for the standard or type specified and will be paid for at the contract unit price per each, which shall include furnishing and placement, and mounting hardware.

**Rubrail** will be measured in units of linear feet for the type specified and will be paid for at the contract unit price per linear foot, which shall include furnishing and placement of type rubrail specified, and mounting hardware.

**Guardrail Beam and Radial Guardrail Beam** will be measured in units of linear feet for the type and standard specified and will be paid for in units of linear foot, which unit price shall include furnishing the type and standard beam specified, and mounting hardware.

**Plate** will be measured in units of each for the type and standard specified and which unit paid shall include furnishing and placing the specified plate and mounting hardware.

**Cable** will be will be measured in units of linear feet for the type and standard specified and will be paid for in units of linear foot, which unit price bid shall include furnishing the type and standard cable specified, and mounting hardware.

**Realign Post** will be measured in units of each and will be paid for at the contract bid price per each, which unit price bid shall include disconnecting and reconnecting rail and realigning the post.

**BR-GR Attachment** will be measured in units of each, for the type specified per attachment location and will be paid for at the contract unit bid price per each attachment, which shall include furnishing and installing guardrail, blockouts, connector, and hardware.

**Steel Tube** will be measured in units of each for the type and standard specified and will be paid for at the contract bid price per each, which shall include furnishing and placing of the steel tube, and excavation.

**Assembly** will be measured in units of each for the type and standard specified and will be paid for at the contract unit bid price per each, which shall include furnishing and placing the specified assembly.



**Cable Assembly & Anchor Plate** will be measured in units of each for the type and standard specified and will be paid for at the contract unit bid price, which shall include furnishing and installing the cable assembly and anchor plate for the type and standard specified, and hardware.

**End Post Caps** will be measured in units of each for the standard specified and paid for at the contract unit bid price per each, which shall include furnishing and installing end post caps, and hardware.

**Hook Bolt** will be measured in units of each for the standard specified and will be paid for at the contract unit bid price per each, which unit price bid shall include furnishing and installing hook bolts.

**Angle** will be measured in units of each for the type and standard specified and will be paid for at the contract unit bid price per each, which shall include furnishing and installing the specified angle, and hardware.

**Soil Plate** will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified plate, and hardware.

**Pipe Sleeve** will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified pipe sleeve, hardware and removal and disposal of existing pipe sleeve.

**Cable Anchor Bracket** will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified cable anchor bracket, and hardware.

**Strut** will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified strut, and hardware.

**Guardrail Extruder** will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified guardrail extruder, and hardware.

**Impact Attenuator Cartridge** will be measured in units of each for the original manufacturers' replacement cartridge and will be paid for at the contract unit price per each for the original manufacturers replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Nose Section** will be measured in units of each for the original manufacturers' replacement nose section and will be paid for at the contract unit price per each for the original manufacturers' replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Diaphragm** will be measured in units of each for the original manufacturers' replacement diaphragm and will be paid for at the contract unit price per each for the original manufacturers' replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Frame** will be measured in units of each for the original manufacturers replacement frame and will be paid for at the contract unit price per each for the original manufacturers' replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Side Panel** will be measured in units of each for the original manufacturers' replacement side panel and will be paid for at the contract unit price per each for the original manufacturers' replacement part

and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Sand Barrel** will be measured in units of each for the original manufacturers replacement sand barrel and will be paid for at the contract unit price per each for the original manufacturers replacement parts and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Reset Existing Guardrail** will be measured in units of linear feet and will be paid for at the contract unit price per linear foot. This price shall include removal of guardrail w-beam and blockouts, drilling new hole(s) in the existing post, reinstalling the w-beam and blockouts, with new hardware.

**Remove and Relocate Existing Guardrail (Standard)** will be measured in units of linear feet for the standard and type specified and will be paid for at the contract unit price per linear foot for the standard and type specified. This price shall include disassembly and removal of guardrail w-beam, post, blockouts, hardware, backfilling existing postholes, repairing damage to shoulders, curbing, curb backup material or concrete, transporting and storing; repairing and installing salvaged beam; and installing guardrail post, blockouts, w-beam, delineators, concrete, and new hardware.

**Reuse Existing Guardrail W-Beam (Standard)** will be measured and paid for at the contract unit price per linear foot. The price bid shall include salvaging and installing existing W-beam, transporting w-beam to the site, furnishing and installing new post, blockouts, delineators, new hardware.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
(Type) Post (Standard)	Each
Guardrail Blockout	Each
Guardrail Beam	Linear Foot
Radial Guardrail Beam	Linear Foot
Cable (Standard)	Linear Foot
Offset Block (Type)	Each
Terminal Connector (Type or Standard)	Each
W Beam End Section (Type)	Each
Rubrail (Type)	Linear Foot
BR-GR Attachment (Type)	Each
Drill Hole	Each
(Type) Plate (Standard)	Each
Realign Post	Each
Steel Tube (Standard)	Each
(Type) Assembly (Standard)	Each
Cable Assembly & Anchor Plate (Standard)	Each
End Post Caps (Standard)	Each
Hook Bolt (Standard)	Each
(Type) Angle (Standard)	Each
Re-Tension Existing Cable GR. (Standard)	Each
Soil Plates (Standard)	Each
Pipe Sleeve (Standard)	Each
Cable Anchor Bracket (Standard)	Each
(Type) Strut (Standard)	Each
Guardrail Extruder (Standard)	Each
Impact Attenuator Cartridge	Each
Nose Section	Each

Diaphragm	Each
Side Panel	Each
Frame	Each
Sand Barrel	Each
Reset Existing Guardrail	Linear Foot
Remove And Relocated Existing Guardrail (Standard)	Linear Foot
Reuse Existing Guardrail W-Beam (Standard)	Linear Foot

**SP505-000200-00**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**GUARDRAIL TERMINAL SITE PREPARATION**

October 2, 2020

**I. DESCRIPTION**

This work shall consist of preparing run-on guardrail terminal sites in accordance with the Plans, Specifications, and Standard Drawings, and as directed by the Engineer.

**II. MATERIALS**

**Aggregate Material** shall be No. 21A or No. 21B conforming to Section 208 of the Specifications.

**III. PROCEDURES**

Guardrail terminal sites shall be prepared in accordance with Sections 301, 303, 305 and 505 of the Specifications and in accordance with the Standard Drawings. Site preparation requirements for the NCHRP-350 compliant GR-6, GR-7, or GR-9 terminals and the GR-MGS-2 terminal are included in the Standard Drawings for each terminal.

The type of site preparation required will be denoted on the Plans. The types are defined as follows:

- **Guardrail terminal site preparation (minor)** will be required for sites where minimal grading is required to provide the site preparation detailed in the Standard Drawing for the proposed terminal. The existing sites closely conform to the details in the Standard Drawings and require approximately 6 tons or less of aggregate base material (Type I or II, No. 21A or 21B) to prepare the terminal site.
- **Guardrail terminal site preparation (4-ft moderate)** will be required for sites where the Plans require GR-MGS2 terminals to be installed using the “limited use site preparation requirements” of Standard GR-MGS2, requiring a four-foot level bench area as measured from the face of the GR-MGS2 rail to the hinge point. These sites should require approximately between 6 and 16 tons of aggregate base material (Type I or II, No. 21A or 21B) to prepare the terminal site.
- **Guardrail terminal site preparation (6-ft moderate)** will be required for sites where the Plans require GR-MGS2 terminals to be installed using the “site preparation requirements” of Standard GR-MGS2, requiring a six-foot level bench area as measured from the face of the GR-MGS2 rail to the hinge point. These sites should require between 16 and 35 tons of aggregate base material (Type I or II, No. 21A or 21B) to prepare the terminal site as required on the Plans.

The quantity range of aggregate base material listed above is intended to show scope and scale of the amount of grading work that could be needed to establish the site prep. In addition to, or in place of aggregate base material, borrow material may be used for grading sites, if approved by the Engineer. Guardrail terminal sites shall be fertilized and seeded in accordance with Section 603 of the Specifications with the seed mixes and fertilizer applied at the rates detailed in the Plans or as directed by the Engineer.

**IV. MEASUREMENT AND PAYMENT**

**Guardrail terminal site preparation** will be measured in units of each per site and will be paid for at the Contract each price. This price shall include: clearing and grubbing; excavating; backfilling holes; placing fill material; benching existing slopes; all required erosion and siltation control measures; and

restoring site including fertilizing and seeding. The cost of mobilizing equipment and material shall be included in the Guardrail terminal site preparation price.

**Aggregate base material** used for terminal site preparation, and for shoulder restoration for the guardrail runs downstream of the terminal will be measured in tons and paid for at the Contract ton price. This price shall include furnishing, delivering, placing, compacting, and grading the material; and removing and disposing of surplus, tracked, and spilled material resulting from the Contractor's operations.

**Borrow excavation** used for terminal site preparation, and for shoulder restoration for the guardrail runs downstream of the terminal will be measured in cubic yards in accordance with Section 303.06(a)2 of the Specifications and will be paid for at the Contract cubic yard price. This price shall include furnishing, delivering, placing, compacting, and grading the material; and removing and disposing of surplus, tracked, and spilled material resulting from the Contractor's operations.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Guardrail Terminal Site Preparation (Type)	Each
Aggregate Base Material (Type and No.)	Ton
Borrow excavation	Cubic yard

**SP512-000130-00**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**EMPLOYMENT OF PORTABLE TEMPORARY RUMBLE STRIPS**

January 24, 2019

**VI. Description**

This work shall consist of employing Portable Temporary Rumble Strips (PTRSs) in support of work-zone flagging operations at locations or times designated herein, on the Plans, in the VWAPM, or as directed by the Engineer. A PTRS is a transverse rumble strip that consists of intermittent, narrow, transverse areas of rough-textured or slightly raised or depressed surface that extends across the travel lane to alert drivers to unusual vehicular traffic conditions. PTRSs are not required during emergency work, or during rain, snow, or icy weather conditions, as determined by the Engineer.

**VII. Materials**

**PTRSs** shall be made of rubber or recycled rubber and the color shall be orange or black. Colors shall not be mixed within one work zone. It shall have a recessed, raised or grooved design to prevent movement and hydroplaning. A PTRS shall consist of hinged segments of equal length that prevent separation while in use. The combined usable length of the PTRS shall be between 10 feet 9 inches and 11 feet. The width of the PTRS shall be 12 to 13 inches. The maximum height of the PTRS shall be 1 inch; and the minimum height shall be 5/8 inch. The weight of each roadway strip shall be a minimum of 100 lbs. to a maximum of 120 lbs. The leading and departing edge taper shall be between 12 and 15 degrees. Each roadway length of the PTRS shall have either a minimum of one cutout handle in the end of the rumble strip, or an interlocking segment which can be used as a handle for easy deployment or removal.

**VIII. Requirements for Employment**

PTRSs shall be employed in accordance with the VWAPM when all of the following conditions are met:

- Work operations involving flaggers occurring on a two-lane roadway during daylight hours
- The duration of the activity at a location is greater than 3 hours but less than 72 consecutive hours
- Existing speed limit is 35 MPH or greater
- Existing roadway has a marked centerline

PTRSs shall not be used on loose gravel, bleeding asphalt, heavily rutted pavements as determined by the Engineer, or unpaved surfaces.

PTRSs shall be installed in advance of horizontal curves if determined necessary for driver visibility by the Engineer. PTRSs installed at the beginning of a non-stationary flagging operation in accordance with the VWAPM will not require repositioning as the work advances.

**IX. Installation and Employment**

The manufacturer of the PTRS shall provide a signed affidavit that states the PTRS is able to withstand being run over by an 80,000 pound vehicle and retain its original placement with minor incidental movement of 6 inches or less during an 8 hour deployment. Incidental movement of the PTRS shall be parallel with other rumble strips in an array but shall not move so that its placement compromises the performance and safety of the other rumble strips, workers or the traveling public.

PTRS shall be used in arrays of three rumble strips at the center to center spacing shown on the Typical Traffic Control figure in the VWAPM, placed transversely across the travel lane, without intruding into the opposing travel lane. . The PTRS shall be installed without the use of adhesives or fasteners.

The PTRS shall be repositioned ahead of queueing traffic if directed by the Engineer.

**X. Measurement and Payment**

**Portable Temporary Rumble Strip Array** will be measured in days per array and will be paid for at the Contract day price. This price shall include installing, maintaining, removing devices when no longer required, and relocating throughout the day.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Portable Temporary Rumble Strip Array	Day

SS235-002020-01

May 6, 2022

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2020 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 235 – RETROREFLECTORS**

**SECTION 235 – RETROREFLECTORS** of the Specifications is deleted and replaced as follows:

**235.01 – Description**

Retroreflectors are retroreflective surfaces that redirect the vehicle headlights back to the driver to delineate the road. The retroreflective surface may consist of a plastic prismatic reflector or retroreflective sheeting. Retroreflectors are used with:

- Pavement Markers (Permanent and Temporary)
- Delineators (Guardrail, Barrier, Flexible Post, Road Edge)

Pavement markers and Delineators shall be approved by reviewing performance data from one or both of the following test programs:

- (a) AASHTO's National Transportation Product Evaluation Program (AASHTO/NTPEP). Test data values used for approval may be based upon the data generated per the applicable NTPEP Work Plan.
- (b) VDOT Test Facility – VDOT may elect to evaluate performance from their own test facility.

**235.02 – Detail Requirements**

- (a) **Inlaid Pavement Markers** – Holders for inlaid pavement markers shall be made of polycarbonate plastic nominally 4.75 inches wide excluding breakaway tabs, and shall be able to hold retroreflectors from the Department's Approved List 22 under Inlaid Pavement Markers. The top of the the retroreflector shall be 1/8 inch below the pavement surface when installed with the breakaway positioning tabs resting on the pavement surface.

Retroreflectors for inlaid pavement markers shall have a nominal width of 4 inches excluding the holders.

- (b) **Pavement Markers (Temporary)** – Refer to VTM-70 for testing and approval
- (c) **Pavement Markers (Permanent)** – Refer to VTM-70 for testing and approval
- (d) **Delineators** – Refer to VTM-70 for testing and approval
- (e) **Aluminum panels for delineators** shall be at least 0.064 inch thick conforming to ASTM B-209, alloy 5052.



SS236-002020-01

May 14, 2021

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2020 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 236 – WOOD PRODUCTS**

**SECTION 236 WOOD PRODUCTS** of the Specifications is amended as follows:

**236.02 – Detail Requirements** is replaced with the following:

- (a) **Structural timber and lumber** shall conform to AASHTO M168. The species and grade of structural lumber shall be as shown on the plans. .

Except as otherwise specified, the species and grade of structural lumber, timber, and posts for the following applications shall be as follows:

1. **Bridges** shall be at least 1,550(psi) Fb (Fiber Bending) and:
    - 5 inch by 5 inch and larger: Southern Pine, No. 1 Dense.
    - 2 inch through 4 inch by 2 inch through 4 inch: Southern Pine, No. 1 Dense.
    - 2 inch through 4 inch by 5 inch and through 6 inch: Southern Pine, Non-Dense Select Structural
    - 2 inch through 4 inch by 8 inch only: Southern Pine, Non-Dense Select Structural.
    - 2 inch through 4 inch by 10 inch only: Southern Pine, Select Structural.
    - 2 inch through 4 inch by 12 inch only: Southern Pine, Select Structural.
  2. **Signs** shall be at least 1,100 (psi) Fb with material being dressed on all sides and:
    - 4 inches and less in the least dimension: Southern Pine, No. 2.
    - Over 4 inches in the least dimension: Southern Pine, No. 1.
  3. **Guardrail** shall be at least 1550 (psi) Fb Southern Pine, No. 1 Dense.
  4. **Fence** shall be Southern Pine, No. 2, for line, corner, and brace units.
  5. **Signalization and electrical service** shall conform to ANSI Class 05.1. Sawn material, both rough and dressed, shall be certified by the mill as to grade and shall be grade marked in accordance with the grading rules and basic provisions of the American Lumber Standards (PS-20-70) by a lumber grading or inspection bureau or agency approved by the Department. The grade mark shall be applied after dressing if the sawn material is dressed.
- (b) **Timber piles** shall conform to ASTM D25. Piles shall be clean peeled and have a butt circumference of at least 31 inches. The Engineer will accept piles for fender systems or other nonload bearing uses under the following criteria provided the piles can be properly driven: A straight line from the center of the butt to the center of the tip may lie partly outside the body of the pile, but the distance between the line and pile shall be not more than 1/2 percent of the length of the pile or 3 inches, whichever is smaller.

Points for timber piles shall be steel or cast iron and of a shape that will allow a secure connection to the pile and withstand driving.

Timber piles shall be branded prior to shipment with the supplier brand, year of treatment, species of timber and preservative treatment, retentions, class, and length. Brand symbols shall conform to AWWA M6.

- (c) **Wood Preservatives** - Wood preservatives shall conform to the requirements of the American Wood Protection Association (AWPA) U1 Standards. The AWWA designates the different wood exposure conditions in the following "Use Category System":

UC4A: Above ground, ground contact, fresh water contact or other conditions favorable to wood deterioration. (For Example: sign posts, fence posts and gates).

UC4B: Ground contact in severe environments, critically important components and salt water splash zones (For Example: bridge timbers, bridge decking, guardrail posts and offset blocks).

UC4C: Ground contact in very severe environments, or climates with an extremely high potential for deterioration of critical structural components.  
(For Example: foundation pilings).

UC5B: Wood exposed to salt and brackish water (For Example: piles, bracing and bulk-heads).

**Wood preservatives for Highway Construction and Hand-Contact Surfaces, listed in Tables 1 and 2 below** shall be used according to their suitability for the wood exposure condition and shall not be used interchangeably.

1. Wood used for **Highway Construction** (including but not limited to - bicycle trails, pedestrian overlooks, maintenance applications for posts (sign, fence, guardrail), bridge decking, gates, stair treads, and offset blocks, piles, timbers, and composites) shall be treated with the following preservative per **Table 1** below:

Chromated Copper Arsenate (CCA)

Creosote

Pentachlorophenol (PCP)

Dichloro Octyl Isothiazolin (DCOI)

<b>Table 1 – Southern Yellow Pine Treatments &amp; Retentions for Highway Construction per AWWPA</b>						
<b>Commodity Specifications</b>		<b>Use Category</b>	<b>Preservative Retentions</b>			
			<b>Waterborne (pcf)</b>	<b>Oil borne (pcf)</b>		
<b>Desig</b>	<b>Wood Usage</b>		<b>CCA</b>	<b>Creosote</b>	<b>PCP</b>	<b>DCOI</b>
<b>A</b>	<b>Sawn Products:</b> Boards, lumber and timber	UC4A	0.40	10.0	0.50	0.15
	Lumber and Timber products for bridge structures, bridge decking, gates, and stair treads	UC4C	0.60	12.0 *	0.50	0.2
<b>B</b>	<b>Posts:</b> Round, 1/2 and 1/4 round, building, fence and sign posts, poles < 16 feet in length.	UC4A	0.40	N/A	N/A	0.13
	Guardrail Posts and offset blocks	UC4B	0.50	N/A	N/A	0.17
<b>E</b>	<b>Round Timber Pilings:</b> Pilings and foundations for land and fresh water use	UC4C	0.80	12.0	0.60	0.2
<b>F</b>	<b>Wood Composites:</b> Plywood	UC4A	0.40	10.0	0.50	0.2
	**Glue laminated members (glue then treat)	UC4A	N/A	10.0	0.60	0.2
	**Glue laminated members (treat then glue)	UC4A	0.40	10.0	0.60	0.2
	Laminated veneer lumber	UC4A	N/A	10.0	N/A	N/A
<b>G</b>	<b>Marine Applications</b> (in or above salt water, brackish water, or tidal water) Plywood & Solid Sawn	UC5B	2.5	25.0	N/A	N/A
	Piles (outer zone/inner zone)	UC5B	2.5/1.5	20.0	N/A	N/A
	Sawn - Dual treatment: CCA with CR	UC5B	1.5	20.0	N/A	N/A
	Piles - Dual treatment: CCA with CR	UC5B	1.0	20.0	N/A	N/A

**\*Creosote (CR) preservative is not allowed for bridge decks.**

**\*\*For Glue laminated members Contractor must certify glue is compatible with treatment**

2. Wood used for **Hand-Contact Surfaces** (including but not limited to handrails, playground equipment, and picnic tables shall be treated with the following non-arsenical, water-borne preservatives per **Table 2** below:

Alkaline Copper Quat (ACQ)  
 Copper Azole (CA)  
 Micronized Copper Azole (MCA)

<b>Table 2 – Southern Yellow Pine Treatments &amp; Retentions for Hand-Contact Surfaces per AWP</b>					
<b>Commodity Specifications</b>		<b>Use Category</b>	<b>Preservative Retentions</b>		
<b>Designation</b>	<b>Wood Usage</b>		<b>Waterborne (pcf)</b>		
		<b>ACQ-A,B,C,D **</b>	<b>CA-B CA-C **</b>	<b>MCA, MCA-C **</b>	
<b>A</b>	<b>Sawn Products:</b> Boards, lumber and timber for picnic tables, handrails, playground equipment	UC4B	0.60	0.31	0.31
<b>F</b>	<b>Wood Composites:</b> Plywood for picnic tables, handrails, playground equipment	UC4B	0.60	0.31	0.31

**\*\* Note – ACQ, CA, MCA - Many wood treatments can be highly corrosive to metal under some conditions.** Fasteners or connectors that will be in contact with wood using ACQ, CA, MCA wood preservative treatments shall be either 304 or 316 stainless steel or hot-dipped galvanized steel that conforms to ASTM A153 or ASTM A653, Class G185. The Engineer will not permit the use of mechanically galvanized steel hardware or fasteners with ACQ, CA, MCA treated wood. Wood treated with ACQ, CA, MCA shall be separated from steel or aluminum beams or posts using a non-metallic, rubber flashing.

Treatment shall conform to these additional requirements:

1. Waterborne preservatives shall be used for timber where a clean surface is desirable. The moisture content of wood material shall be not more than 19 percent at the time of treatment.
2. Oilborne preservatives (Pentachlorophenol, Creosote, Copper Naphthenate) may be used for timber that is not to be painted. Timbers treated with Pentachlorophenol, Creosote, or Copper Naphthenate shall be free of excess preservative on the wood surface. VDOT allows oilborne preservatives for special projects.
3. Field Cuts to Treated Wood - All cuts, pile cutoffs, bolt holes, field cuts and damage which penetrates the treated zone shall be protected in accordance with AWP Standard M4. In cases in which the originally used preservative is not available for field use, copper naphthenate with minimum 2% copper metal shall be used. In all cases 3 heavy brushed applications of any preservative shall be used, with adequate penetration time between applications.
4. For any product not listed, refer to the latest AWP, U1 Standard.
5. Treated timber shall be supplied only from facilities on Approved List # 45.

SS305-002020-02

December 20,2023

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2020 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 305 – SUBGRADE AND SHOULDERS**

**Section 305.03(a)1 – Subgrade consisting of material in place** is replaced with the following:

1. **Subgrade consisting of material in place:** The subgrade area shall be scarified to a depth of 6 inches for a distance of 2 feet beyond the proposed edges of the pavement on each side. If sandy or other soil is encountered that will not compact readily, clay or other suitable material may be added or water applied in such quantity and within the allowable moisture content specified herein as will permit compaction of the subgrade. Subgrade material shall be compacted at optimum moisture, within  $\pm 20$  percent of optimum. The density of the subgrade when compared to the theoretical maximum density as determined in accordance with VTM-1 or VTM-12 shall conform to the following:

% Retained on No. 4 Sieve	Min. % Density
0-50	100
51-60	95
61-70	90

Percentages of material shall be reported to the nearest whole number.

Field density determination will be performed with a portable nuclear density gauge as specified in VTM-10, or by other approved methods as directed by the Engineer.

The Contractor shall then shape and check the subgrade to ensure a typical cross section and uniform grade prior to placement of any subsequent courses. If the subgrade becomes eroded or distorted prior to placement of material for subsequent courses, the Contractor shall scarify, reshape, and recompact it in accordance with the original requirements.

At the time of placing material for subsequent courses, the Contractor shall compact the subgrade to the required density, free from mud and frost, and to a condition that will permit compaction of subsequent courses without distortion.

The Contractor shall remove material from the unstable area and contaminated aggregate if the approved subgrade becomes unstable after placement of the subbase or base course and becomes mixed with the aggregate therein. The area shall then be backfilled and compacted, and the subsequent course thereon reconstructed.

**Section 305.03(e) – Shoulders** is replaced with the following:

**Shoulders:** Aggregate shoulder material shall be placed in accordance with the applicable specifications governing the type of material or construction being used and shall be compacted at optimum moisture, within  $\pm 2$  percentage points of optimum. Except when aggregate material No. 18 is used, the density of the aggregate shoulder material, when compared to the theoretical maximum density as determined in accordance with VTM-1, shall conform to the following:

% Retained on No. 4 Sieve	Min. % Density
0-50	100
51-60	95
61-70	90

Percentages of material will be reported to the nearest whole number. The above density requirements may be reduced by 5% per VTM-10 when using the portable nuclear density gauge in direct transmission mode.

When aggregate material No. 18 is used, the density, when compared to the theoretical maximum density, shall be not less than 90 percent or more than 95 percent.

Field density determination will be performed with a portable nuclear density gauge as specified in VTM-10, or by other approved methods as directed by the Engineer. When the total thickness of the layer for aggregate shoulder material being constructed is less than 4 inches, the minimum density requirement may not be enforced. For such cases, the aggregate shoulder should be compacted with three or more passes of a heavy-duty vibratory roller (e.g., a 10-ton smooth drum roller) or as approved by the Engineer. The aggregate shoulder should be compacted until it is apparent that no further densification can be obtained.

When it is determined by the Engineer that operating a roller/compactor on the shoulder material is a rollover hazard, the compaction requirements can be waived by the Engineer.

Aggregate in the guardrail section of fills, 1 foot from the roadway side of the guardrail face to the outside of the shoulder, shall be compacted until a density of at least 90 percent of the theoretical maximum density has been obtained. The asphalt mixture in this area shall be sealed immediately after the hot mixture is spread. Rolling of the asphalt mixture shall continue until roller marks are eliminated.

Stabilized and paved shoulders shall be constructed in accordance with the applicable specifications for pavement stabilization. If the aggregate shoulder material becomes overconsolidated prior to final finishing, it shall be scarified for the approximate depth, reshaped, and recompacted to conform to the specified grade and cross section.

Shoulders shall be constructed simultaneously with nonrigid types of base or surface courses other than asphalt concrete or in advance of the base or surface course so as to prevent spreading of base or surface materials. The area of shoulders 12 inches adjacent to the pavement shall be rolled simultaneously with the course being deposited.

Where base or surface courses are being constructed under traffic and are more than 1 inch in depth, shoulder material adjacent thereto shall be placed within 72 hours after placement of the base or surface course.

SS308-002020-01

July 13, 2021

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2020 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 308 – SUBBASE COURSE**

**SECTION 308 – SUBBASE COURSE** of the Specifications is amended as follows:

**Section 308.03 – Procedures** is replaced by the following:

Prior to placement of the subbase course, the subgrade shall be constructed in accordance with Section 304 and Section 305 as applicable.

Subbase material shall be mixed in an approved central mixing plant of the pugmill or other mechanical type in accordance with Section 208.05. The Contractor shall place the mixed material on the subgrade by means of an approved aggregate spreader. The Engineer will not require the use of such spreader when the material is being applied solely for the temporary maintenance of traffic or where the width of the course shown on the plans is transitional and impracticable to place with a spreader box.

The Contractor shall spread and compact the material in two or more layers of approximately equal thickness where the required thickness is more than 6 inches. The compacted thickness of any one layer shall be not more than 6 inches, however the Engineer may approve increasing the compacted depth of a single layer of the subbase course to 10 inches when vibrating or other approved types of special compacting equipment are used.

Each layer of subbase course shall be compacted at optimum moisture, within  $\pm 2$  percentage points of optimum. The density of each layer of subbase aggregate material, when compared to the theoretical maximum density as determined in accordance with VTM-1, shall conform to the following:

% Material Retained on No. 4 Sieve	Min. % Density
0-50	100
51-60	95
61-70	90

Percentages shall be reported to the nearest whole number. The above density requirements may be reduced by 5% per VTM-10 when using the portable nuclear density gauge in direct transmission mode.

The Department will perform field density determinations with a portable nuclear density gauge using the density control strip as specified in Section 304 and VTM-10, or by other approved methods as directed by the Engineer.

The Contractor shall scarify, reshape, and recompact the surface of the subbase if it becomes uneven or distorted and sets up in that condition. If the subbase when compacted and shaped shows a deficiency in thickness or if depressions occur in the surface, the Contractor shall scarify such sections at his own expense before additional material is added.

SS309-002020-01

July 13, 2021

VIRGINIA DEPARTMENT OF TRANSPORTATION  
 2020 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 309 – AGGREGATE BASE COURSE**

**SECTION 309 – AGGREGATE BASE COURSE** of the Specifications is amended as follows:

**Section 309.05 – Density Requirements** is replaced by the following:

The Contractor shall spread and compact the material in two or more layers of approximately equal thickness where the required thickness is more than 6 inches. The compacted thickness of any one layer shall be not more than 6 inches, however the Engineer may approve increasing the compacted depth of a single layer of the base course to 10 inches when vibrating or other approved types of special compacting equipment are used.

The Contractor shall compact each layer at optimum moisture within  $\pm 2$  percentage points of optimum after mixing and shaping. The density of each layer of base aggregate material, when compared to the theoretical maximum density as determined in accordance with VTM-1, shall conform to the following:

<b>% Material Retained on No. 4 Sieve</b>	<b>Min. % Density</b>
0-50	100
51-60	95
61-70	90

Percentages shall be reported to the nearest whole number. The above density requirements may be reduced by 5% per VTM-10 when using the portable nuclear density gauge in direct transmission mode.

The base course will be tested in place for depth and density. The Department will perform field density determinations with a portable nuclear density gauge using the density control strip as specified in Section 304 and VTM-10, or by other approved methods as directed by the Engineer.

The Contractor shall maintain the surface of each layer during the compaction operations in a manner such that a uniform texture is produced and the aggregates are firmly keyed. The Contractor shall uniformly apply water over the base materials during compaction in the amount necessary to obtain proper density.

Irregularities in the surface shall be corrected by scarifying, remixing, reshaping, and recompacting until a smooth surface is secured. The surface shall thereafter be protected against the loss of fine materials by the addition of moisture, when necessary, and shall be maintained in a satisfactory and smooth condition until accepted by the Engineer.

The Engineer will base acceptance of the aggregate base course for depth on the requirements of Section 308.



SS407-002020-02

November 1, 2022

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2020 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 407 – STEEL AND OTHER METAL STRUCTURES**

**SECTION 407 – STEEL AND OTHER METAL STRUCTURES** of the Specifications is amended as follows:

**Section 407.04 – Fabrication Procedures** is amended by replacing the seventh, eighth, and ninth paragraphs with the following:

The Contractor shall furnish a complete mill analysis showing chemical and physical results from each heat of steel for all units prior to fabrication. Before cutting, pieces of steel other than steel conforming to ASTM A709, Grade 36, that are to be cut to smaller-sized pieces shall be legibly marked with the ASTM A6 specification identification color code or the material specification designation. The identification color code of the latest system adopted under ASTM A6 shall be used to identify material. Any markings that indicate direction of roll shall be transferred to each new piece before cutting the new piece from the larger plate.

If requested by the Engineer, the Contractor shall furnish an affidavit from the fabricator certifying that the fabricator has marked and maintained the identification of steel in accordance with these specifications throughout the fabrication operation.

**Section 407.06(c) – Assembly of Structural Connections Using High-Strength Bolts** is amended by replacing the first paragraph with the following:

**Assembly of Structural Connections Using High-Strength Bolts:** Field connections shall be made with high-strength bolts 7/8-inch in diameter fabricated in accordance with ASTM F3125, Grade A325 unless otherwise specified. The Engineer will give consideration to the substitution of adequately designed welded connections if requested in writing by the Contractor.

**Section 407.06(c)1 – Bolts, nuts, and washers** is replaced with the following:

**Bolts, nuts, and washers:** Bolts, nuts, and washers shall conform to Section 226 and shall each be from one manufacturer on any one structure unless otherwise approved by the Engineer. In addition, each bolt, nut, and washer combination, when installed, shall be from the same rotational-capacity lot. Prior to installation, the Contractor shall perform a field rotational-capacity test on two nut, bolt, and washer assemblies for each diameter and length in accordance with VTM 135. Bolts fabricated in accordance with ASTM F3125, Grade A490 and galvanized bolts fabricated in accordance with ASTM F3125, Grade A325 shall not be reused. Retightening previously tightened bolts, which may have been loosened by the tightening of adjacent bolts, shall not be considered a reuse. Other bolts may be reused only if approved by the Engineer. Threads of plain (uncoated) bolts shall be oily to the touch when installed. Galvanized nuts shall be lubricated by lubricant containing a visible dye. Threads of weathered or rusted bolts shall be cleaned of loose rust, scale, and debris and relubricated. Lubricant shall be as recommended by the fastener manufacturer.

**Section 407.06(c)3 – Installation** is amended by replacing the second paragraph with the following:

When bolts fabricated in accordance with ASTM F3125, Grade A490 are used with steel having yield points less than 40 kips per square inch, hardened washers shall be installed under the nut and bolt head.

**Section 407.06(c)3 – Installation** is amended by replacing the eighth paragraph with the following:

The required minimum bolt tension is equal to 70% of specified minimum tensile strengths of bolts rounded to the nearest kip as specified in ASTM F3125 for Grades A325 and A490. *Snug tight* is

defined as the tightness attained when a power wrench begins to impact solidly or when the bolts are firmly hand tightened with a spud wrench such that the complete area of the connecting surfaces are brought into firm contact with each other. Snug tightening shall progress systematically from the most rigid part of the connection to the free edges, and then the bolts of the connection shall be retightened in a similar systematic manner as necessary until all bolts are simultaneously snug tight and the connection is fully compacted.

**Section 407.06(c)3b – Direct Tension Indicators (DTI)** is amended by replacing the first paragraph with the following:

**Direct Tension Indicators (DTI):** Direct tension indicator washers shall be used for all high strength bolts, and installation shall be in accordance with Section 407.06(c)3; however, the indicator washer shall not be considered a substitute for the required hardened washer under the turned element. The indicator washer may be considered a substitute for the hardened washer required under the unturned element when bolts conforming to ASTM F3125, Grade A490 are used with steel conforming to ASTM A709, Grade 36. Direct tension-indicator washers shall not be painted or coated with any epoxy or similar material prior to installation. The normal installation shall consist of the load indicator washer being placed under the unturned bolt head or unturned nut. However, if conditions require installation under the turned bolt portion, a hardened flat washer or nut face washer shall be fitted against the tension-indicating protrusions. Tension-indicating washers shall not be substituted for the hardened washers required with short-slotted or oversized holes but may be used in conjunction with them.

**Table IV-3 – Bolt Tension** is replaced with the following:

**TABLE IV-3  
Bolt Tension**

<b>Bolt Size</b>	<b>Required Min. Bolt Tension (lb.)</b>	
	<b>Grade A325 Bolts</b>	<b>Grade A490 Bolts</b>
1/2	12,000	15,000
5/8	19,000	24,000
3/4	28,000	35,000
7/8	39,000	49,000
1	51,000	64,000
1 1/8	56,000	80,000
1 1/4	71,000	102,000
1 3/8	85,000	121,000
1 1/2	103,000	148,000

**Section 407.06(i) – Finishing** is amended by replacing the third paragraph with the following:

Areas of weathering steel that are designated to be painted shall be cleaned and coated in accordance with Section 411.

**SS411-002020-01**

November 1, 2022

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2020 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 411 – PROTECTIVE COATING OF METAL IN STRUCTURES**

**SECTION 411 – PROTECTIVE COATING OF METAL IN STRUCTURES** of the Specifications is amended as follows:

**Section 411.06(a) – Shop Coating** is amended by inserting the following after the fourth paragraph:

Areas of weathering steel that are designated to be painted shall be thoroughly cleaned to no less than 6 inches outside the designated area and coated with an approved System B, Group I coating system.

SS512-002020-03

July 1, 2022

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2020 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 512 – MAINTAINING TRAFFIC**

**SECTION 512 – MAINTAINING TRAFFIC** of the Specifications is amended as follows:

**Section 512.02(f) – Temporary (Construction) signs** is replaced with the following:

**Temporary (Construction) signs** shall have retroreflective sign sheeting in accordance with Sections 247 and 701.

Sign substrates for rigid temporary signs and temporary overlay panels shall be fabricated of either aluminum at least 0.080-inches thick, conforming to Section 229.02(a); 0.4-inch-thick corrugated polypropylene; 0.4-inch-thick corrugated polyethylene plastic; or 0.079-inch-thick aluminum/plastic laminate as approved by the Engineer. Sign substrates shall be smooth, flat, and free of metal burrs or splinters.

Sign substrate materials for signs mounted on drums, Type 3 barricades, and portable sign stands shall be as specified below and shall be the same material that was used when the device was approved in accordance with National Cooperative Highway Research Program (NCHRP) Report 350 or MASH.

**Sign Substrates for Type 3 Barricades and Portable Sign Stands**

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Rollup sign

0.4 inch thick corrugated polypropylene or polyethylene plastic

0.079 inch thick aluminum/plastic laminate

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**Sign Substrates for Drums**

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0.4 inch thick corrugated polypropylene or polyethylene plastic

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**Section 512.03 – Procedures** is amended by replacing the sixth and seventh paragraphs with the following:

The Contractor shall correct ineffective or unacceptable work zone traffic control devices immediately unless allowed otherwise by the Contract.

The color of Automated Flagger Assistance Device trailers, arrow board trailers, portable traffic control signal trailers, ITS trailer equipment, and portable changeable message sign trailers and sign frames shall be either Virginia highway orange (DuPont Color No. LF74279 AT or color equivalent) or federal yellow. The back traffic facing trailer frame, where the signal and brake lights are located, shall be fully covered with 2 inch high retroreflective sheeting conforming to Section 247.02(c). The sheeting shall have alternating 11 inch wide vertical red stripes and 7 inch wide vertical white stripes.

The Contractor shall locate, remove, and dispose of all existing asphalt-embedded Snowplowable Raised Pavement Marker (SRPM) castings which lie within a travel lane that has been shifted during construction for three months or longer. The cavity left by the removal of the existing marker shall be cleaned of debris, filled with an approved mix design for resurfacing or material found on the Department's Approved List 78, and compacted before shifting traffic.

**Section 512.03(a) – Temporary Signs** is replaced with the following:

**Temporary Signs:** The Contractor shall furnish, install, remove, relocate, and maintain temporary signs and sign panels necessary for prosecution of the work which shall include but not be limited

to, maintenance of traffic, off project detour signs, and begin and end of road work signs for construction, maintenance, permit, utility, and incident management activities. Installation shall be in accordance with Section 701. The Contractor shall also furnish and install those signs not listed in the *VWAPM*, the *MUTCD*, or the Contract (such as “Turn Lane Open with arrow” and “Grooved Pavement Ahead”) that may be required by the Engineer.

Signs shall be fabricated in accordance with the *MUTCD*, *VWAPM*, the FHWA Standard Highway Signs and Markings book (including its Supplement), and the Virginia Standard Highway Signs book. If the Contractor proposes a sign message not included in the Plans, *VWAPM*, or *MUTCD*, then the Contractor shall submit a sign fabrication detail to the Engineer for approval before fabrication. The sign fabrication detail shall include sign size, legend, font, legend dimensions, radius, border, margins, sheeting type, and colors.

The Contractor shall relocate, cover, uncover, remove, and reinstall existing signs that conflict with the signs needed for maintenance of traffic. Covering of existing signs shall be accomplished in accordance with Section 701.03(d).

The Contractor shall ensure an unrestricted view of sign messages. The Contractor shall furnish and install flags for temporary signs, as directed by the Engineer; however flags will not be required for use on portable sign supports.

Sign location, lateral placement, and mounting height shall conform to the *VWAPM*, the *MUTCD*, the Contract, and as directed by the Engineer. The Contractor shall furnish all sign supports and hardware for use with temporary signs.

When the sign sequence is not provided in the plans, either by illustration or reference to a typical traffic control figure in the *VWAPM*, the Contractor shall submit a sketch of his proposed sign sequencing and positioning to the Engineer for approval before installation.

Temporary signs shall be mounted using wooden post supports, square tube sign post supports, or portable sign stands, except where noted otherwise on the Plans. Portable sign stands shall not be used longer than three consecutive days (72 continuous hours). Wooden and square tube post installations shall be in accordance with Standard Drawing WSP-1.

Portable sign stands manufactured on or before December 31, 2019 may be used if they are in good working condition, conform to NCHRP Report 350 Test Level 3 or MASH, and are a product shown on the Traffic Control Device Pre-Approval list. Portable sign stands manufactured after December 31, 2019 shall conform to MASH and shall be a product shown on the Department's Approved List for MASH Approved Products. The Contractor shall submit a certification letter stating the brands and models of portable sign stands to be used along with a copy of the certification letters indicating compliance with NCHRP Report 350 Test Level 3 or MASH. Portable sign stands shall support a 20 square foot sign in sustained winds of 50 mph or wind gusts of passing vehicles without tipping over, walking, or rotating more than  $\pm 5$  degrees about its vertical axis.

Portable sign stands shall include decals, stenciling, or some other durable marking system that indicates the manufacturer and model number of the stands. Such marking shall be of sufficient size so it is clearly legible to a person in a standing position.

The Contractor shall erect, maintain, move, and be responsible for the security of sign panels and shall ensure an unrestricted view of sign messages for the safety of traffic.

**Section 512.03(g)2b(1) – Drums** is replaced with the following:

**Drums** shall be round or partially round; made from plastic; have a minimum height of 36 inches; have a cross-sectional width no less than 18 inches in any direction; have a closed top; and shall conform to the VWAPM. Drums shall be designed to allow for separation of ballast and drum upon vehicular impact but not from wind and vacuum created by passing vehicles. The base of the unit height shall not exceed 5 inches. Two-piece drums may have a flared drum foundation, a collar not exceeding 5 inches in height and be of suitable shape and weight to provide stable support. One-piece drums that comply with these requirements may be used.

The Contractor shall furnish and install signs (Stop, Chevron, keep Right, etc.) for drums when directed by Engineer. Signs used on drums shall be tested for conformance with NCHRP 350, Test Level 3, and/or MASH requirements and shall be made of the same material used in the test. The Contractor may use other materials allowed by the FHWA acceptance letter when approved by the Engineer.

**Section 512.03(g)2b(3) – Direction indicator barricades** is deleted.

**Section 512.03(h) –Traffic Barrier Service** is replaced with the following:

**Traffic Barrier Service** shall be of sufficient length to provide anchorage and protection of traffic and personnel in work areas.

The Contractor shall begin continuous progressive prosecution of the work protected by the barrier once the barrier is in place until its completion. If the Contractor ceases to continuously prosecute such work, the Engineer may cause the Contractor to discontinue operations in other areas on the project and concentrate work efforts behind the traffic barrier service until that work is completed. The Contractor shall remove the traffic barrier service when the Engineer determines work is completed to the extent that traffic barrier service is no longer required.

While performing work activities, workers and equipment shall remain behind the protection of the traffic barrier service except as approved by the Engineer. Work outside traffic barrier service protection shall only proceed under the protection and direction of approved traffic control devices or flagger service to safeguard workers and traffic in advance of and at the point the traffic barrier service is opened for ingress or egress adjacent to the travel lane. The Engineer will not permit any equipment extending into an open travel lane.

Barrier openings for access to the work area may be provided only along tangent sections or along curved sections on the inside of traffic and shall be limited to the minimum length required for equipment access. The Contractor shall delineate and maintain normal pavement alignment at the barrier opening with Type D pavement marking.

At ingress openings, the exposed end of the barrier service shall be provided with a temporary impact attenuator approved by the Engineer. At egress openings, the exposed end shall be transitioned at a rate that complies with the VWAPM. For speeds below 30 mph, the transition flare rate shall be the same as that indicated for 30 mph. An impact attenuator will not be required at the exposed end of egress openings in barrier service provided the deflection angle between the pavement edge and the ends of the barrier service openings is 20 degrees or more.

Repairs to traffic barrier service shall match existing barrier so that positive connections can be maintained.

Delineators and barrier panels shall have reflectorized sheeting conforming to Section 247, shall be from the Department's Approved List 23, and shall be installed on traffic barrier service in accordance with the VWAPM.

The Contractor shall maintain the structural integrity of the barrier and its alignment while it is in use and shall maintain any associated warning lights, barrier delineators, barrier panels, and other devices in functional, clean and visible conditions at all times.

1. **Guardrail barrier service and terminal treatments** shall be installed in accordance with Section 505 except that the offset distance shall be as specified by the Engineer. The Contractor may be permitted to reuse guardrail or its hardware used for traffic barrier service guardrail for permanent installation provided the guardrail material is acceptable to the Engineer and conforms to Section 505 and the Standard Drawings for such guardrail. Marred galvanized surfaces shall be repaired in accordance with Section 233. Terminal treatments shall be permanently identified with a device specific Manufacturers' identification number by stamping or marking with a durable weather resistant material in accordance with § 33.2-274.1 of the Code of Virginia.
2. **Traffic barrier service** (concrete or longitudinal steel) shall be installed in accordance with the Plans and Standard Drawings or as directed by the Engineer, who will design according to Appendix A of the VWAPM. When traffic barrier ends at guardrail, fixed object attachment methods for construction zone shall be used to connect the barrier to the guardrail. Installation shall include additional guardrail posts and attachments as required. The traffic barrier, at a minimum, shall be tapered with the end of the barrier located behind the adjacent guardrail post in accordance with the VWAPM. Barrier connections shall be snug to prevent motion between sections.

Traffic barrier service used as a parapet shall be anchored as shown on the Plans or Section 500 of the Standard Drawings. Anchor holes in bridge decks shall be drilled with a rotary impact drill or other approved equipment that will limit damage to the deck. Anchor holes shall be located to avoid cutting reinforcing steel. Upon removal of the parapet, anchor holes shall be cleaned and filled with Type EP-4 or EP-5 epoxy mortar conforming to Section 243.

The Department will not permit the use of concrete traffic barrier service for permanent installations on bridge structures.

Traffic barrier service sections manufactured on or before December 31, 2019 and successfully tested to NCHRP 350 or MASH 2009 may be used until December 31, 2029, if they are in good working condition, and are a product shown on the Department's Approved Lists for NCHRP-350 or MASH Approved Products. Traffic barrier service sections manufactured after December 31, 2019, and all products in use after December 31, 2029, shall conform to MASH 2016 or its successor, and shall be from the Department's Approved List for Provisionally Approved MASH Products. All traffic barrier service runs shall be interlocking barrier of the same design or type.

The Contractor shall visually inspect all traffic barrier service shipped to a project before placing it in use. Concrete barrier sections shall be structurally sound with no concrete missing along the top, bottom, sides, or end sections of the barrier; no through cracks; and no exposed rebar. The Contractor shall promptly remove any traffic barrier service found by the Contractor or Engineer to be unacceptable due to inadequate structural integrity or functionality and replace the concrete barrier service at no cost to the Department.

Concrete barrier service shall be cleaned or coated sufficiently to afford good visibility and uniformity of appearance.

The Engineer will review and must approve the layout and anchorage method for job specific applications before the barrier is authorized for installation.

With the approval of the Engineer, the Contractor may use additional traffic barriers for his convenience but at his own expense.

**Section 512.03(i) – Impact Attenuator Service** is replaced with the following:

**Impact Attenuator Service:** The Contractor shall install impact attenuator service at locations shown on the Plans or designated by the Engineer. An object marker for temporary impact attenuator shall be installed on the attenuator according to the details shown in the Standard Drawings. The object marker for impact attenuator service shall have reflective sheeting conforming to Section 247 featuring alternating diagonal black and orange 3 inch stripes sloping downward at an angle of 45 degrees in the direction vehicular traffic is to pass. Impact attenuators shall be permanently identified with a device specific Manufacturers' identification number by stamping or marking with a durable weather resistant material in accordance with § 33.2-274.1 of the Code of Virginia.

Impact Attenuator Service not shown on the Plans may be used at the request of the Contractor for the Contractor's convenience at the Contractor's expense.

All impact attenuator service shall be reviewed and approved by the State Location and Design Engineer before installation.

Impact Attenuators manufactured on or before December 31, 2019 and successfully tested to NCHRP 350 or the MASH 2009 may continue to be used until December 31, 2029. Impact Attenuators manufactured after December 31, 2019 shall meet MASH 2016 and shall be from the Department's Approved List for Provisionally Approved MASH Products.

**Section 512.03(j)2c – Equipment** is replaced with the following:

12 inch aluminum or polycarbonate traffic signal head sections with backplates mounted in the vertical display arrangement. Signal head sections may be mounted in the horizontal display arrangement when approved by the Engineer. Signal head sections and backplates shall conform to Section 238.

**Section 512.03(k) – Temporary (Construction) Pavement Markings** is replaced with the following:

**Temporary (Construction) Pavement Markings** shall be installed at locations shown on the Plans, the *VWAPM*, and as directed by the Engineer. Temporary pavement markings shall conform to Section 704 and be selected from the Department's Approved List 17. Temporary pavement markings are classified as Type A or B (temporary markings), Type D, Class III (removable tape), Type E (non-reflective black removable tape), and Flexible Temporary Pavement Markers (FTPMS).

The Contractor shall install temporary pavement markings in accordance with the manufacturer's recommendations, except that if the manufacturer's recommendation for material thickness and quantity of beads is less than that used when the material was tested by the NTPEP, the minimum product application rates shall conform to the NTPEP approved test rates for the specific marking. The Contractor shall furnish a copy of the manufacturer's installation recommendations, including the NTPEP data for product thickness and glass bead quantities to the Engineer.

The Contractor shall maintain the temporary pavement markings and shall correct any deficient markings by reapplying markings as directed or needed. The Department considers deficient any temporary pavement markings that provide inadequate guidance to motorists due to inadequate retroreflectivity, color qualities, or adherence to the pavement. The Engineer will make a visual nighttime inspection of all temporary pavement markings to identify areas where markings have



inadequate retroreflectivity. Other deficient qualities may be identified by visual inspection at any time.

Markings that no longer adhere to the pavement, and may cause guidance problems for motorists, or are inadequately retroreflective as determined by the Engineer shall be replaced by the Contractor, with the following exceptions:

- Reapplication of skip line temporary pavement markings is not required unless the pavement marking does not adhere or inadequate retroreflectivity qualities are present for at least two consecutive skip lines.
- Reapplication of centerline (except skip lines) or edge line temporary pavement markings is not required unless the pavement marking does not adhere or inadequate retroreflectivity qualities are present for a continuous section of at least 70 feet.
- Reapplication of transverse markings is not required unless the pavement marking does not adhere or inadequate retroreflectivity qualities are present for a continuous section of at least 3 feet.

The Contractor may take retroreflectivity readings to counter visual observations by the Engineer as the basis for replacement of temporary pavement markings. These measurements shall be taken within 48 hours after the Contractor has been notified of the visual determination by the Engineer of deficient markings. The Engineer will grant additional time to the Contractor when inclement weather prevents accurate measurement of the temporary pavement markings.

The Contractor shall brush any form of debris from the marking before taking the retroreflectivity readings. Retroreflectivity measurements shall be taken in the presence of the Engineer using Contractor furnished equipment conforming to ASTM E1710. A copy of the operating instructions for the reflectometer shall be furnished to the Engineer before taking the measurements. The Contractor shall calibrate and operate the equipment in accordance with the manufacturer's instructions. The photometric quantity to be measured is the coefficient of retroreflected luminance ( $R_L$ ), which shall be expressed as millicandelas per square foot per footcandle (mcd/sf/ftc). Measurements shall be taken at three random locations within each area of markings that are suspected of being inadequately retroreflective. When the length of the questionable visually inspected area is greater than 1 mile, the Contractor shall take measurements at three locations per mile segment or portion thereof. Measurements for all lines shall be taken in the middle of the line horizontally. Measurements for skip lines shall be taken in the middle of their length. Measurements for transverse lines shall be taken outside of the wheel path locations. The Engineer will designate the locations along the line segments where the measurements shall be taken. The Contractor shall make a log of the measurements and their locations and provide a copy to the Engineer. When the average of the three readings for an area is below 100 mcd/sf/ftc, the Contractor shall reapply the markings as indicated.

Temporary (construction) pavement markings found in need of reapplication in accordance with these requirements shall be reapplied by the Contractor at no additional cost to the Department, with the following exceptions:

- Type D markings that have been under traffic for more than 180 days and requires reapplication will be paid for at the contract unit price when reapplied, unless the manufacturer's warranty coverage is still applicable.
- Markings damaged by the Department's snow removal or other maintenance and construction operations will be paid for at the contract unit price.

Deficient temporary pavement markings shall be replaced in the time specified in Section 704 for the maximum duration of unmarked roads.

Eradication for reapplication of Type A or B pavement markings is not required if allowed by the marking manufacturer, if the existing marking is well adhered and the total thickness of the existing and reapplied marking combined will not exceed 40 mils. If not well adhered, 90 percent of the existing markings shall be eradicated before reinstallation of the markings.

Existing Type D markings that are deficient (no longer retaining sufficient retroreflectivity) shall be removed before reapplication of new Type D, Class III markings.

1. **Temporary Type A or B pavement markings** shall be used where the roadway is to be resurfaced before changes in the traffic pattern or where pavement is to be demolished and traffic patterns will not change before demolition.
2. **Type D, Class III pavement markings** shall be used on final roadway surfaces or in areas where traffic patterns are subject to change before pavement is resurfaced, unless otherwise specified in the Contract.

On non-final pavement surfaces, the Contractor may install Type A or B pavement markings when the surface temperature of the pavement is below the manufacturer's minimum application temperature for a Type D pavement marking. In such cases, the Contractor shall select a Type A or B product known to perform the best under those temperature conditions. When a Type A or B pavement marking is used instead of a Type D pavement marking due to the surface temperature being below the manufacturer's minimum application temperature, the Contractor will be paid at the contract unit price for Type D pavement marking. This shall include the Type A or B marking and any necessary eradication of the Type A or B pavement marking.

3. **Type D, Class III contrast pavement markings** shall be used for all longitudinal temporary pavement markings on bridge decks and hydraulic cement concrete riding surfaces if all of the following are met:
  - The road has a speed limit of 45 MPH or greater.
  - The hydraulic cement concrete riding surface in question is at least 200 feet in length.
  - The temporary markings are planned for at least 30 days of use.

Type D, Class III contrast markings are not required for any markings that are parallel to and within one foot of existing guardrail or other longitudinal barrier.

4. **Type E pavement markings** shall be used to cover existing markings in accordance with paragraph (I) herein.
5. **Flexible Temporary Pavement Markers (FTPMS)** may be used to simulate a temporary pavement marking line on the final surface, as an interim measure until the permanent pavement marking can be installed. FTPMS shall not be used in substitution for lines slated to be in place for more than 30 days.

FTPMS shall conform to Section 235 and shall consist of products from the Department's Approved List 22. All FTPM's shall be new product. FTPMS are suitable for use up to one year after the date of manufacture when stored in accordance with the manufacturer's recommendations.

FTPMS shall include a removable material covering the reflective lens to protect the lens from being obscured or damaged during the paving operation.

FTPMP spacing shall be as follows:

- When simulating solid lines, the FTPMPs shall be placed every 20 feet.
- When simulating double lines, pairs of side-by-side FTPMPs shall be placed every 20 feet.
- When simulating broken lines with a 10-foot-skip/30-foot-gap pattern, 3 FTPMPs shall be used per skip (5 feet between each FTPMP), with a 30-foot gap between simulated skips.
- When simulating dotted lines with a 3-foot skip/9-foot-gap pattern, 2 FTPMPs shall be used per skip (3 feet between the two FTPMPs), with a 9-foot gap between simulated skips.

FTPMPs shall not be used to simulate transverse lines, symbol/message markings, or dotted lines with 2-foot dot/6-foot-gap pattern.

The color of FTPMP units and their reflective surfaces shall be the same color (white or yellow) as the temporary pavement markings they are being used in substitution for.

FTPMPs shall be installed at the same locations that permanent pavement markings will be installed.

For surface treatment, slurry seal or latex emulsion treatment operations, the appropriate FTPMPs with protective covering shall be installed before placing the new treatment. The lens protective covering shall be kept in place during the final surface placement to protect the lens from being obscured or damaged by the paving operation. Upon completion of surface treatment, slurry seal or latex emulsion treatment placement, the Contractor shall remove the protective covering from the reflective lens of the FTPMPs before leaving the work site. Failure to remove such covering shall result in the non-payment for that portion type (skip or solid) of temporary pavement marking.

For plant mix operations, the appropriate FTPMPs shall be installed on the newly-placed pavement after the pavement is thoroughly compacted and has cooled to the FTPMP manufacturer's recommended temperature for installation.

The Contractor shall maintain the FTPMPs until the permanent pavement markings are installed. Damaged or missing FTPMPs shall be replaced within 24 hours of discovery at the Contractor's expense with new FTPMPs of the same manufacturing type, color and model. No more than one FTPMP may be damaged or missing out of every skip line or dotted line simulated segment. No two consecutive FTPMPs may be damaged or missing on a simulated solid line or double line application, and no more than 30% of the FTPMPs may be damaged or missing on any measured 100-foot segment of simulated solid line.

Once applied, FTPMPs will be considered for a single use. If a FTPMP requires replacement before installation of permanent pavement markings, it shall be properly disposed of and replaced with a new FTPMP at no additional cost to the Department.

FTPMPs shall be removed and properly disposed of when permanent pavement markings are installed. Used FTPMPs removed from the pavement, including all containers, packaging, damaged FTPMP's and all other miscellaneous items of waste, shall be appropriately disposed of in accordance with Section 106.04.

**Section 512.03(I) – Eradicating Pavement Markings** is replaced with the following:

**Eradicating Pavement Markings:** Markings that may conflict with desired traffic movement, as determined by the Engineer, shall be eradicated as soon as practicable: either immediately before the shifting of traffic or immediately thereafter and before the conclusion of the workday during which the traffic shift is made. Work shall be done in accordance with Section 704 except as noted herein.

The Contractor shall perform eradication by grinding, blasting, or a combination thereof. Blasting may be performed using water blasting, sand blasting, hydroblasting (combination of sand and water), or shot blasting. Water blasting and hydroblasting shall be done with equipment that includes a vacuum recovery system and capability to adjust the water pressure.

The Contractor may submit other methods for eradication for the Engineer's approval; however, the Department will not permit obscuring existing pavement markings with black paint or asphalt as a substitute for removal or obliteration. The Contractor shall minimize roadway surface damage when performing the eradication. The Contractor shall repair the pavement if eradication of pavement markings results in damage to or deterioration of the roadway presenting unsafe conditions for motorcyclists, bicyclists, or other road users. Pavement repair, when required, shall be performed using a method approved by the Engineer.

The Contractor shall ensure workers are protected in accordance with Section 107.17 when eradicating pavement markings.

The Contractor shall vacuum or collect the eradication residue (removed markings, debris, and water) during and immediately after the eradication operation. Dust shall be collected during the entire operation. The Contractor shall ensure that no debris enters inlets or waterways.

Eradication residue from the removal of any pavement markings is considered to be a nonhazardous waste material and shall be disposed of in a properly permitted waste disposal facility in accordance with applicable state and federal laws and regulations. The Department does not require Contractor testing of the eradication residue for the eight Resource Conservation Recovery Act metals.

When markings are removed for lane shifts, transitions, or other areas or conditions required in the VWAPM, 100% of the pavement marking shall be removed.

Type E pavement markings may be used to cover existing markings instead of eradication on asphalt concrete surfaces. The Contractor shall use this material to cover markings as indicated in the Plans or as directed by the Engineer. Type E pavement marking shall be applied in accordance with the manufacturer's recommendations. Type E markings shall not be adhered to the pavement for more than 120 days. Type E markings shall not be used on HCC surfaces or bridge decks.

When eradicating symbols and messages, the entire theoretical box bounding the outermost limits of the markings shall be uniformly eradicated.

Eradication of 24" lines shall be considered nonlinear marking eradication.

**Section 512.03(m) – Temporary Pavement Markers** is renamed **Temporary Raised Pavement Markers** replaced with the following:

**Temporary Raised Pavement Markers** shall be installed with temporary pavement markings where required by the VWAPM and where directed by the Engineer. Temporary raised pavement markers shall not be used with Type E markings.

Temporary raised pavement markers shall be installed at the spacing required by the VWAPM, and as shown on Standard Drawing PM-8. . The Contractor may install two one-way markers instead of each two-way marker at no additional cost to the Department.

Temporary raised pavement markers shall be installed with a hot applied bitumen adhesive, except epoxy may be used on hydraulic cement concrete roadways and non-final surfaces of asphalt concrete roadways. Pavement damage caused by removing markers shall be repaired in kind by the Contractor at no additional cost to the Department.

The Contractor shall replace damaged, ineffective, or missing temporary raised pavement markers upon notification by the Engineer at no additional cost to the Department. Markers damaged by the Department's snow removal operations or other maintenance and construction operations, however, will be paid for at the contract unit price.

**Section 512.03(p) – Temporary Pavement Message and Symbol Markings** is replaced with the following:

**Temporary Pavement Message and Symbol Markings** shall be the color, shape, and size required by the MUTCD, Standard Drawing PM-10, and the Plans. The Contractor shall install message and symbol markings in accordance with MUTCD, Section 704, the VWAPM, and the Standard Drawings.

Temporary pavement message and symbol markings shall be installed and maintained using the material specified on the Plans in accordance with Section 512.03(k).

Pavement message/symbol markings shall be installed at locations shown on the Plans and at locations designated by the Engineer.

Temporary pavement message markings shall be maintained in accordance with Section 512.03(k). Retroreflective measurements conforming to Section 512.03(k) shall be taken out of the wheel path locations. The pavement message/symbol marking shall be replaced when the average of the three readings for the symbol/message is below 100 mcd/sf/ft.

**Section 512.03(q) – Type 3 Barricades** is replaced as follows:

**Type 3 Barricades:** Type 3 barricades shall conform to NCHRP Report 350, Test Level 3, or MASH. Type 3 barricades shall be selected from those shown on the Department's Traffic Control Device Pre-Approval List. The Contractor shall provide a certification letter stating the brands and models of Type 3 barricades from the list proposed for the project. Instead of using Type 3 barricades on the listing, the Contractor may use other brands and models, if he submits a copy of the FHWA acceptance letter indicating the proposed substitutes complies with Test Level 3 of NCHRP Report 350 or MASH before use.

Type 3 Barricades shall be installed and ballasted in accordance with the VWAPM.

**Section 512.03(r) – Truck-mounted or trailer mounted attenuators** is replaced as follows:

**Truck-mounted or trailer-mounted attenuators (TMAs):** Truck-mounted and trailer-mounted attenuators manufactured on or prior to December 31, 2019 may be used if they are in good working condition, conform to Test Level 3 of NCHRP Report 350 or MASH, and are a product shown on the Department's Approved Lists for NCHRP-350 or MASH Approved Products. TMAs manufactured after December 31, 2019 shall conform to MASH Test Level 3 and shall be a product shown on the Department's Approved List for MASH Approved Products.

The Contractor shall submit catalog cuts/brochures of the TMA and a copy of the certification letter documenting NCHRP 350/MASH compliance of the specific TMA before their use on the project. TMAs shall be permanently identified with a device-specific manufacturers' identification number by stamping or marking with a durable weather resistant material in accordance with § 33.2-274.1 of the Code of Virginia.

The weight of the support vehicle shall be as recommended by the manufacturer of the Truck/Trailer-mounted attenuator. The Contractor shall provide a copy of the manufacturer's recommendations to the Engineer, a copy of the original weigh ticket for the support vehicle, and a

self-certification letter stating the support vehicle has not been altered since the original weight ticket was issued. The weigh ticket shall contain adequate information to identify the ticket with the applicable support vehicle. A copy of the self-certification and weigh ticket shall be available in the support vehicle at all times and upon request.

Additional weight may be added to the support vehicle to achieve the range recommended by the manufacturer of the Truck/Trailer-mounted attenuator provided the total weight is properly balanced without overloading any one axle, and is within the Gross Vehicle Weight Recommendation of the support vehicle. The added weight shall be securely attached to the support vehicle to prevent movement during an impact or movement of the vehicle. The additional weight and attachment method shall be self-certified by the Contractor and a copy of the self-certification letter shall be with the support vehicle at all times or a final stage manufacturer's certification sticker may be placed on the inside door of the altered vehicle.

The Truck/Trailer-mounted attenuator shall be no less than 72 inches wide and no more than 96 inches wide. There shall be no additional devices such as signs, lights, and flag holders attached to the Truck/Trailer-mounted attenuator except those that were tested on the Truck/Trailer-mounted attenuator and provided by the manufacturer of the Truck/Trailer-mounted attenuator.

The support vehicle shall have at least one vehicle warning light functioning while in operation in accordance with the VWAPM. When allowed by the VWAPM, an electronic arrow operated in the caution mode may be used with the vehicle warning light. When installing and removing lane closures on a multilane roadway as well as when performing mobile operations, the support vehicle shall be equipped with both vehicle warning lights and an arrow board.

The support vehicle shall be operated and parked in accordance with the manufacturer's recommendations.

**Limitations:** Traffic control devices shall not be installed from or removed to the Truck/Trailer-mounted attenuator support vehicle. When the Truck/Trailer-mounted attenuator is deployed there shall be no unsecured material in the bed of the support vehicle except the additional secured weight or truck-mounted devices such as an arrow board, a changeable message sign, or truck mounted signs. There shall also be no additional devices such as signs, lights, and flag holders attached to the Truck/Trailer-mounted attenuator except those that were tested on the Truck/Trailer-mounted attenuator and provided by the manufacturer of the Truck/Trailer-mounted attenuator.

If the Truck/Trailer-mounted attenuator is impacted, resulting in damage that causes the unit to be ineffective, all work requiring the use of the Truck/Trailer-mounted attenuator shall cease until such time that repairs can be made or the Contractor provides another acceptable unit.

**Section 512.03(s) – Portable Changeable Message Signs** is amended to replace the second and third paragraphs with the following:

The sign shall be capable of sequentially displaying at least 2 phases of 3 lines of text each with appropriate controls for selection of messages and variable off-on times. Trailer-mounted PCMS shall be capable of displaying 3 lines of 8-character 18-inch text in a single phase, and vehicle-mounted PCMS shall be capable of displaying 3 lines of 8-character 10-inch text in a single phase. Each character module shall at a minimum use a five wide by seven high pixel matrix. The message shall be composed from keyboard entries.

Access to PCMS control mechanisms shall be physically locked at all times when deployed to deter message tampering.

The message shall be legible in any lighting condition. Motorists should be able to read the entire PCMS message twice while traveling at the posted speed.

The sign panel support shall provide for an acceptable roadway viewing height that shall be at least 7 feet from bottom of sign to crown of road.

**Section 512.03(w) – Portable Temporary Rumble Strips (PTRS)** is replaced as follows:

**Portable Temporary Rumble Strip (PTRS):**

A PTRS may be made of rubber or recycled rubber. It shall have a recessed, raised or grooved design to prevent movement and hydroplaning. PTRS color shall be in accordance with the VWAPM.

A PTRS shall consist of interlocking or hinged segments of equal length that prevent separation when in use. The combined overall usable length of the PTRS shall be between 10 feet 9 inches and 11 feet. The width of the PTRS shall be 12 to 13 inches. PTRS shall be between 5/8 inch and 1.0 inch in height. The weight of each roadway strip shall be between 100 and 120 pounds. The leading and departing edge taper shall be between 12 and 15 degrees.

Each roadway length of the PTRS shall have either a minimum of one cutout handle in the end of the rumble strip, or an interlocking segment which can be used as a handle for easy deployment or removal.

The manufacturer of the PTRS shall provide a signed affidavit that states the PTRS is able to withstand being run over by an 80,000 pound vehicle and retain its original placement with minor incidental movement of 6 inches or less during an 8 hour deployment. Incidental movement of the PTRS shall be parallel with other rumble strips in an array but shall not move so that its placement compromises the performance and safety of the other rumble strips, workers or the traveling public.

The PTRS shall be installed in accordance with manufacturers installation instructions, without the use of adhesives or fasteners.

PTRS Placement shall be in accordance with the VWAPM.

**Section 512.04 – Measurement and Payment** is amended to replace the 13th paragraph with the following:

**Impact attenuator service** will be measured in units of each and will be paid for at the Contract each price for the type specified. This price shall include installing, maintaining, and removing impact attenuator and object marker. Impact attenuators used with barrier openings for equipment access will not be measured for separate payment but the cost thereof shall be included with other appropriate items. When impact attenuator service is moved to a new location, as directed or approved by the Engineer, the relocated terminal will be measured for separate payment. Payment for impact attenuator service will not be made until the work behind the corresponding barrier service is actively pursued.

**Section 512.04 – Measurement and Payment** is amended to replace the 16th paragraph with the following:

**Temporary pavement markings** will be measured in linear feet and will be paid for at the contract linear foot price for the type, class and width specified. This price shall include marking materials, glass beads, adhesive, preparing the surface, maintaining, removing removable markings when no longer required, inspections, and testing.

If the Contractor uses FTPMs to simulate the temporary pavement marking, they will be measured in linear feet and paid for at the linear foot price for the temporary marking material being simulated. That measurement shall represent all FTPMs required for that simulated line marking. No additional payment will be made if the Contractor elects to remove FTPMs and install other temporary pavement markings. This cost shall include furnishing, installing and maintaining the FTPMs, removable covers, surface preparation, quality control tests, daily log, guarding devices, removal, and disposal.

**Section 512.04 – Measurement and Payment** is amended to replace the 21st paragraph with the following:

**Eradication of existing nonlinear pavement markings** will be measured in square feet based on a theoretical box defined by the outermost limits of the nonlinear pavement markings as defined in Standard Drawing PM-10. Nonlinear pavement markings shall include but not be limited to, arrows, images, symbols, and messages. Eradication of existing nonlinear pavement markings will be paid for at the contract unit price per square foot. This price shall include removing nonlinear pavement markings, cleanup, and disposing of residue.

**Section 512.04 – Measurement and Payment** is amended to replace the 30th paragraph with the following:

**Portable Temporary Rumble Strip (PTRS) Array** will be measured in Days per array and will be paid for at the Contract Day price. An Array shall consist of three rumble strips. This price shall include installing, maintaining, removing devices when no longer required, and relocating throughout the day.

**Section 512.04 – Measurement and Payment** is amended by revising the Pay Item Table as follows:

The following pay items are removed:

<b>Pay Item</b>	<b>Pay Unit</b>
Portable temporary rumble strip	Each

The following pay items are inserted:

<b>Pay Item</b>	<b>Pay Unit</b>
Portable temporary rumble strip array	Day



VIRGINIA DEPARTMENT OF TRANSPORTATION  
2020 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 704 – PAVEMENT MARKINGS AND MARKERS**

**SECTION 704 – PAVEMENT MARKINGS AND MARKERS** of the Specifications is amended as follows:

**Section 704.02 – Materials** is amended to replace the first paragraph with the following:

For Type B, Class VI pavement marking materials that are to be applied to latex emulsion or slurry seal surfaces, the selected Type B, Class VI manufacturer shall be a manufacturer that approves and warrants their product for application on that type of surface.

**Section 704.03 – Procedures** is amended to replace the second paragraph with the following:

The Contractor shall have a certified Pavement Marking Technician present during all temporary pavement marking, permanent pavement marking, and pavement marker operations, except Flexible Temporary Pavement Marker (FTPM) installation.

**Section 704.03 – Procedures** is amended to replace the fourth through tenth paragraph with the following:

If the Contractor cannot have permanent pavement markings installed within the time limits specified, the Contractor shall install and maintain temporary pavement markings within the same time limits at no additional cost to the Department until the permanent pavement markings can be installed. Installation, maintenance, and removal or eradication of temporary pavement markings shall be according to Section 512.

The Contractor may mark the locations of proposed permanent markings on the roadway by installing premarking materials. Premarkings may be accomplished by installing removable tape, chalk, or lumber crayons, except pavement markings such as stop lines, crosswalks, messages, hatching, etc., shall be premarked using chalk or lumber crayons. Premarkings for yellow markings may be white or yellow. Premarkings for other colors shall be white.

When tape is used as a premarking material, premarking shall consist of 4-inch by 4-inch-maximum squares or 4-inch-maximum diameter circles spaced at 100-foot minimum intervals in tangent sections and 50-foot minimum intervals in curved sections. At locations where the pavement marking will switch colors (e.g., gore marking) the ends of the markings may be premarked regardless of the spacing.

When the Contractor uses chalk or lumber crayon as a premarking, the entire length of the proposed pavement marking may be premarked.

Premarkings shall be installed so their installation will not affect the adhesion of the permanent pavement markings. When removable tape is used as the premarking material and the lateral location of such premarkings to location of the final pavement markings exceeds 6 inches, the tape shall be removed at no additional cost to the Department.

The Contractor shall exercise caution and protect the public from damage while performing pavement marking operations. The Contractor shall be responsible for the complete preparation of the pavement surface, including, but not limited to, removing dust, dirt, loose particles, oily residues, curing compounds, concrete laitance, residues from eradication, and other foreign matter immediately before installing pavement markings. The pavement surface shall be clean and dry at the time of pavement marking installation and shall be tested in accordance with VTM 94 before permanent installation, with the VTM 94 test results noted on Form C-85. The Contractor shall provide the equipment indicated in VTM 94 that are needed to perform the moisture test before application.

**Section 704.03 – Procedures** is amended by replacing the thirteenth paragraph with the following:

Non-truck mounted equipment shall be regulated to allow for calibration of the amount and type of material applied.

**Section 704.03 – Procedures** is amended to replace the eighteenth paragraph with the following:

Glass beads and retroreflective optics shall be applied at the rate specified herein or as specified in the Department's Approved List for the specific pavement marking product. Beads and optics shall be evenly distributed over the entire lateral and longitudinal surface of the marking. The Contractor shall apply beads to the surface of liquid markings with a bead dispenser attached to the applicator that shall uniformly dispense beads simultaneously on and into the just-applied marking. The bead dispenser shall be equipped with a cut-off control synchronized with the applied marking material cut off control so that the beads are applied totally on the marking. Beads shall be applied while the liquid marking is still fluid, resulting in approximately 60% embedment in the marking's surface. Beads installed on crosswalks and stop lines on roadways with curbs only (no gutter) may be hand applied for two feet at the end of each line next to the curb with 100 percent of the beads embedded 50% to 60% into the marking's surface.

**Section 704.03(a)1 – Type A markings** is replaced with the following:

**Type A markings** shall be applied in accordance with the manufacturer's installation instructions. When applying atop existing pavement markings, the existing marking shall first be swept or eradicated to the extent necessary to ensure that the surface of the existing marking is clean, chalk free (not powdery), and well adhered.

Glass beads for Type A, Class I markings shall be AASHTO M 247 Type 1 Beads applied at a minimum rate of 6 pounds per gallon of paint

Retroreflective optics for Type A, Class II markings shall be applied as noted in the Department's Approved List 20 for the selected pavement marking product.

The Contractor may substitute Type A, Class I cold weather paint (traffic paint designed for application at temperatures below 40 °F) for Type A, Class I conventional paint at no additional cost to the Department. Cold weather paint shall be from the Department's Approved List 20.

**Section 704.03(a)2 – Type B markings** is amended to replace the third paragraph with the following:

Non-truck mounted equipment for application of thermoplastic material shall include an extrude die with a burner, temperature controller, agitator, and mechanical bead applicator to allow for the correct amount of material to be applied.

**Section 704.03(a)2a – Thermoplastic (Class I)** is amended to replace the fourth through sixth paragraphs with the following:

Thermoplastic shall not be applied over existing pavement markings of materials other than paint or thermoplastic, unless the existing marking is 90 percent worn away or eradicated. When applying thermoplastic over existing paint or thermoplastic, the existing marking shall first be swept or eradicated to the extent necessary to ensure that the surface of the existing marking is clean, chalk free (not powdery), and well adhered.

Thermoplastic marking material shall be applied at thickness of 90 mils ( $\pm$  5 mils) above the riding surface, whether dense or open graded surface.

Glass beads and retroreflective optics shall be surface applied at the rate of 10 pounds per 100 square feet unless specified otherwise on the Materials Division's Approved Products List 43 for the specific thermoplastic product.

**Section 704.03(a)2b – Preformed thermoplastic (Class II)** is amended to replace the first and second paragraphs with the following:

**Preformed thermoplastic (Class II)** material shall be installed in accordance with the manufacturer's installation instructions. A primer or sealer manufactured by or recommended by the preformed thermoplastic manufacturer shall be applied to all hydraulic cement concrete surfaces and to asphalt concrete surfaces in accordance with the manufacturer's installation instructions.

Preformed thermoplastic shall not be applied over existing pavement markings of materials other than paint or thermoplastic, unless the existing marking is 90 percent worn away or eradicated. When applying preformed thermoplastic over existing paint or thermoplastic, the existing marking shall first be swept or eradicated to the extent necessary to ensure the surface of the existing marking is clean, chalk free (not powdery), and well adhered.

Permanent transverse rumble strips shall be applied using two strips of white Type B, Class II material. The bottom strip shall be 250 mils thick and 4 inches wide, and the top strip shall be 125 mils thick and 2 inches wide (centered atop the bottom strip), unless noted otherwise in the plans. Transverse rumble strips shall be installed in arrays as per the Standard Drawings and the plans.

**Section 704.03(b) – Pavement messages and symbols markings** is amended to replace the second paragraph with the following:

Surface temperature at time of application shall be in accordance with manufacturer's installation instructions. If the installation instructions do not specify minimum surface temperature, then the markings shall not be installed unless the surface temperature at time of application is 50°F or higher. Surface temperature requirements shall not be considered met if the temperature is forecasted to drop below the minimum within two hours of application. The Contractor may heat the pavement for a short duration to dry the pavement surface and bring the surface temperature to within the allowable temperatures for pavement marking installation, at no extra cost to the Department. Heat torch temperatures shall not exceed 300°F. The Contractor shall monitor pavement temperature to ensure it does not rise above 120°F at any time. Any damage to the pavement shall be promptly repaired at no extra cost to the Department.

Message and symbol markings include, but shall not be limited to, those detailed in Standard Drawing PM-10.

The sizes and shapes of symbols and characters shall match the size and shape specified in Standard Drawing PM-10 or elsewhere in the Contract. Hand-drawn or "stick" symbols or characters will not be allowed.

Table VII-3 is replaced with the following:

**TABLE VII-3  
Pavement Markings**

Type	Class	Name	Film Thickness (mils)	Pavement Surface	Application Limitations	Appr. List No.
A	I	Conventional or Cold-Weather Traffic Paint	15 ± 1 when wet	AC HCC	May be applied directly after paving operations	20
A	II	High Build Traffic Paint	25 ± 2 when wet	AC HCC	May be applied directly after paving operations	20
B	I	Thermoplastic Alkyd	90 ± 5	AC HCC	May be applied directly after paving operations	43
	I	Thermoplastic Hydrocarbon	90 ± 5 when dry	AC HCC	Do not apply less than 30 days after paving operations	43
	II	Preformed Thermoplastic	120-130	AC HCC	Manufacturers installation instructions	73
	III	Epoxy resin	20 ± 1 when wet	AC HCC	Manufacturers installation instructions	75
	IV	Plastic-backed preformed Tape	60 - 120	AC HCC	Manufacturer's installation instructions	17
	VI	Patterned preformed Tape	20 min <sup>1</sup> 65 min <sup>2</sup>	AC HCC	(Note 4)	17
	VII	Polyurea	20 ± 1	AC HCC	Manufacturer's installation instructions	74
D	III	Wet Reflective Removable tape	(Note 3)	AC HCC	Temporary pavement marking	17
E		Removable black tape (Non-Reflective)	(Note 3)	AC	Temporary pavement marking for covering existing markings	17

<sup>1</sup>Thinnest portion of the tape's cross section.

<sup>2</sup>Thickest portion of the tape's cross section.

<sup>3</sup>In accordance with manufacturer's installation instructions.

<sup>4</sup>In accordance with the manufacturer's installation instructions, except that Type B, Class VI markings on new plant mix asphalt surfaces shall be inlaid into the freshly installed asphalt surface and not surface-applied.

**Section 704.03(d)1 – Snowplowable raised pavement markers** is renamed **Section 704.03(d)1 – Inlaid Pavement Markers** and replaced as follows:

**Inlaid Pavement Markers** shall be installed with retroreflectors with front-side and back-side colors as per Standard Drawing PM-8.

The Contractor shall not install markers on existing bridge decks. Inlaid Pavement Markers shall be installed on new bridge decks where required by the Plans.

Inlaid Pavement Markers shall be placed in relation to pavement joints and cracks as follows:

- In existing Asphalt Concrete pavement, new or existing Hydraulic Cement Concrete pavement, and bridge decks, the edge of the groove shall be at least 2 inches from pavement joints and cracks, ensuring that the finished line of markers is straight in accordance with the tolerance for pavement markings specified in Section 704.03 of the Specifications. Offset from the longitudinal joint shall take precedence over straightness of the line of markers.
- In new Hydraulic Cement Concrete pavement or when installed in conjunction with new latex modified microsurfacing or slurry seal treatments, the edge of the groove shall be at least 2 inches

from all longitudinal and transverse surface course pavement joints and 1 inch maximum off alignment from the corresponding pavement marking line. The finished line of markers shall be straight in accordance with the tolerance for pavement markings specified in Section 704.03 of the Specifications. Straightness of the line of markers and alignment with the corresponding pavement marking line takes precedence over offset from the surface course joint.

Retroreflectors shall be affixed to holders, using an adhesive from the Department’s Approved List 22 (Inlaid Pavement Markers) prior to installation.

Inlaid Pavement Markers shall be installed as per Standard Drawing PM-8.

Tapered grooves and plunge cuts shall be cut using diamond blades that can accurately control the groove dimensions, resulting in smooth uniform tapers and smooth groove bottoms and ensuring the pavement does not tear or ravel. The Contractor shall remove all dirt, grease, oil, loose or unsound layers, and any other material from the groove which would reduce the bond of the adhesive. Pavement surfaces shall be maintained in a clean and dry condition until the marker is placed.

Holders shall be installed in the same shift as grooving.

The epoxy adhesive shall be thoroughly mixed until it is uniform in color, and applied in accordance with the manufacturer’s installation instructions. The Contractor shall partially fill the plunge cut with sufficient epoxy adhesive such that the epoxy adhesive bed area is equal to the bottom area of the holder. The Contractor shall then set the holder in the epoxy adhesive such that the breakaway tabs are resting on the road surface, the holder is centered in the cut, and then fill in additional epoxy adhesive if necessary so the entire perimeter of the holder is completely surrounded in epoxy, with the epoxy level with the edge of the holder in accordance with the manufacturer instructions.

The Contractor shall remove all adhesive and foreign matter from the face of the retroreflector or replace the retroreflector if adhesive and foreign matter cannot be removed. The marker shall be replaced if it is not properly positioned and adhered in the plunge cut.

**Section 704.03(d)2 – Raised Pavement Markers** is renamed **Nonplowable Raised Pavement Markers** and is replaced with the following:

**Nonplowable raised pavement markers** shall be bonded to the surface in accordance with the manufacturer’s installation instructions. The bonding material shall be from the Department’s Approved List 22 for the specific marker.

**Section 704.04 – Measurement and Payment** is amended to replace the fifth paragraph with the following:

**Pavement markers** will be measured in units of each for the type specified and will be paid for at the contract unit price per each. This price shall include surface preparation, furnishing, installing, prismatic retroreflectors, pavement cutting, adhesive, holders, quality control tests, and daily log.

**Section 704.04—Measurement and Payment** is amended by revising the Pay Item Table as follows:

The following pay items are removed:

<b>Pay Item</b>	<b>Pay Unit</b>
Pavement message marking (Message)	Each or Linear Foot

The following pay items are inserted:

<b>Pay Item</b>	<b>Pay Unit</b>
Pavement message marking (Message, Type or class material)	Each or Linear Foot