

**CONTRACT DOCUMENTS**

**“PROPOSED BRIDGE REPAIR OF WEST MAIN STREET  
(ROUTE 293) OVER CENTRAL BOULEVARD (ROUTE 86)”**

**IFB 24-25-087**



**CITY OF DANVILLE, VIRGINIA**

**CONTRACT DOCUMENTS  
FOR**

**IFB 24-25-087**

**“PROPOSED BRIDGE REPAIR OF WEST MAIN STREET (ROUTE 293) OVER  
CENTRAL BOULEVARD (ROUTE 86)”**

**CITY OF DANVILLE, VIRGINIA**

**COMMISSION NO. 2023066**



**BY**

**SCHWARTZ & ASSOCIATES, INC.  
CONSULTING ENGINEERS  
HERITAGE BUSINESS CENTER  
7331 TIMBERLAKE ROAD  
LYNCHBURG, VIRGINIA 24502**

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## INVITATION FOR BIDS

### CITY OF DANVILLE

Sealed Bids for “PROPOSED BRIDGE REPAIR OF WEST MAIN STREET (ROUTE 293) OVER CENTRAL BOULEVARD (ROUTE 86)” will be received by the Director of Purchasing, Room 304, Municipal Building, 427 Patton Street, Danville, Virginia 24541 until 2:00 p.m., May 6, 2025. This project involves substructure concrete repair, shotcrete, deck patching, epoxy overlay and incidental items.

A pre-bid conference will be held at 10:00 a.m., April 15, 2025 in the 3rd Floor Conference Room, Municipal Building, 427 Patton Street, Danville, Virginia to answer any questions from interested parties. The last day for questions shall be April 23, 2025 at 12:00 p.m.

Drawings and Specifications (.pdf format) for use in bid preparation may be obtained from Schwartz & Associates, Inc., Consulting Engineers, 7331-305 Timberlake Road, Lynchburg, VA 24502 or City of Danville website under Bid Postings.

The liquidated damages for delay beyond the allotted time for completion of this project shall be \$1,500.00 per day for each consecutive calendar day, including weekends and holidays, that the work remains incomplete.

Carol Henley

Director of Purchasing

IFB 24-25-087 - BID PROPOSAL FORM

Ms. Carol Henley  
Director of Purchasing  
Room 304, Municipal Building  
427 Patton Street  
Danville, Virginia 24543

Dear Ms. Henley:

The undersigned, as Bidder, hereby declares that he or she and his associates are the only person or persons interested in the proposal as principal or principals; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud.

The undersigned, having visited and examined the site and having carefully studied all drawings and specifications pertaining to the project known as IFB 24-25-087 "PROPOSED BRIDGE REPAIR OF WEST MAIN STREET (ROUTE 293) OVER CENTRAL BOULEVARD (ROUTE 86)" for the City of Danville, Virginia, hereby proposes to furnish all labor, equipment, tools, materials and services and to perform all operations necessary to execute and complete the work required for the project, in strict accordance with the Specifications for this project, Road & Bridge Specifications by Virginia Department of Transportation, 2020, and Engineering Drawings by Schwartz & Associates, Inc., Consulting Engineers, together with Addenda Numbered \_\_\_\_\_, issued during bidding period and hereby acknowledged, subject to the terms and conditions of the agreement for the sum of \_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_) which shall be referred to hereinafter as the BID. All work shall be completed on or before November 28, 2025 unless otherwise approved by the ENGINEER.

It is understood and agreed that the OWNER, in protecting his best interest, reserves the right to reject any or all bids or waive any defects in favor of the City.

Contractors will indicate a unit price for each item listed below. The listed bid items are to contain all necessary costs required for completion of the referenced project. Any changes, modifications, deletions in the bid form, or alternate proposals not specified in the bid proposal, shall make the proposal irregular and subject to rejection.

It is understood that all quantities listed below are estimated quantities and the OWNER reserves the right to raise, lower, or eliminate any quantity or item and in any case the unit prices shall be used in determining partial and final payment.

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

A. 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 as a domestic or foreign business entity if so required by Title 13.1 or Title 50 or as otherwise required by law.

B. Pursuant to competitive sealed bidding or competitive negotiation, all public bodies shall include in the solicitation a provision that requires a bidder or offeror organized or authorized to transact business in the Commonwealth pursuant to Title 13.1 or Title 50 to 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 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.

C. Any bidder or offeror described in subsection B 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 Director of the Department of General Services or his designee or by the chief executive of a local governing body.

D. Any business entity described in subsection A that enters into a contract with a public body pursuant to this chapter shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of the contract.

E. A public body may void any contract with a business entity if the business entity fails to remain in compliance with the provisions of this section.

## 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. For further information, contact Commissioner of Revenue's office at (434) 799-5145.

### City of Danville Business License:

The successful bidder and all subcontractors working on this project are required to hold a valid City business license when they begin work. This license shall be obtained from the Commissioner of Revenue at 311 Memorial Drive, Danville, Virginia.

**BID ITEM LIST****IFB 24-25-087****“PROPOSED BRIDGE REPAIR OF WEST MAIN STREET (ROUTE 293) OVER  
CENTRAL BOULEVARD (ROUTE 86)”****CITY OF DANVILLE, VIRGINIA*****NO MAJOR ITEMS & NO PRICE ADJUSTMENTS***

<b><u>ITEM NUMBER</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>ESTIMATED QUANTITIES</u></b>	<b><u>UNIT PRICE</u></b>	<b><u>TOTAL AMOUNT</u></b>
1	MOBILIZATION	LUMP SUM	<u>LUMP SUM</u>	<u>\$</u>
2	MAINTENANCE OF TRAFFIC	LUMP SUM	<u>LUMP SUM</u>	<u>\$</u>
3	CLEAN DEBRIS AT ABUTMENT & PIER BEARING SEATS	LUMP SUM	<u>LUMP SUM</u>	<u>\$</u>
4	GENERAL MAINTENANCE	LUMP SUM	<u>LUMP SUM</u>	<u>\$</u>
5	PATCHING, TYPE B	20 SY	<u>\$</u>	<u>\$</u>
6	PATCHING, TYPE C	2 SY	<u>\$</u>	<u>\$</u>
7	MILLING, TYPE A	1,516 SY	<u>\$</u>	<u>\$</u>
8	EPOXY OVERLAY	1,516 SY	<u>\$</u>	<u>\$</u>
9	EMBEDDED GALVANIC ANODE, SUPERSTRUCTURE	350 EA	<u>\$</u>	<u>\$</u>
10	SHOTCRETE, TYPE A - SUPERSTRUCTURE	436 SF	<u>\$</u>	<u>\$</u>
11	SUBSTRUCTURE CONCRETE REPAIR	991 SF	<u>\$</u>	<u>\$</u>

**NO MAJOR ITEMS & NO PRICE ADJUSTMENTS**

<b><u>ITEM NUMBER</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>ESTIMATED QUANTITIES</u></b>	<b><u>UNIT PRICE</u></b>	<b><u>TOTAL AMOUNT</u></b>
12	CONCRETE SURFACE COLOR COATING	LUMP SUM	<u>LUMP SUM</u>	<u>\$</u>
13	RESEAL EXPANSION JOINTS	406 LF	<u>\$</u>	<u>\$</u>
14	DECK EDGE REPAIR, TYPE A	21 LF	<u>\$</u>	<u>\$</u>
15	DECK EDGE REPAIR, TYPE B	13 LF	<u>\$</u>	<u>\$</u>
16	REMOVE EXPANSION JOINT COVER PLATE	8 EACH	<u>\$</u>	<u>\$</u>
17	TYPE B CLASS VI CONTRAST PAVEMENT LINE MARKING (4")	1,007 LF	<u>\$</u>	<u>\$</u>
18	TYPE B CLASS II PAVEMENT LINE MARKING (12")	39 LF	<u>\$</u>	<u>\$</u>
19	PAVEMENT SYMBOL MARKING SINGLE TURN ARROW TYPE B, CLASS II	1 EACH	<u>\$</u>	<u>\$</u>
20	SHOTCRETE, TYPE A, SUBSTRUCTURE	257 SF	<u>\$</u>	<u>\$</u>
21	EMBEDDED GALVANIC ANODE, SUBSTRUCTURE	910 EACH	<u>\$</u>	<u>\$</u>
<b>TOTAL BASE BID</b>			<u>\$</u>	<u>\$</u>



We are properly equipped to execute all work of the character and extent of the agreement as so covered by this bid and will enter into an agreement for the execution and completion of the work in accordance with the drawings and specifications and this bid. We further agree that if awarded the contract, we will maintain a work force large enough to execute the work and all obligations within 180 consecutive calendar days, after the effective date of the "Notice to Proceed". All work shall be completed on or before November 28, 2025. This is a "Fixed Completion Date" contract with the "Fixed Completion Date" being 180 days after effective dated of the "Notice to Proceed". Enclosed herewith is the following Security, offered as evidence that the undersigned will enter into agreement for the execution and completion of the work in accordance with the Drawings, Specifications, and Contract Documents.

Bidder's Bond or Certified Check in the amount of \$ \_\_\_\_\_

Bond issued by or name of bank \_\_\_\_\_

The undersigned further agrees that in case of failure on his part to execute the said agreement within the ten (10) consecutive calendar days after written notice being given on the "Notice of Award", the monies payable by the securities accompanying this bid, shall be paid to the City of Danville, Virginia, as liquidated damages for such failure; otherwise the Securities accompanying this bid shall be returned to the undersigned.

If awarded this contract, since our bid is \$200,000 or more, I/We elect to utilize the escrow account procedure in the Standard Requirements & Instructions for Bidding.

\_\_\_\_\_ (Write "Yes" or "No")

This bid is subject to acceptance within a period of 90 days from this date.

Respectfully submitted,

\_\_\_\_\_  
CONTRACTOR

\_\_\_\_\_  
ADDRESS

BY: \_\_\_\_\_  
TITLE: \_\_\_\_\_

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

Current Contractor's Virginia  
Registration No. : \_\_\_\_\_

Contractor's Virginia  
SCC No. : \_\_\_\_\_

**ORDER NO.:  
CONTRACT ID. NO.:**

Form C-105  
Rev. 7-13-05

**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
AFFIDAVIT**

PROJECT:

FHWA:

This form must be completed, signed, notarized and returned with bid; and failure to do so, may result in the rejection of your bid. A separate form must be submitted by each principal of a joint venture bid.

1. I, the firm, corporation or officers, agents or employees thereof have neither directly nor indirectly entered into any combination or arrangement with any person, firm or corporation or entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract, the effect of which is to prevent competition or increase the cost of construction or maintenance of roads or bridges.

During the preceding twelve months, I (we) have been a member of the following Highway Contractor's Associations, as defined in Section 33.2-1106 of the Code of Virginia. (If none, so state).

NAME

Location of Principal Office


2. I (we) have \_\_\_\_\_, have not ☐, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that I/We have ☐, have not ☐, filed with the joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

**Note:** The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor [41 CFR 60-1.7(b)(1)], and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contract or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contract and subcontract unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

(Continued)

**ORDER NO.:**  
**CONTRACT ID. NO.:**

Form C-105  
page 2

3. The bidder certifies to the best of its knowledge and belief, that it and its principals:
- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency;
  - (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offence in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated above; and
  - (d) Where the bidders is unable to certify to any of the statements in this certification, the bidder shall show an explanation below.

Explanations will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any explanation noted, indicate below to whom it applies, initiating agency, and dates of action. Providing false information may result in federal criminal prosecution or administration sanctions. The bidder shall provide immediate written notice to the Department if at any time the bidder learns that its certification was erroneous when submitted or has become erroneous by reason of change circumstances.

The undersigned is duly authorized by the bidder to make the foregoing statements to be filed with bids submitted on behalf of the bidder for contracts to be let by the Commonwealth Transportation Board.

Signed at \_\_\_\_\_, this \_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_  
County (City), STATE

By: \_\_\_\_\_  
(Name of Firm) (Signature) Title (print)  
STATE of \_\_\_\_\_ COUNTY (CITY) of \_\_\_\_\_

To-wit: \_\_\_\_\_  
I \_\_\_\_\_, a Notary Public in and for the State and  
County(City) aforesaid, hereby certify that this day \_\_\_\_\_

personally appeared before me and made oath that he is duly authorized to make the above statements and that such statements are true and correct.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_  
My Commission expires \_\_\_\_\_

Notary Public

**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION**

PROJECT:

FHWA:

This form must be completed, signed and returned with bid; and failure to do so may result in the rejection of your bid. **THE CONTRACTOR SHALL AFFIRM THE FOLLOWING STATEMENT EITHER BY SIGNING THE AFFIDAVIT AND HAVING IT NOTARIZED OR BY SIGNING THE UNSWORN DECLARATION UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES.** A SEPARATE FORM MUST BE SUBMITTED BY EACH PRINCIPAL OF A JOINT VENTURE BID.

**STATEMENT.** In preparation and submission of this bid, I, the firm, corporation or officers, agents or employees thereof did not, either directly or indirectly, enter into any combination or arrangement with any persons, firm or corporation or enter into any agreement, participate in any collusion, or otherwise take any action in the restraint of free, competitive bidding in violation of the Sherman Act (15 U.S.C. Section 1) or Article 1.1 or Chapter 12 of Title 18.2 (Virginia Governmental Frauds Act), Sections 59.1-9.1 through 59.1-9.17 or Sections 59.1-68.6 through 59.1-68.8 of the Code of Virginia.

**AFFIDAVIT**

The undersigned is duly authorized by the bidder to make the foregoing statement to be filed with bids submitted on behalf of the bidder for contracts to be let by the Commonwealth Transportation Board.

Signed at \_\_\_\_\_, this \_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_  
County (City), STATE

By: \_\_\_\_\_  
(Name of Firm) (Signature) Title (print)

STATE of \_\_\_\_\_ COUNTY (CITY) of \_\_\_\_\_

To-wit: \_\_\_\_\_  
I \_\_\_\_\_, a Notary Public in and for the State and

County(City) aforesaid, hereby certify that this day \_\_\_\_\_  
personally appeared before me and made oath that he is duly authorized to make the above statements and that such statements are true and correct.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_

My Commission expires \_\_\_\_\_  
Notary Public

OR  
**UNSWORN DECLARATION**

The undersigned is duly authorized by the bidder to make the foregoing statement to be filed with bids submitted on behalf of the bidder for contracts to be let by the Commonwealth Transportation Board.

Signed at \_\_\_\_\_, this \_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_  
County (City), STATE

By: \_\_\_\_\_  
(Name of Firm) (Signature) Title (print)

CONTRACTOR'S CERTIFICATION

This is to certify that I (we) are not currently barred from bidding on contracts by any agency of The Commonwealth of Virginia, nor am I (we) a part of any firm/corporation that is currently barred from bidding on contracts by any agency of The Commonwealth of Virginia.

(Seal)

\_\_\_\_\_  
(Contractor)

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

\_\_\_\_\_  
(Attest)

By: \_\_\_\_\_

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

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

# APPLICATION FOR PAYMENT NO. \_\_\_\_\_

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

PROJECT NAME: \_\_\_\_\_ PROJECT NO.: \_\_\_\_\_ COMPLETION DATE: \_\_\_\_\_

ITEM NO.	CONTRACT QUANTITY	CONTRACT UNIT PRICE	DESCRIPTION	CONTRACT AMOUNT	QUANTITIES THIS REQ.	VALUE THIS REQUISITION	QUANTITY TO DATE	VALUE TO DATE

# APPLICATION FOR PAYMENT NO. \_\_\_\_\_

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

PROJECT NAME: \_\_\_\_\_ PROJECT NO.: \_\_\_\_\_ COMPLETION DATE: \_\_\_\_\_

ITEM NO.	CONTRACT QUANTITY	CONTRACT UNIT PRICE	DESCRIPTION	CONTRACT AMOUNT	QUANTITIES THIS REQ.	VALUE THIS REQUISITION	QUANTITY TO DATE	VALUE TO DATE

CHANGE ORDER SUMMARY				
CHANGE ORDER NUMBER	DATE APPROVED	ADDITIONS	DEDUCTIONS	COMPLETION DATE EXTENDED

## TOTALS

ORIGINAL CONTRACT SUM \_\_\_\_\_

NET CHANGE BY CHANGE ORDER \_\_\_\_\_

CONTRACT SUM TO DATE \_\_\_\_\_

TOTAL COMPLETED & STORED TO DATE \_\_\_\_\_

RETAINAGE 5% \_\_\_\_\_

TOTAL EARNED LESS RETAINAGE \_\_\_\_\_

LESS PREVIOUS PAYMENT \_\_\_\_\_

CURRENT PAYMENT DUE \_\_\_\_\_

## APPLICATION FOR PAYMENT

The undersigned Contractor hereby swears under penalty of perjury that (1) all previous progress payments received from the owner on account of Work performed under the contract referred to above have been applied by the undersigned to discharge in full all obligations of the undersigned incurred in connection with Work covered by prior Applications for Payment under said contract, being Applications for Payment numbered 1 through \_\_\_ inclusive; and (2) all materials and equipment incorporated in said Project or otherwise listed in or covered by this Application for Payment are free and clear of all liens, claims, security interest, and encumbrances.

DATED \_\_\_\_\_ 20\_\_\_\_  
(CONTRACTOR)

BY: \_\_\_\_\_  
NAME AND TITLE

COUNTY OF \_\_\_\_\_ )  
STATE OF \_\_\_\_\_ ) ss

Before me on this \_\_\_ day of \_\_\_\_\_, 20\_\_ personally appeared \_\_\_\_\_ known to me, who being duly sworn, did depose and say that he is the \_\_\_\_\_ of the  
(office)

Contractor above mentioned, that he executed the above Application for Payment and statement on behalf of said Contractor, and that all of the statements contained herein are true, correct and complete.

\_\_\_\_\_  
NOTARY PUBLIC

MY COMMISSION EXPIRES: \_\_\_\_\_

Application for Payment: Sheet 3 of 3



## SECTION 1

### STANDARD REQUIREMENTS & INSTRUCTIONS FOR BIDDING

# **CITY OF DANVILLE**

## **Purchasing Department**

### **STANDARD REQUIREMENTS & INSTRUCTIONS FOR BIDDING**

<p>Applicable to all construction work performed under contract to the City (supersedes all prior versions)</p>
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## 1.0 STANDARD REQUIREMENTS & INSTRUCTIONS FOR BIDDING

### 1.1 DEFINITIONS

The following terms and expressions used in this document shall be understood as follows:

- 1.1.1 Wherever the word "City" or "Owner" is used, it shall be understood to mean the City of Danville, Virginia.
- 1.1.2 Wherever the word "Contractor" is used, it shall be understood to mean the party engaged to perform all work described herein.
- 1.1.3 Wherever the word "Engineer" is used, it shall be understood to mean the City Engineer, or his duly appointed successor, or representative, acting within the scope of the duties entrusted to them and as stated in the contract.
- 1.1.4 Wherever the word "Subcontractor" is used, it shall be understood to mean persons, firms, or corporations having a direct contact with the Contractor, and including those who furnish materials worked to a special design in accordance with the plans and specifications, but not including those who merely furnish materials not so worked.
- 1.1.5 Wherever the word "Addenda" is used, it shall mean written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the bidding documents or the Contract Documents.
- 1.1.6 Wherever the word "Agreement" is used, it shall mean the written agreement between the 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.
- 1.1.7 Wherever the word "Bid" is used, it shall mean the offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- 1.1.8 Wherever the word "Shop Drawings" is used, it shall be understood to mean all drawings, diagrams, illustrations, schedules, and other data which are specifically prepared by or for Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams, and other information prepared by a supplier and submitted by Contractor to illustrate material or equipment for some portion of the Work.
- 1.1.9 Wherever the word "Specifications" is used, it shall be understood to mean those portions of the Contract Documents consisting of written technical descriptions of material, equipment, construction systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.
- 1.1.10 Wherever the word "Supplier" is used, it shall be understood to mean a manufacturer, fabricator, supplier, distributor, materialman, or vendor.

- 1.1.11 Wherever the word "Work" is used, it shall be understood to mean the entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.
- 1.1.12 Wherever the word "Plans" or "Drawings" is used, it shall be understood to mean the Contract Plans, accompanying the specifications and such detail and supplementary drawings as may be furnished from time to time. Plans may be included as part of the specifications. Therefore, the Contractor is directed to familiarize himself with the contents of the complete contract documents.
- 1.1.13 Wherever in the specifications or upon the drawings the words "as directed", "as required", "as permitted", or words of like effect are used, it shall be understood that the direction, requirement, or permission of the Engineer is intended and similarly the words "approved", "satisfactory", or words of like import, shall mean approved or acceptable or satisfactory to the Engineer.
- 1.1.14 Whenever the word "Contract" or "Contract Documents" is used, it shall mean and include Invitation for Bids, Bid Proposal, Agreement between City and Contractor, General Conditions, Payment Bond, Performance Bond, Notice of Award, Notice To Proceed, Addenda, Change Orders, Technical Specifications, with all amendments, modifications, and supplements issued on or after the Effective date of the Agreement.
- 1.1.15 The term "Standard Specification" shall mean Road and Bridge Specifications, Virginia Department of Transportation, current edition, with all amendments.

## 1.2 BIDDER ELIGIBILITY

1.2.1 Bidders are required to submit evidence that they have practical knowledge of the particular work bid upon and that they have the financial resources to complete the proposed work. All contractors, prime and sub, shall be VDOT pre-qualified in all areas of work they propose to perform on this project. Failure on the part of any Bidder to carry out previous contracts satisfactorily, or lack of experience or equipment necessary for the satisfactory and timely completion of this Project, may be deemed sufficient cause for disqualification of said Bidder.

1.2.2 The Bidder must readily and independently document that the Bidder possesses the experience, equipment and financial resources necessary for a timely and professional completion of this project.

1.2.3 The object of any Request For Qualifications is to make it possible for the City to have exact information on the financial ability, equipment owned, and experience of the Bidder in order to reduce the hazards involved in awarding contracts to parties apparently not qualified to perform them, and to select those Bidders qualified to properly complete the Work.

1.2.4 Bids will only be accepted from manufacturers, authorized distributors, dealers, or contractors who are actively engaged in the sale, manufacture, or type of construction of the item(s) called for in the bid. No proposal will be accepted from or contract awarded to any person, firm, or corporation that is in arrears or is in default to the City upon any debt or contract, or that is a defaulter, as surety or otherwise, upon any obligation to said City or had failed to perform faithfully any previous contract with the City. Where an installation or assembly is to be performed

by a subcontractor, the bidder must name the subcontractor, and the City reserves the right to determine whether the named subcontractor is fit and capable to perform the required work. If City, after due investigation, has reasonable objection to any proposed Subcontractor, other person, or organization, it may before giving the Notice of Award request the apparent low Bidder to submit an acceptable substitute without an increase in his Bid price. Any Subcontractor, other person, or organization so listed and to whom the City does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to the City. This does not remove responsibilities for said Subcontractors, suppliers, etc., to comply with the Contract Specifications. The Contractor shall not be required to employ a Subcontractor, other person, or organization against whom he has reasonable objection. The City reserves the right to reject any proposal where an investigation of the available evidence or information does not satisfy the City that the Bidder is qualified to carry out properly the terms of the Contract. The City's decision as to qualifications of the Bidder shall be final.

1.2.5 Under § 54.1-1100 to 54.1-1117 of the Code of the Commonwealth of Virginia, the Contractor shall possess a Class "A" Contractor's license on bids exceeding seventy thousand dollars (\$70,000.) and Class "B" registration on bids exceeding one thousand five hundred dollars (\$1,500.). For further information, contact the Board for Contractors, Virginia Department of Professional and Occupational Regulation (804-367-8500).

### 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. Bid proposals must be written in ink or typewritten and shall be submitted on the forms issued. Unsigned bids will not be accepted. No bid may be considered if received after the time shown on page one of the bid invitation. Contractors are expected to examine all instructions, specifications of the bid invitation, drawings, sites, installations, etc. Failure to do so will be at the Contractor's risk. Erasures or other changes must be initialed by the person signing the bid.

b. Envelopes containing bids must be sealed and marked in the lower left hand corner with the invitation number, project title, and submitted to the office indicated on page number one (1) of the bid invitation. Contractor has the option for electronic bidding on eVA.

### 1.3.3 INTERPRETATION

a. If any person contemplating the submission of a bid is in doubt as to the true meaning of any part of the Invitation For Bid or other 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. In resolving such conflicts, errors, and discrepancies, the documents shall be given precedence in the following order: Agreement, Modifications, Addenda, Supplementary Conditions, Instruction to Bidders, Standard Requirements & Instructions for Bidding, Proposal and Specifications/Drawings. Figure dimensions on drawings shall govern over scale dimensions and detailed drawing shall govern over general drawings.

### 1.3.4 IRREGULAR BID PROPOSALS

Bid proposals shall be considered irregular for the following reasons:

a. If 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.

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

c. If the bid does not contain a unit or lump sum price for each pay item listed in the proposal.

d. If the bid contains unit or lump sum prices that are obviously unbalanced.

e. If the bid is not accompanied by the proposal guaranty specified by the City.

### 1.3.5 WITHDRAWAL OF BID DUE TO ERROR

a. A bidder for a City construction contract, other than a contract for construction or maintenance of public highways, may withdraw his bid from consideration, if the price bid was substantially lower than the other bids due solely to a mistake therein, provided the bid was submitted in good faith and the mistake was a clerical mistake, as opposed to a judgment mistake, and was actually due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor, or material made directly in the compilation of the bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of

original work papers, documents, and materials used in the preparation of the bid sought to be withdrawn.

b. The bidder shall give notice in writing of his claim of the right to withdraw his bid within two (2) business days after the conclusion of the bid opening procedure.

#### 1.3.6 DISQUALIFICATION OF BIDDER

A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. 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.

c. If the bidder is considered to be in "default" for any reason specified in §1.2 "Bidder Eligibility" and § 1.3 "Bid Submittal."

#### 1.4 AWARD CRITERIA

1.4.1 Unless otherwise specified all formal bids submitted shall be binding for ninety (90) calendar days following bid opening date.

1.4.2 The award will be made to the lowest responsible and responsive bidder whose proposal conforming to the invitation will be most advantageous to the City, price and other factors considered such as completion time, fiscal stability of the bidder, prior experience in the type of work called-for in the Invitation, management resources, owned, equipment, service, resale value, etc.

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 as liquidated damages the security deposit. By executing the contract, the Contractor certifies that he has reviewed the Contract Documents and the project area and accepts the conditions of each (See Appendix A, Sample Contract).

#### 1.4.5 NEGOTIATION

In the event the bid from the lowest responsible bidder exceeds available funds, the City may negotiate with the apparent low bidder to obtain a contract price within available funds. The procedures for such negotiations shall be as follows:

a. City, Engineer, and apparent low bidder together will review the project and attempt to find mutually agreeable proposed changes that will effectively reduce the cost of the project.

b. Apparent low bidder will present reasonably documented and substantiated proposed deductions in project cost for each potential project change, which will allow City to evaluate each proposed deduction.

c. The parties will attempt to negotiate and sign a reasonable contract for the entire project, the price of which does not exceed available funds.



## 1.5 GUARANTY

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 enclose in his bid package, a bid bond issued by a surety licensed to do business in Virginia in the amount of five percent (5%) of his bid total. A bank certified check will be accepted in lieu of the bid bond.

b. The successful Contractor shall be required to provide performance and labor & materialman's bonds 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.

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 thirty (30) 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 & Schwartz & Associates Inc., its officers, agents & 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 (See Appendix C – Example of Certificate of Liability Insurance). Each Certificate of Insurance shall require that notice be given thirty (30) days prior to cancellation or material change in the policies to the Director of Purchasing.

g. The insurance required by this Article shall include contractual liability insurance applicable to the Contractor's obligations under §1.5.

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 negotiating, placing, 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 withdrawal of bids and 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 therefore 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, or national origin, except where religion, sex, or

national origin 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 for this nondiscrimination clause.

b. 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.

c. 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.

d. 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.

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

f. 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

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.

#### 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. For further information, contact Commissioner of Revenue's office at (434) 799-5145.

#### 1.8.9 DRUG FREE WORKPLACE

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

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 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 chapter, 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

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

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.

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. The time of completion for this project shall be (to be specified in the Bid Invitation) consecutive calendar days after the issuance of the "Notice to Proceed" by the Engineer.

b. The City reserves the right to suspend work in the case of inclement weather.

c. If the work is delayed by an act, default, or negligence on the part of the City or by approved nonperformance on the part of the Contractor, an equivalent extension of time for completion may be granted by the City when so requested by the Contractor.



### 1.11.2 LIQUIDATED DAMAGES

a. The City is authorized to deduct and retain out of any monies that may be due or become due to the Contractor under this agreement, the sum of (to be specified in the Bid Invitation) dollars per day, not as a penalty but as liquidated damages for each and every day that the work is not completed beyond the time stipulated in specifications; provided that due account shall be taken of any authorized adjustment of the completion schedule.

b. Should the Contractor fail to complete the Work on or before the date stipulated for Completion (or such later date as may result from extension of time granted by the City), the Contractor shall pay the City, as liquidated damages, the sum of (to be specified in the Bid Invitation) for each consecutive day that terms of the Contract remain unfulfilled beyond the date allowed by the Contract, which sum is agreed upon as a reasonable and proper measure of damages which the City will sustain by failure of the Contractor to substantially complete the Work within the time as stipulated. Contractor acknowledges that actual damage to City for late completion would be difficult to estimate accurately and that the liquidated damages specified herein represent a reasonable good faith approximation of the City's anticipated damages. In no way shall costs for liquidated damages be construed as a penalty on the Contractor.

c. The City shall retain from final payment (or any remaining retained percentage otherwise to be paid the Contractor) amounts necessary to compensate the City for liquidated damages for which the Contractor is liable. If the final payment and remaining retained percentage are not sufficient to cover the liquidated damages, the Contractor shall pay the City the damages remaining.

### 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 State and Federal Manual on *Uniform Traffic Control Devices* and the *Virginia Work Area Protection Manual*. 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 schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion at any time. The Contractor shall enter on the chart the actual progress at such intervals as directed by the Engineer, and shall immediately deliver to the Engineer three copies thereof. 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 plans and specifications and in accordance with all applicable sections of VDOT's *Road & Bridge Specifications*, current edition.

##### 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 "Work Changes".

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 "Work Changes".

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 rainfall.

#### 1.14.6 CONSTRUCTION ENGINEERING

a. The Engineer will furnish, upon request by the Contractor, centerline and benchmarks necessary for the execution of the work. The Contractor shall carefully preserve and protect all center line benchmarks and shall be responsible for their replacement if damaged or destroyed and for any mistakes that may be caused by their loss or disturbance.

b. The Contractor shall, at his own expense, provide competent engineering survey services and shall provide and maintain accurate, detailed survey work. The Contractor shall be responsible for the coordination of the work and shall give five (5) days notice prior to start of construction and provide a minimum of three (3) days notice in requesting work. After the staking is completed, the Contractor shall be responsible for all restaking due to missing or disturbed stakes.

c. The Contractor shall use care in protecting existing property irons and monuments adjacent to the work areas. If a property iron or monument must be removed to install new facilities, the Contractor shall be responsible for locating the iron or monument in such a manner that it can be accurately replaced by a registered surveyor after the construction of the new facilities is completed. If a property iron or monument is destroyed by the Contractor, it shall be replaced by a registered surveyor at the Contractor's expense.

#### 1.14.7 WORKING HOURS

Work at the job shall only be performed during the hours of 8:00 a.m. to 5:00 p.m. unless otherwise approved by the Engineer.

#### 1.14.8 USE OF EXPLOSIVES

Blasting or other use of explosives shall be done in accordance with Federal, State, or Local laws. A special blasting permit must be obtained from the City of Danville.

#### 1.14.9 SUBCONTRACTS

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

b. 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.

c. 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.

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

e. Subcontractors shall maintain the proper Virginia registration in accordance with § 1.2.5 and a valid City of Danville business license if one is required.

## 1.15 REMUNERATION

### 1.15.1 QUANTITIES

The quantities indicated on the proposal are estimates only and the Contractor shall be paid according to unit prices for work actually performed.

### 1.15.2 MEASUREMENT OF QUANTITY

a. All work completed under the Agreement will be measured by the Engineer or his designee in accordance with United States standard measures.

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.

c. Quantities designated to be paid on the basis of "Plan Quantity" (i.e. quantities shown on the contract drawings) will not be measured for payment, but the quantity paid shall be as stated in the bid document.

### 1.15.3 PAYMENTS TO THE CONTRACTOR

a. Except as hereinafter provided, the City will pay net 30 all bills submitted by the tenth day of that month; otherwise, by the end of the following month. Unless otherwise provided under the terms of this contract, interest shall accrue at the rate of one percent per month.

b. The City will make payments on estimates approved by the Engineer. The Contractor shall furnish a breakdown of the total contract price showing the amount included therein for each category of the work performed as shown in his proposal for materials stored.

c. At the option of the Engineer, partial payment up to the estimated value, less retainage, may be allowed for any materials and equipment not incorporated in the work, pursuant to the following conditions:

1. Major equipment items stored off site shall be stored in a bonded warehouse and properly maintained during storage.

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

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

4. 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.

d. In making payments, five percent (5%) of the estimated amount shall be retained until final completion and acceptance of the contract work. To the extent required by Subsection 11-56.1 of the Code of Virginia, 1950, as amended, the Contractor shall be given the option to use an escrow account procedure for utilization of such retainage funds as described in that Code section.

e. 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.

f. Upon completion, final inspection and acceptance, the retainage shall be paid to the Contractor.

g. The Contractor, provided all above conditions have been met, has the right to suspend operations after the 30th day following partial billing, if payment has not been received, without forfeiting any of his rights, unless otherwise agreed upon by the City and 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 agreement, 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 agreement; or

2. notify the City and 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'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 allowed in subsection a (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 when deemed in the best interest of the City.

### 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 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 \$10,000, 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 Work plus a Contractors Fee for overhead and profit as determined below.

1.17.3 The term "Cost of 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 in § 1.17.4 below.

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, etc. 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 related to the project, and for which Contractor is liable, imposed by Laws and Regulations.

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 §1.17.3a above 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 incurred under § 1.17.3a & b, the Contractor's Fee shall be ten percent. Contractor's Fee shall not be applied to payroll taxes, social security contributions or unemployment taxes.

b. For costs incurred under § 1.17.3c, any Contractor's Fee shall be five percent.

c. No fee shall be payable on the basis of costs itemized under §1.17.3d 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 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 sub-section.

1.17.6 The contract time will 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. Such delays shall include, but not be limited to, acts of neglect by City or others performing additional work as contemplated and specified elsewhere, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God. No claim for an adjustment in Contract Time will be valid if not submitted in accordance with the requirements of this paragraph.

1.17.7 Should concealed conditions encountered in the performance of the work below the surface of the ground or hidden in existing structures be at variance with the conditions indicated by the contract documents, the contract price may be equitably adjusted by change order upon claim by either party and approval of the other party, made within twenty (20) days after the first observance of the conditions.

1.17.8 The Contractor shall promptly, and before such conditions are disturbed, notify the Engineer in writing of: (a) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (b) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract.

1.17.9 The Engineer shall promptly investigate the conditions, and if he finds that such conditions do so materially differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of this contract, an equitable adjustment shall be made and the contract modified in writing accordingly. Any claim of the Contractor for adjustment hereunder shall not be allowed unless he has given notice as above required; or unless the Engineer grants a further period of time before the date of final payment under the contract.

#### 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 insure 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.

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.

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.

1.19.3 The Engineer will notify the Contractor in writing of any 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 C.F.R. 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 C.F.R. 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 § 01565. 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 C.F.R. 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* 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 handbook. The numbers in parentheses refer to standard and specification number in the handbook (Virginia).

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, as a minimum, shall employ all erosion control measures indicated on the drawings and specified herein. Disturbed areas that are to be left unfinished for more than 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 (numbers from erosion handbook, 1992 Edition):

- 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 Virginia Department of Transportation - *Road and Bridge Specifications* - Latest Edition. 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. 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. Filter fabric shall be Trevira 1127, Mirafi 700X, or equal, 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 EC-3B. The fabric shall conform to VDOT Section 244 and shall be installed in accordance with VDOT Section 606 and the manufacturer's recommendations. The soil stabilization mat shall be Miramat 2400B by Mirafi, or equal, 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.

Appendix A: Sample Agreement  
CITY OF DANVILLE

" \_\_\_\_\_ "

THIS AGREEMENT, made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, by and between the City of Danville, Virginia, hereinafter called the City, and \_\_\_\_\_, hereinafter called the Contractor.

WITNESSETH: That the City and the Contractor, for the consideration hereinafter named, agree as follows:

ARTICLE 1. The Contractor agrees to furnish all materials, labor and equipment necessary, and to perform all the work for the project IFB 24-25-087, " \_\_\_\_\_ " in accordance with terms and provisions of this agreement and all specifications prepared by \_\_\_\_\_, referred to and incorporated herein by reference.

ARTICLE 2. The Contractor agrees that the work under this Agreement will commence not later than ten (10) calendar days after receipt of written Notice to Proceed is given by the City to the Contractor. All work under this contract will be completed and ready for final payment on or before November 28, 2025. Liquidated damages shall be assessed in the amount of one thousand five hundred dollars (\$1,500.00) for each calendar day that expires after the time specified for Completion. Further, Contractor shall pay Owner one thousand five hundred dollars (\$1,500.00) for each calendar day that expires after the time specified for Final Completion

ARTICLE 3. The City agrees to pay Contractor for the performance of the contract the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_), subject to additions and deductions as provided in the specifications. Payments on account thereof shall be made not more than thirty (30) days following the approval by City of its representative as follows:

- a. Except as hereinafter provided, the City will pay by the end of the month all bills submitted by the tenth day of that month; otherwise by the end of the following month.
- b. The City will make payments on estimates approved by the Engineer. The Contractor shall furnish, for approval, a breakdown of the total contract price showing the amount included herein for each category of work performed. This breakdown, modified where directed by the Engineer will be used as a basis for preparing partial estimates and establishing progress payments.
- c. All materials and work covered by payments whether incorporated in the Project or not shall 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 this contract.
- d. At the option of the Engineer, partial payment up to the estimated value, less retainage, may be allowed for any materials and equipment not incorporated in the Work, pursuant to the following conditions:
  1. Major equipment items stored off site shall be stored in a bonded warehouse and properly maintained during storage.

2. Equipment or materials stored on the site shall be properly stored, protected, and maintained.

3. For any partial payment the Contractor shall submit, with his monthly progress payment from each material or equipment manufacturer, bills or invoices indicating actual material cost.

4. 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.

e. Upon completion, final inspection and acceptance, the final payment, including retainage, shall be paid to the Contractor.

f. The Contractor, provided all above conditions have been met, has the right to suspend operations after the 30th day following partial billing, if payment has not been received, without forfeiting any of his rights, unless otherwise agreed upon by the City or its representative and the Contractor.

g. In making payments, there shall be retained five percent (5%) of the estimated amount until final completion and acceptance of the contract work.

ARTICLE 4. During the performance of this Agreement, the Contractor agrees as follows:

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 agreement, 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 agreement; or

2. Notify the City and the 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'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 allowed in subsection a (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.

ARTICLE 5. During the performance of this 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, or national origin, except where religion, sex, or national origin 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 or applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

b. The Contractor, in all 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 otherwise comply with all other applicable provisions of local, state, and Federal law.

ARTICLE 6. The City and the Contractor hereby agree that the Contract specifications, prepared by \_\_\_\_\_ (with the exception of the drawings) are attached hereto, and are incorporated herein and made a part hereof by reference as if fully set forth and include the following:

Contract Drawings  
Performance Bond  
Labor & Material Bond  
Certificate of Insurance  
Contract Documents

ARTICLE 7. Notwithstanding any other provision of this contract the total obligation of the City shall not exceed \$ \_\_\_\_\_ and no increase shall be made to this amount except by a written amendment executed by officials of the City and Contractor who are authorized by law to execute agreements.

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 the Contractor, terminate this Agreement in whole or in part.

ARTICLE 8. It is the intent and understanding of the parties to this Agreement that each and every provision of law required to be inserted in this Agreement shall be and is inserted herein. Furthermore, it is hereby stipulated that if through mistakes and otherwise, any such provision is not inserted in correct form, then this Agreement shall upon application of either party, be amended by such insertion so as to comply strictly with the law and without prejudice to the rights of either party.

ARTICLE 9. This Agreement and the performance hereof 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 therefore shall lie in the City of Danville, Virginia.

ARTICLE 10. The City and the Contractor, for themselves, their successors, executors, administrators and assignees hereby agree to the full performance of the covenants herein contained.

IN WITNESS WHEREOF, these parties hereto have executed this Agreement on the day and year first above written in two (2) counterparts, each of which is to be deemed to be an original agreement.

CITY OF DANVILLE, VIRGINIA

(SEAL)

BY: \_\_\_\_\_ ATTEST: \_\_\_\_\_  
Director of Purchasing City Clerk

\*\*\*\*\*

CONTRACTOR

BY: \_\_\_\_\_ ATTEST: \_\_\_\_\_  
President Secretary

(SEAL)

NOTICE OF AWARD

CITY OF DANVILLE

TO:

PROJECT DESCRIPTION:

The CITY has considered the Bid Proposal submitted by you for the above described WORK in response to its \_\_\_\_\_.

You are hereby notified that your BID has been accepted in the amount of \$\_\_\_\_\_.

The formal contract will be sent to you shortly; you are requested to execute the Agreement and furnish any required certificates of insurance within ten (10) calendar days from the receipt of the contract.

If you fail to execute said Agreement and to furnish said documents within ten (10) days from the receipt of the contract, said CITY will be entitled to consider all your rights arising out of the CITY'S acceptance of your BID as abandoned. The CITY will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the CITY.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

By: \_\_\_\_\_  
Director of Purchasing

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby  
acknowledged by \_\_\_\_\_  
\_\_\_\_\_, this the  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

By: \_\_\_\_\_

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

## NOTICE TO PROCEED

TO: CONTRACTOR: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

FROM: Purchasing Department

OWNER: City of Danville, VA

PROJECT: \_\_\_\_\_

Contract Amount \$ \_\_\_\_\_

The Contractor agrees that the work under this contract will commence not later than ten (10) calendar days after receipt of written Notice to Proceed is given by City to the Contractor. All work under Phase I of this contract will be substantially complete on or before \_\_\_\_\_, \_\_\_\_\_ and completed and ready for final payment on or before \_\_\_\_\_, \_\_\_\_\_.

Liquidated Damages: The Contractor agrees to commence work and complete the project in accordance with the time period set forth in the written "Notice to Proceed". The project shall be completed on or before \_\_\_\_\_. This is a "Fixed Completion Date" Contract with the "Fixed Completion Date" being \_\_\_\_\_ (\_\_\_\_\_-day project). The effective date of the "Notice to Proceed" will be \_\_\_\_\_.

The liquidated damages for delay beyond the allotted time for completion of this project shall be One Thousand Five Hundred and no/100 Dollars (\$1,500) for each consecutive calendar day, including weekends and holidays, that the work remains incomplete. The contractor shall be required to pay a Liquidated Damage in the sum of \$1,500.00 per day for each consecutive calendar day that he goes over this time limit.

City of Danville, Virginia

By: \_\_\_\_\_

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

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

## APPENDIX B

### CITY OF DANVILLE, VIRGINIA

#### ESCROW AGREEMENT

THIS AGREEMENT, made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, by and between the City of Danville, Virginia, (City); and \_\_\_\_\_, (Contractor); and Peoples Bank, (Bank), and \_\_\_\_\_, (Surety) provides:

ARTICLE 1. The City and the Contractor have entered into a contract with respect to City of Danville Project IFB # \_\_\_\_\_ " \_\_\_\_\_ " ("the contract"). This Agreement is pursuant to, but in no way amends or modifies, the contract. Payments made hereunder or the release of funds from escrow shall not be deemed approval or acceptance of performance by the Contractor.

ARTICLE 2. In order to assure full and satisfactory performance by the Contractor of its obligations under the contract, the City hereby retains certain amounts otherwise due the Contractor. The Contractor has, with the approval of the City, elected to have these retained amounts held in escrow by the Bank. This agreement sets forth the terms of the escrow. The Bank shall not be deemed a party to, bound by, or required to inquire into the terms of, the contract or any other instrument or agreement between the City and the Contractor.

ARTICLE 3. The City shall from time to time, pursuant to its contract, pay the Bank amounts retained by it under the contract. Except as to amounts actually withdrawn from escrow by the City, the Contractor shall look solely to the Bank for the payment of funds retained under the contract and paid by the City to the Bank.

The risk of loss by diminution of the principal of any funds invested under the terms of this contract shall be solely upon the Contractor.

Funds held by the Bank pursuant to this Escrow Agreement shall not be subject to levy, garnishment, attachment, lien, or other process whatsoever. Contractor agrees not to assign, pledge, discount, sell, or otherwise transfer or dispose of his interest in the escrow account or any part thereof, except to the Surety.

ARTICLE 4. Upon receipt of checks or warrants drawn by the City Treasurer and made payable to it as escrow agent, the Bank shall promptly notify the Contractor, negotiate the same and deposit the proceeds in an interest-bearing savings account.

ARTICLE 5. Upon receipt of a direction signed by the Director of Finance or the Director of Purchasing of the City of Danville, the Bank shall pay the principal of the fund, or any specified amount thereof, to the City of Danville. Such payment shall be made in cash as soon as is practicable after receipt of the direction.

ARTICLE 6. Upon receipt of a direction signed by the Director of Finance or Director of Purchasing of the City of Danville, the Bank shall pay and deliver the principal of the fund, or any specified amount thereof, to the Contractor, in cash and delivery shall be made as soon as is practicable after receipt of the direction.

ARTICLE 7. For its services hereunder, the Bank shall be entitled to a reasonable fee in accordance with its published schedule of fees or as may be agreed upon by the Bank and the Contractor. Such fee and any other costs of administration of this Agreement shall be paid from the income earned upon the escrow fund and, if such income is not sufficient to pay the same, by the Contractor.

ARTICLE 8. The net income earned and received upon the principal of the escrowed fund shall be paid over to the Contractor in quarterly or more frequent installments. Until so paid or applied to pay the Bank's fee or any other costs of administration, such income shall be deemed a part of the principal of the fund.

ARTICLE 9. The Surety undertakes no obligation hereby but joins in this Agreement for the sole purpose of acknowledging that its obligations as surety for the Contractor's performance of the contract are not affected hereby.

WITNESS the following signatures, all as of the day and year first above written.

CITY OF DANVILLE, VIRGINIA

By: \_\_\_\_\_  
Director of Purchasing

\*\*\*\*\*

CONTRACTOR

By: \_\_\_\_\_  
President

\*\*\*\*\*

PEOPLE'S BANK

By: \_\_\_\_\_

\*\*\*\*\*



## APPENDIX C - EXAMPLE

## CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
INSURED	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	INSURER A:	
	INSURER B:	
	INSURER C:	
	INSURER D:	
INSURER E:		
INSURER F:		

## COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	<b>GENERAL LIABILITY</b>					EACH OCCURRENCE \$
	<input type="checkbox"/> COMMERCIAL GENERAL LIABILITY					DAMAGE TO RENTED PREMISES (Ea occurrence) \$
	<input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR					MED EXP (Any one person) \$
						PERSONAL & ADV INJURY \$
						GENERAL AGGREGATE \$
	GEN'L AGGREGATE LIMIT APPLIES PER					PRODUCTS - COM/OP AGG \$
	<input type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC					\$
	<b>AUTOMOBILE LIABILITY</b>					COMBINED SINGLE LIMIT (Ea accident) \$
	<input type="checkbox"/> ANY AUTO					BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS	<input type="checkbox"/> SCHEDULED AUTOS				BODILY INJURY (Per accident) \$
	<input type="checkbox"/> HIRED AUTOS	<input type="checkbox"/> NON-OWNED AUTOS				PROPERTY DAMAGE (Per accident) \$
						\$
	<b>UMBRELLA LIAB</b>	<input type="checkbox"/> OCCUR				EACH OCCURRENCE \$
	<b>EXCESS LIAB</b>	<input type="checkbox"/> CLAIMS-MADE				AGGREGATE \$
	DED <input type="checkbox"/> RETENTION \$					\$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b>					<input type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				E.L. EACH ACCIDENT \$
	If yes, describe under DESCRIPTION OF OPERATIONS below					E.L. DISEASE - EA EMPLOYEE \$
						E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

IFB Project name, City of Danville, VA.

City of Danville and Schwartz &amp; Associates, Inc., its officers, agents &amp; employees are named as additional insured.

## CERTIFICATE HOLDER

## CANCELLATION

	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE

ACORD 25 (2010/05)

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# INDEX

## SECTION 2

### SPECIAL CONDITIONS

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## SECTION 2 - SPECIAL CONDITIONS

### A. LOCATION OF WORK:

The work to be performed under this agreement shall be performed on the “PROPOSED BRIDGE REPAIR OF WEST MAIN STREET (ROUTE 293) OVER CENTRAL BOULEVARD (ROUTE 86)”.

### B. DESCRIPTION OF WORK:

These Specifications, Special Provisions, and Drawings shall cover the furnishing of all materials, labor, tools, equipment and incidentals necessary to complete the work as shown on the plans and described in these Specifications and Special Provisions including any changes deemed necessary by the Engineer. Payment will only be made for those pay items in pay units given on the bid proposal form.

This work shall be completed in strict accordance with the Drawings, Specifications, and the Virginia Department of Transportation Road and Bridge Specifications, 2020.

### C. SIGNS FOR PROJECT:

The Contractor will be responsible for the fabrication of all signs for traffic control. The contractor will be responsible for fabrication and erection of signs as described in paragraph K, page 2-5.

### D. FIELD OFFICE:

No field office shall be required for this project; however, the Contractor shall have a telephone on the project (either in a trailer or in a vehicle) at all times during normal working hours. This phone shall be placed and paid for at the Contractor's expense and shall be available to the Owner and Engineer for usage.

### E. SEQUENCE OF WORK, TIME FOR COMPLETION AND LIQUIDATED DAMAGES:

The Contractor shall schedule his work to comply with the sequence of operations shown on the contract drawings. The Contractor agrees to commence work and complete the project in accordance with the time period set forth in the written "Notice to Proceed". The project shall be completed on or before November 28, 2025. The Contractor shall complete the work within 180 consecutive calendar days, once work has started. This is a "Fixed Completion Date" Contract with the "Fixed Completion Date" being 180 consecutive calendar days after the effective date of the “Notice to Proceed”. The effective date of the “Notice to Proceed” will be June 2, 2025.

The liquidated damages for delay beyond the allotted time for completion of this project shall be One Thousand Five Hundred and no/100 Dollars (\$1,500) for each consecutive calendar day, including weekends and holidays, that the work remains incomplete. The contractor shall be required to pay a Liquidated Damage in the sum of \$1,500.00 per day for each consecutive calendar day that he goes over this time limit.

F. WATER FOR REPAIRS AND TESTING:

Water required for these repairs will be provided to the Contractor free of charge. Water service will be provided for the Contractor's use in obtaining water for this project. The location of the water service will be determined by the Engineer.

The Contractor will be required to furnish hoses fittings and incidentals that may be necessary. The City Utilities Division shall be the sole operator of the water service. One week's notice shall be required from contractor prior to providing the water service.

G. CONSTRUCTION SCHEDULE:

The contractor shall submit for review, a detailed construction schedule prior to beginning the project. The Owner shall be notified in advance of any major changes in the Construction Schedule as the project progresses. In order to assist the Engineer with Project Staffing Requirements for the following week, the contractor shall provide the Engineer on each Friday, with a detailed work schedule for the following week.

The contractor shall provide the Engineer with at least a 72-hour notice for the following items: 1) maintenance of traffic installation, 2) all surface preparations, 3) shotcrete, 4) substructure concrete repair, 5) deck patching and deck edge repair, 6) epoxy overlay, 7) milling, 8) surface color coating, 9) resealing expansion joints, and all other items. The Contractor may be charged for additional costs of inspection when material and workmanship are found not to be ready for inspection at the time the Contractor calls for inspection.

H. REMOVAL OF EXISTING MATERIAL:

Care shall be taken during all operations to prevent material from falling into the waterway or roadway or sidewalk areas, damaging utility lines attached to or adjacent to the structure.

I. MAINTENANCE OF TRAFFIC:

1. Maintenance of Traffic for repair shall be carried out in the following manner:

All work shall be scheduled and performed in such a manner as to provide a minimum of interference and maximum protection to traffic and workmen. In no case shall traffic be stopped at any time on this project.

2. Temporary lane closures are required of the Contractor and all costs associated shall be borne by the Contractor.

The Contractor shall furnish, at his expense, all traffic control devices associated with the signs such as warning lights, flags, cones or drums, and temporary pavement line markings. The Contractor shall furnish electronic flashing or sequential amber arrows of the type approved by the Engineer, mounted on suitable trucks or trailers, with overhead amber flashers, truck mounted crash cushions and shall maintain and move the electronic arrows and truck mounted crash cushions as needed for control of traffic.

3. General:

All traffic control signs indicated on the layouts or deemed necessary by the Engineer will be furnished by the Contractor. All signs shall be 4 feet by 4 feet, unless otherwise noted and be fabricated in accordance with requirements of Section 701 of VDOT Road and Bridge Specifications. The Contractor shall be responsible for the security of the signs and shall provide a storage area for them when they are not being used. This vandal-proof, weather-tight storage area shall be acceptable to the Engineer.

The Contractor shall furnish, install and maintain amber warning lights at all locations necessary for the control and protection of pedestrian traffic. Warning lights used for delineation of traffic and at locations of hazardous construction items shall be steady burning or flashing lights. Amber warning lights shall be battery-powered lights conforming to the Institute Transportation Engineers (ITE) Standard for Flashing and Steady Burned Barricade Warning Lights.

The Contractor shall provide the services of properly trained, clothed and equipped flagmen at such locations and for such periods as necessary for the control and protection of vehicular and pedestrian traffic.

The Contractor shall maintain the structural integrity and alignment of safety devices at all times, and shall maintain reflectorized surfaces and warning lights in a clean and visible condition at all times. Safety devices shall be inspected at least daily by the Contractor and any deficiencies shall be immediately corrected by the Contractor. The Contractor shall temporarily cover existing signs as directed by the Engineer.

The Contractor shall take adequate precautions to prevent excavated material, paper, polyethylene, sand or other debris from being spilled, blown or tracked onto the traveled roadway throughout the duration of this project. Should any material get onto the traveled roadway, the Contractor shall immediately stop work and have it removed. The Engineer may stop work, if conditions warrant, due to blowing sand.

The Contractor shall not stop traffic at any time on this project.

The Contractor will be allowed to store construction equipment and materials overnight on the right of way provided such equipment is stored at least 30' from the edge of the paved surface or behind concrete traffic barriers. Stored equipment and materials shall be promptly removed when no longer required or as directed by the Engineer. Special care must be taken not to damage the shrubbery, flowers, grass, etc., at the project sites. Damages shall be corrected by Contractor, at Contractor's expense, as directed by the Engineer including re-seeding damaged areas.

The Contractor shall cover all temporary signs when not in use.

At the completion of the project, the Contractor will remove all signs, sign posts, barrels, and cones from the project.

J. PROJECT SIGNS

Two (2) clear and legible project signs (as shown below) shall be provided on the project at each bridge site by the Contractor as soon as he commences work and mobilizes his forces. The signs shall be erected in an appropriate place as determined by the Engineer. Each sign shall contain the following information and meet the following requirements.

- a. Dimensions shall not be less than two (2) feet by three (3) feet.
- b. Lettering shall not be less than one (1) inch tall and one-half (1/2) inch wide.
- c. It shall list Contractor's name.
- d. It shall list who work is performed for.
- e. Phone number of Contractor.
- f. Who to contact in case of emergency and phone number of such person.
- g. The sign shall be constructed of a sturdy and durable material.
- h. Sign or signs shall be placed in such a manner as to be clearly recognizable by the public.

Project signs and their locations shall be approved by the Engineer.

The Contractor shall maintain these signs for the duration of the contract and dispose of them after completion. If these signs become deteriorated and the Engineer decides new signs are needed, the Contractor shall furnish them also. There shall be no separate payment for this item.

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SECTION 3

SUPPLEMENTAL GENERAL CONDITIONS

PAGE NUMBERS

3.0 SUPPLEMENTAL GENERAL CONDITIONS

3-1 – 3-2

SECTION 3  
SUPPLEMENTAL GENERAL CONDITIONS

3.0 SUPPLEMENTAL GENERAL CONDITIONS

3.1 Compliance: The Contractor shall comply with the provisions of the following:

3.1.1 The City of Danville's "Standard Requirements & Instructions for Bidding", Version 1.4 dated May 22, 2008. Copies may be obtained from the Purchasing Office.

3.2 Authority:

A. The Director of Purchasing as the designee of the City Manager has the sole responsibility and authority for negotiating, placing, 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 the 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 negotiations, or in any way obligate the government of the City of Danville for any 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 withdrawal of bids and appeal 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, Post Office Box 3300, Danville, Virginia 24543. The City of Danville does not discriminate against faith based organizations.

3.3 Bid Preparation:

A. Bid proposals must be written in ink or typewritten and shall be submitted on the forms issued. Unsigned or qualified bids will not be accepted. No bid may be considered if received after the time shown on Title Page. Contractors are expected to examine all instructions, specifications, drawings, sites, installations, etc. Failure to do so will be at the Contractor's risk. Erasures or other changes must be initialed by the person signing the bid.

B. Envelopes containing bids must be sealed and marked in the lower left hand corner **IFB 24-25-087 "Proposed Bridge Repair of West Main Street (Route 293) over Central Boulevard (Route 86)"** and submitted to the office indicated on title page. Contractor has the option for electronic bidding on eVA.

3.4 Payments to Subcontractors

1. The Contractor to take one of the two following actions within seven days after receipt of amounts paid to the Contractor by the state agency or local government for work performed by the subcontractor under that contract:

- a. Pay the subcontractor for the proportionate share of the total payment received from the agency attributable to the work performed by the subcontractor under that contract; or
- b. Notify the agency and subcontractor, in writing, of his intention to withhold all or a part of the subcontractor's payment with the reason for nonpayment.

2. Individual Contractors must provide their social security numbers and (ii) proprietorships, partnerships, and corporations to provide their federal employer identification numbers.

3. Contractor must pay interest to the subcontractor on all amounts owed by the Contractor that remain unpaid after seven days following receipt by the Contractor of payment from the state agency or agency of local government for work performed by the subcontractor under that contract, except for amounts withheld as allowed in subdivision 1.

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

Contractor must 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.

A Contractor's obligation to pay an interest charge to a subcontractor pursuant to the payment clause in this section shall not be construed to be an obligation of the state agency or agency of local government. A contract modification shall not be made for the purpose of providing reimbursement for the interest charge. A cost reimbursement claim shall not include any amount for reimbursement for the interest charge.

### 3.5 Observance of Laws

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. The 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.

SCC Number: Contractors organized or authorized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or title 50 or as otherwise required by law.

A Contractor organized or authorized to transact business in the Commonwealth pursuant to Virginia 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 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.



**SECTION 4**  
**SPECIAL PROVISIONS AND REVISIONS TO**  
**VIRGINIA DEPARTMENT OF TRANSPORTATION**  
**ROAD & BRIDGE SPECIFICATIONS 2020 & CURRENT REVISIONS**

	<b><u>PAGE NUMBERS</u></b>
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<b>1.02 EPOXY</b>	<b>SP-2</b>
<b>1.03 MATERIALS - GENERAL</b>	<b>SP-2</b>
<b>1.04 HYDRAULIC CEMENT CONCRETE</b>	<b>SP-2 – SP-6</b>

## 1.01 MISCELLANEOUS NOTES

1. Section 101 Virginia Department of Transportation or Department shall be deemed to mean the City of Danville.

SECTION 105.01 PHASE INSPECTION: The Contractor is hereby advised that the work on this project will be inspected under the Phase Inspection concept at critical stages; however, all stages of the work are subject to inspection.

Prior to beginning operations, the Engineer will meet with the Contractor to establish an understanding of the critical stages of work which will require the presence of an Inspector. The Contractor shall keep the Department informed, in a timely manner, of planned or contemplated operations on a continuing basis.

When an inspection reveals that work has not been properly performed, the Contractor will be so advised and he shall immediately inform the Department of his schedule for correcting such work, as well as the time at which a reinspection of such work can be made.

## 1.02 EPOXY

1. Materials - Material for epoxy resin systems shall conform with Section 243 of 2020 VDOT Road and Bridge Specifications. A letter of certification shall be required stating that epoxy meets all requirements of the VDOT specifications. The letter must show epoxy manufacturer name, VDOT system (EP-4, EP-5, etc.), batch numbers and expiration date of epoxy. In the event this specific type of epoxy to be used is not specified on the plans, the type selected for use shall be submitted in writing to the ENGINEER and shall be subjected to his review prior to use.

## 1.03 MATERIALS - GENERAL

The CONTRACTOR shall provide the ENGINEER certifications for all materials used in this work. These certifications shall give manufacturer's name and address, name of material, VDOT Model No., Batch Number, Federal Color Number (if paint), VDOT Paint Number, quantity contained therein and shall be delivered to the ENGINEER'S office a minimum of five (5) work days before material is to be placed. The certifications shall state that the material meets all the requirements of these Specifications and shall be signed by the CONTRACTOR and notarized. Unless otherwise approved by ENGINEER, all samples taken for testing shall be taken at the manufacturer's plant.

## 1.04 HYDRAULIC CEMENT CONCRETE

- I. Testing - Section 404 of 2020 Virginia Department of Transportation (VDOT) Road and Bridge Specifications is changed in regard to testing and all testing of concrete shall be as detailed below.
  - a. All material shall be shipped from stockpiles approved by VDOT. A notarized letter of certification from the contractor stating that all materials used in the concrete mix and the overall mix meet all requirements of the specifications and the special provisions shall be provided. All mix designs shall be submitted to the ENGINEER for his review.
  - b. Change of Supply Tests - If during the course of this project, the CONTRACTOR desires to change his source of supply of fine or coarse aggregates, or both, he shall secure the services of an approved laboratory and have the tests prescribed by the VDOT specifications performed and new design mixes prepared, and submit them to the ENGINEER for review a minimum of fifteen (15) days before placing concrete. Payment for all change of supply tests shall be made by the CONTRACTOR.
  - c. Job Tests - The ENGINEER may reject any shipment of concrete which in his opinion, does not meet the VDOT specifications, or these specifications.

The ENGINEER, at any time, may require the contractor to have an approved laboratory perform  
SP-2

the prescribed tests on the materials being used.

If the material meets the specifications, then the OWNER shall bear all expense of the tests, otherwise such tests shall be at the CONTRACTOR'S expense, and all concrete placements shall stop until satisfactory materials are obtained. The ENGINEER shall have the CONTRACTOR'S assistance in performing all job tests deemed necessary by the ENGINEER.

- d. Cement Mill test - the cement company supplying Hydraulic cement to the project shall furnish to the ENGINEER for each car of cement, two copies of the certified mill test reports.
- e. Concrete Test Cylinders - During the progress of the work, the ENGINEER at his discretion, may require that concrete test cylinders be taken at various intervals.

The cylinders will be taken by the ENGINEER with the CONTRACTOR'S assistance.

Curing and testing of cylinders will be as directed by the ENGINEER. The CONTRACTOR shall furnish the materials for concrete cylinders at his expense and the OWNER shall bear the expense of cylinder testing.

4. SECTION 217.09 of the Specifications is amended as follows:

Structural concrete (any concrete used on this project) temperature, at time of placement, shall not exceed 85 degrees F.

The concrete producer shall have on-site at the concrete plant a VDOT certified concrete technician (current) who will test every load of structural concrete (concrete to be used in the bridge structures) prior to it leaving the plant site. All tests required on the form, Page SAI-1, shall be performed by the technician and the results listed and the form signed by the technician. Each test results shall be within the specification range allowed in order for shipment to the project site to be allowed.

This completed and signed form and batch weight tickets shall be sent to the project site with each load of structural concrete shipped. Failure to provide this completed form and batch weight ticket shall be cause for rejection of the concrete shipment.

SAI-1  
CONCRETE PRODUCER TESTS

Producer \_\_\_\_\_ Project \_\_\_\_\_

Date \_\_\_\_\_ Load No. \_\_\_\_\_

Truck No. \_\_\_\_\_

1. Moisture Contents:

Fine Aggregate \_\_\_\_\_ Date Tested \_\_\_\_\_

Coarse Aggregate \_\_\_\_\_ Date Tested \_\_\_\_\_

2. Temperature at Time of Testing Concrete

Air \_\_\_\_\_ degrees F

Concrete \_\_\_\_\_ degrees F

3. Air Content - \_\_\_\_\_ %

4. Slump - \_\_\_\_\_ inches

5. Gallons of Water Withheld at Plant \_\_\_\_\_

6. Actual Water/Cement Ratio \_\_\_\_\_

Signed: \_\_\_\_\_

VDOT Certified Concrete Technician  
(Certification Expiration Date \_\_\_\_\_)

NOTE: Aggregate moisture tests shall be performed daily, prior to batching concrete.

5. SECTION 404.02 is expanded to include the following:

The usage of arch marble for coarse aggregate in Class A4 structural concrete will not be permitted.  
The usage of arch marble for coarse aggregate in Class A3 structural concrete will be permitted.

All aggregate used in bridge deck shall be non-polishing. Arch marble is considered to be a polishing aggregate.

6. SECTION 404.03 (h) of the Specifications is expanded to include the following:

Wherever called for on the Drawings, substructure concrete construction joints shall be bonded with a bonding epoxy. This bonding epoxy shall be SIKa ARMATEC 110 (or Engineer approved equivalent) unless otherwise noted on the Drawings.

7. SECTION 404.03 (k) of the Specifications is expanded to include the following:

Cure all structural concrete for a minimum of 7 days using all of the following:

- A. Curing compound.
- B. Wet, well drained burlap and white polyethylene.
- C. Use perforated garden hose to keep burlap wet.

All forms used in placement of substructure concrete shall remain in place, undisturbed, for a minimum of seven (7) full days after concrete placement.

# CONCRETING

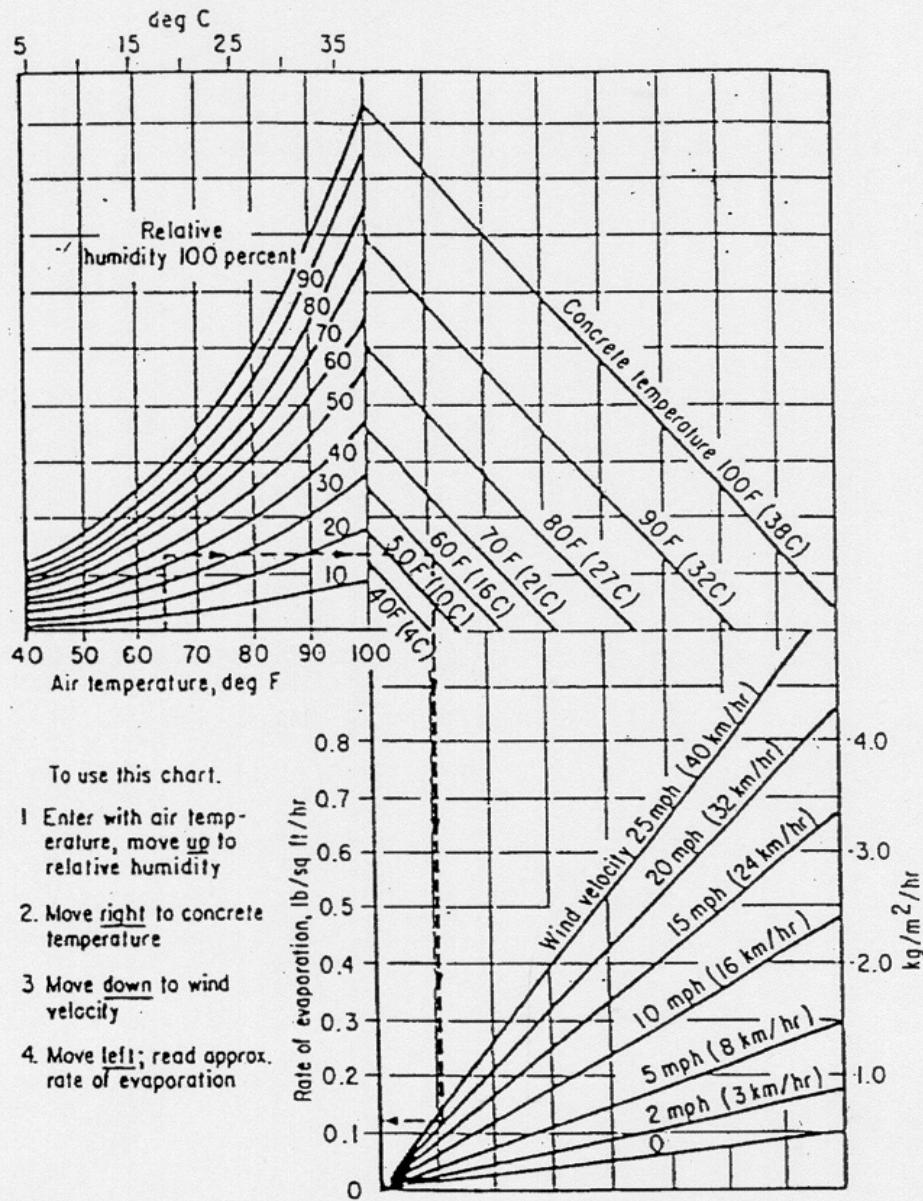


FIGURE 1

EFFECT OF CONCRETE AND AIR TEMPERATURES, RELATIVE HUMIDITY, AND WIND VELOCITY ON THE RATE OF EVAPORATION OF SURFACE MOISTURE FROM CONCRETE. THIS CHART PROVIDES A GRAPHIC METHOD OF ESTIMATING THE LOSS OF SURFACE MOISTURE FOR VARIOUS WEATHER CONDITIONS. TO USE THE CHART, FOLLOW THE FOUR STEPS OUTLINED ABOVE.

**INDEX - SECTION 5**  
**TECHNICAL SPECIAL PROVISIONS**

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**SECTION 5**  
**TECHNICAL SPECIAL PROVISION I**  
**MAINTENANCE OF TRAFFIC**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

This work shall consist of maintenance and protection of pedestrian and vehicular traffic through or around areas of construction. It shall include covering and uncovering existing signs, furnishing, erecting and maintenance of construction signs, sign posts, flags, cones, Type III barricades, temporary pavement line markings, eradication, Type E temporary pavement markings and symbols, Group II Channelizing Devices, arrow boards, installing, and all other items used for traffic maintenance as required by the Virginia Work Area Protection Manual and the contract drawings. It also includes the furnishing of flagmen and lights, furnishing and maintaining illuminated flashing amber arrows, shadow vehicles, and truck mounted attenuators, if required. At the completion of this project the construction signs and sign posts shall be removed by the Contractor and shall remain property of the Contractor. This item also includes all costs associated with lighting & barricading the work areas from pedestrians & motorists according to the plan developed by the CONTRACTOR and approved by the ENGINEER.

"MAINTENANCE OF TRAFFIC" shall also include all signs, posts, materials, labor, tools, equipment, and all incidentals necessary for lane closures on Route 86 (Central Boulevard) using TTC-16.2, TTC-17.2 or TTC-39.2, as applicable, from the latest revision of the Virginia Work Area Protection Manual.

In addition, it shall include all costs associated with providing at all times safe pedestrian access to all businesses and residencies within the limits of the signs erected for the project.

The structural integrity and alignment of safety devices shall be maintained at all times. ReflectORIZED surface and warning lights shall be maintained in a clean and visible condition at all times. All safety devices shall be inspected at least daily, and deficiencies shall be immediately corrected. Safety and protective devices furnished by the Contractor will remain the property of the Contractor and shall be removed from the project site upon completion of the work or as directed by the Engineer.

Site specific adjustments to maintenance of traffic operations, quantity, location, or spacing of traffic control devices, within construction limits or on any approaches to the project, required by the Engineer to improve traffic operation or safety shall not be considered an alteration to the character of work.

All work shall be scheduled and performed in such a manner as to provide a minimum of interference and maximum protection to traffic and workmen. In no case shall traffic be stopped on Route 86 (Central Boulevard).

The CONTRACTOR shall take adequate precautions to prevent material, sand or other debris from being spilled, blown or tracked onto traveled roadways throughout the duration of this project. Should any material get onto a traveled roadway, the CONTRACTOR shall immediately stop work and have it removed. The ENGINEER may stop work, if conditions warrant, due to blowing sand.



1.02 TRAFFIC CONDITIONS & CHANGES IN TRAFFIC PATTERNS OR TRAFFIC CONTROL

Prior to making any changes affecting traffic, the CONTRACTOR shall provide the City's office and the Engineer's office a minimum of two (2) full working days' notice (48 hours).

<u>Name/Organization</u>	<u>Reg. No.</u>	<u>Email</u>
Brian Dunevant, P.E. Assistant Director of Public Works	(434) 799-5019	dunevbl@danvilleva.gov
R. W. Schwartz Schwartz & Assoc., Inc.	(434) 237-6584	rws@schwartzinc.com

1.03 BASIS OF PAYMENT

"MAINTENANCE OF TRAFFIC" will be paid for at the Contract "LUMP SUM" price, which price shall be full compensation of maintenance and protection of pedestrian and vehicular traffic through or around areas of construction. It shall include covering and uncovering existing signs, furnishing, erecting and maintenance of construction signs, sign posts, flags, cones, temporary pavement line markings, Type E temporary pavement markings and symbols, eradication, Type III barricades, Group II Channelizing Devices, installing and furnishing, all materials, labor, tools, equipment, and all incidentals necessary for lane closures on Route 86 (Central Boulevard) all other items used for traffic maintenance as required by the Virginia Work Area Protection Manual and for all materials, labor, tools, equipment, and incidentals necessary to complete the work. It also includes the furnishing of flagmen and lights, furnishing and maintaining illuminated flashing amber arrows, shadow vehicles, and truck mounted attenuators, if required. At the completion of this project the construction signs and sign posts shall be removed by the Contractor and shall remain property of the Contractor. Payment will be made under the Contract pay item:

"MAINTENANCE OF TRAFFIC" – Pay unit will be on a "LUMP SUM" basis.

**SECTION 5**  
**TECHNICAL SPECIAL PROVISION II**  
**SHOTCRETE - TYPE A**

In addition to the requirements of Section 412 of the Virginia Department of Transportation Road and Bridge Specifications, the following shall apply:

1. Inspection. Because of the importance of workmanship effecting the quality of the shotcrete, continual inspection during placement will be maintained. After the shotcrete has obtained sufficient strength to withstand hammering, it will be sounded by the Engineer in an effort to locate sand pockets and/or other unsound areas. Any imperfections discovered shall be cut out and replaced with sound material as directed by the Engineer at the Contractor's expense.
2. Construction Testing. The Contractor shall make one (1) test panel with minimum dimensions of 18" x 18" x 3" gunned in the same position as the work represented for every 50 cubic yards of shotcrete placed but at least one (1) panel per shift. Panels shall be gunned during the course of the work by the Contractor's regular nozzleman. Field cure panels in the same manner as the work, except that the test specimens shall be soaked in water for a minimum of 40 hours prior to testing. An independent testing lab will cut three (3) 3" diameter cores from each panel for testing.

When the length of a core is less than twice the diameter, apply the correction factors given in the ASTM C42 to obtain the compressive strength of individual cores.

The average compressive strength of three (3) cores taken from the test panel representing a shift of 50 cubic yards of shotcrete, must equal or exceed 0.85f<sub>c</sub> with no individual core less than 0.75f<sub>c</sub>.

As an alternate to the usage of test panels, the Engineer may require the Contractor to make a minimum of four (per shift) acceptable 4" diameter x 8" length cylinders for testing. These cylinders shall be made at the Contractor's expense.

Final acceptance of the shotcrete will be based on the results obtained from cores or cylinders, visual inspection, and hammering with masonry hammer. Use of data obtained from impact hammers, ultra-sonic equipment, or other non-destructive testing devices will not be permitted for final acceptance of the shotcrete; however, these data may be useful for determining uniformity of the shotcrete.

The minimum 28-day design compressive strength of shotcrete shall be 5,000 psi.

If the Contractor begins masonry concrete operations when the atmospheric temperature is below 40 degrees F in the shade, the method of cure and protection shall retain or supply moisture and maintain the temperature at the outermost surfaces of the concrete mass above 50 degrees F for at least 72 hours immediately following concrete placement and above 40 degrees F for at least 48 additional hours.

Revised 9-18-18  
1-22-18  
1-15-15  
10-31-13  
4-7-11  
4-3-08  
2-3-93

**SECTION 5  
TECHNICAL SPECIAL PROVISION III  
EPOXY OVERLAY**

**PART 1 GENERAL**

**1.01 DESCRIPTION**

This work shall consist of furnishing and applying epoxy as an overlay over top of deck, top of median, top of sidewalks, all curb faces, full length of bridge from back of backwall to back of backwall in accordance with this specification, and in reasonably close conformity with the lines, grades and details shown on the plans.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

The epoxy shall be type EP-7 conforming to Section 243 of the specifications with the following exceptions:

Epoxy sand shall be amber color for median and railing and dark color for roadway.

**PART 3 CONSTRUCTION METHODS**

**3.01 Safety Provisions**

Personnel shall be thoroughly trained in the safe handling of materials in accordance with Manufacturer's recommendations.

**3.02 Storage of Materials**

Materials shall be stored in accordance with Section 243 of the Specifications. MSDS and other information pertaining to the safe practices for the storage, handling and disposal of the materials, and to their health hazards shall be obtained from the manufacturers and posted at storage areas. A copy of such information shall be provided to the engineer.

**3.03 Surface Preparation**

Prior to placing the first course, the contractor shall determine the concrete cleaning method in accordance with VTM-92 to obtain the size of shot, flow of shot, forward speed of shotblast machine and number of passes necessary to provide a tensile rupture strength greater than or equal to 250 psi or a failure area, at a depth of 1/4 inch or more into the base concrete, greater than 50% of the test area. A test result shall be the average of three tests on a test patch of at least 1.5 ft. x 3 ft. consisting of two courses. One passing test result must be obtained for each span or 300 sq. yd., whichever is the smaller area. Test patches shall be placed in wheel paths, the area between wheel paths or in other areas that represent a worst surface condition as determined by the engineer. To provide assurance that the cleaning procedure, materials, installation procedure and curing period will provide the desired overlay, test patches shall be installed with the same materials, equipment, personnel, timing, sequence of operations and curing period prior to opening to traffic that will be used for the installation of the overlay. The cleaning method, materials and installation procedure will be approved if one passing test

result is obtained from each test area. Prior to installing a test patch, the Engineer shall visually approve the cleaned concrete surface. This does not in any way relieve the Contractor from obtaining passing test results.

If the cleaning method, materials and installation procedure are not acceptable, the contractor must remove failed test patches and make the necessary adjustments, and test all test areas at no additional cost to the department until satisfactory test results are obtained.

Before placement of the epoxy concrete overlay, the entire concrete surface shall be cleaned by shotblasting and other means using the approved cleaning method to remove asphaltic material, oils, dirt, rubber, curing compounds, paint carbonation, laitance, weak surface mortar and other potentially detrimental materials, which may interfere with the bonding or curing of the overlay. Acceptable cleaning is usually achieved by blasting concrete to a medium finish, that is one sufficient to generally expose coarse aggregate with slight reveal – maximum reveal 1/4 inch. Areas of asphalt larger than one inch in diameter, or smaller areas spaced less than six inches apart, shall be removed. Traffic paint lines shall be removed completely. A vacuum cleaner shall be used to remove all dust and other loose material. Brooms shall not be used and will not be permitted.

If the engineer determines that an approved cleaning method has changed prior to the completion of the job, the contractor must return to the approved cleaning methods and reclean the suspect areas or verify through tests at no additional cost to the department that the method is acceptable.

Epoxy concrete overlay shall not be placed on hydraulic cement concrete than is less than 28 days of age. Patching and cleaning operations shall be inspected and approved prior to placing each layer of the overlay. Any contamination of the deck or to intermediate courses, after initial cleaning, shall be removed. Both courses shall be applied within 24 hours following the final cleaning and prior to opening the area to traffic.

There shall be no visible moisture present on the surface of the concrete at the time of application of the epoxy concrete overlay. Compressed air may be used to dry the deck surface.

### 3.04 Equipment

For mechanical applications, equipment shall conform to Section 431 of the specifications, and shall consist of not less than epoxy distribution system, fine aggregate spreader, application squeegee and vacuum trucks, and a source of lighting if work will be performed at night. The distribution system or distributor shall accurately blend the epoxy materials at the specified rate to the bridge deck in such a manner as to cover 100% of the work area. The fine aggregate spreader shall be propelled in such a manner as to uniformly and accurately apply the dry silica sand or basalt to cover 100% of the epoxy material. The vacuum truck shall be self-propelled.

### 3.05 Application

Handling and mixing of the epoxy resin and hardening agent shall be performed in a safe manner to achieve the desired results in accordance with Section 243 of the specifications, and with the manufacturer's recommendations as approved or directed by the engineer. Epoxy concrete overlay materials shall not be placed when weather or surface conditions are such that the material cannot be properly handled, placed and cured within the specified requirements of traffic control.

The epoxy overlay shall be applied in two separate courses in accordance with the following rate of application, and the total of the two applications shall not be less than 7.5 gallons per 100 sq. ft.

The epoxy overlay shall be applied in two separate courses in accordance with the following rate of application, and the total of the two applications shall not be less than 7.5 gallons per 100 sq. ft.

<b>COURSE</b>	<b>RATE GAL/100 SQ. FT.</b>	<b>AGGREGATE LBS./SQ. YD.*</b>
1	No less than 2.5	10+
2	No less than 5.0	14+

\*Application of aggregate shall be of sufficient quantity to completely cover the epoxy.

After the epoxy mixture has been prepared for the epoxy concrete overlay, it shall be immediately and uniformly applied to the surface of the concrete with a squeegee or paint roller. The temperature of the concrete surface and all epoxy and aggregate components shall be 60°F or above at the time of application. Epoxy shall not be applied if the air temperature is expected to drop below 55°F within eight hours after application, or the gel time is less than 10 minutes. The dry aggregate shall be applied in such a manner as to cover the epoxy mixture completely within five minutes.

All personnel applying the epoxy or sand shall wear steel cleated shoes (1/4" diameter max. cleat). First course applications, which do not receive enough sand prior to gel, shall be removed and replaced. A second course insufficiently sanded may be left in place, but will require additional applications before opening to traffic. Each course of epoxy concrete overlay shall be cured until vacuuming or brooming can be performed without tearing or damaging the surface. Traffic or equipment shall not be permitted on the overlay surface during the curing period. After the course, one curing period, all loose aggregate shall be removed by vacuuming or brooming and the next overlay course applied to completion. The minimum curing periods shall be as follows:

**AVERAGE TEMPERATURE OF DECK, EPOXY AND AGGREGATE  
COMPONENTS IN °F.**

<b>COURSE</b>	<b>60-64</b>	<b>65-69</b>	<b>70-74</b>	<b>75-79</b>	<b>80-84</b>	<b>85+</b>
1	4 hrs.	3 hrs.	2.5 hrs.	2 hrs.	1.5 hrs.	1 hr.
2	6.5 hrs.*	5 hrs.	4 hrs.	3 hrs.	3 hrs.	3 hrs.

\*Course 2 shall be cured for 8 hours if the air temperature drops below 60°F during the curing period.

The contractor shall plan and prosecute the work to provide the minimum curing periods as specified herein, or other longer minimum curing periods as prescribed by the manufacturer prior to opening to public or construction traffic, unless otherwise permitted. Course 1 applications shall not be opened to traffic.

Unless otherwise specified, the epoxy concrete overlay courses shall be applied over the expansion joints of the bridge deck. The expansion joints shall be provided with a bond breaker. Within 12 hours of application and prior to opening to traffic, the overlay shall be removed over each joint by removal of the bond breakers.

All vertical and inclined surfaces shall be abrasive cleaned, waterproofed and sand applied, as directed by the Engineer.

Masking shall be used to form straight edges and between construction stages between new overlay and existing concrete. Masking will be required along edges to prevent epoxy from getting on surfaces that do not require overlay. Epoxy that runs on surfaces that do not require epoxy shall be cleaned as directed by the Engineer at the Contractor's full expense.

All masking shall be staggered between 1st and 2nd coat, including test panels, as directed by the Engineer at the Contractor's full expense.

In the event the contractor's operation damages or mars the epoxy concrete overlay, the contractor shall remove the damaged areas by saw cutting in rectangular sections to the top of the concrete deck surface and replace the various courses in accordance with this specification at no additional cost to the department.

For each batch provided, the contractor shall maintain and provide to the engineer, records including but not limited to, the following:

1. Batch numbers and sizes
2. Location of batches as placed on deck, referenced by stations
3. Batch time
4. Gel time (50 ml sample)
5. Temperature of the air, deck surface, epoxy components, including aggregates
6. Loose aggregate removal time
7. Time open to traffic

#### **PART 4 MEASUREMENT AND PAYMENT**

- 4.01 Epoxy overlay will be measured and paid for in square yards, which price shall be full compensation for concrete preparation and testing, for furnishing and applying the overlay courses.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Epoxy Concrete Overlay	Square Yard

For hand applications, equipment shall consist of calibrated containers, a paddle type mixer, squeegees, rollers and brooms, which are suitable for mixing the epoxy and applying the epoxy and aggregate in accordance with Section 243 of the specifications.

## **Virginia Test Method – 92**

### ***Testing Epoxy Concrete Overlays for Surface Preparation and Adhesion - (Physical Lab)***

**November 1, 2000**

#### **1. Scope**

- 1.1 This method covers the test procedure used to measure the tensile rupture strength between hydraulic cement concrete and epoxy concrete overlay.
- 1.2 This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of whoever uses this standard to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

#### **2. Apparatus**

- 2.1 Dillon dynamometer mechanical testing device for pulling a bonded pipe cap in tension.
- 2.2 Core drill with 2.2" (56 mm) inside diameter diamond tipped core barrel.
- 2.3 A standard 1 1/2" (38 mm) diameter pipe cap, the bottom surface of which has been machined smooth, flat, and shoulder cut to provide a 2" (50 mm) diameter surface.
- 2.4 A rapid curing epoxy compound with a working (pot) life of 3 to 25 minutes.
- 2.5 Ruler or measuring device.
- 2.6 Small propane torch (optional).
- 2.7 Surface and internal thermometers.

#### **3. Procedure**

- 3.1 Select 1.5' x 3' (0.5 m x 1 m) areas of bridge deck for test patches. The test patches should cover typical surface conditions found on the bridge deck (e.g. if the bridge deck surface contains 10% concrete patching then 10% of the test patches on the bridge deck should be placed on these patches). Test patches shall be placed in the wheel paths, in the area between wheel paths and in other areas that represent the worst surface condition.
- 3.2 Clean the 1.5' x 3' (0.5 m x 1 m) test patch area with the same equipment to be used in cleaning the entire deck. Clean means to remove all asphaltic materials, oils, dirt, rubber, curing compounds, paint, carbonation, laitance, weak surface mortar and other detrimental materials that can interfere with the curing or adhesion of the overlay. Cleaning is usually achieved by significantly changing the color of the concrete and beginning to expose coarse aggregate particles.
- 3.3 Record the forward speed of the shotblaster using a stop watch and the number of passes needed to prepare the surface. Record the size of shot and flow of shot.
- 3.4 Tape off an area 1.5' x 3' (0.5 m x 1 m) using duct tape. Measure and record the temperatures of the air, deck surface and epoxy components.

- 3.5 Mix the epoxy components A and B by volume as prescribed by the supplier using the same equipment, timing and sequence of operation as will be used in the full scale placement of overlay.
- 3.6 Collect a 50 ml sample of the mixed epoxy and measure and record the epoxy gel time. The gel time is the time interval between the initial mixing of the epoxy and the time the epoxy turns from a liquid to a gel.
- 3.7 Measure accurately 1/2 quart (0.5 liter) quantities of the epoxy mixture and place each quantity of a 1.5' x 3' (0.5 m x 1 m) test area spreading with a squeegee in the same manner as the full scale operation. The epoxy mixture should be applied uniformly over the cleaned area without puddling. Drop dry epoxy overlay aggregate on test patch at the rate of 10 lbs/yd<sup>2</sup> (5.4 kg/m<sup>2</sup>), or apply to excess.
- 3.8 Allow the epoxy to cure as required to allow sweeping or vacuuming without damaging the surface (curing time varies according to temperature). Curing of 1st course can be checked by placing thumb on the aggregate and applying pressure. If aggregate moves, curing has not been sufficient. The following minimum cure times are typical:

<u>Time</u>	<u>Temperature</u>
1 hr.	85° F (29° C)
2 hrs.	75° F (24° C)
3 hrs.	65° F (18° C)
5 hrs.	55° F (13° C)

- 3.9 Sweep or broom the 1.5' x 3' (0.5 m x 1 m) test patch to remove excess aggregate.
- 3.10 Measure accurately 1 quart of epoxy mixture and place on 1.5' x 3' (0.5 m x 1 m) test patch spreading uniformly with a squeegee without puddling. Apply dry epoxy aggregate on the test patch at a rate of 14 lbs/yd<sup>2</sup> (7.6 kg/m<sup>2</sup>), or apply to excess.
- 3.11 Allow the epoxy to cure as required to prevent damage from traffic. The following minimum cure times are typical:

<u>Time</u>	<u>Temperature</u>
3 hrs.	75° F (24° C) or higher
5 hrs.	65° F (18° C)
8 hrs.	55° F (13° C)

- 3.12 Core drill through the hardened epoxy overlay down into the concrete surface 3/8" ± 1/8" (10 mm ± 3 mm) with a diamond tipped core barrel (Figure 1). The inside diameter of the core barrel must be 2.2" (56 mm)
- 3.13 Vacuum or blow out dust around the core. Bond a 1 1/2" (38 mm) pipe cap that has been machined with a flat bottom surface 2.0" in (50 mm) diameter to the cored overlay disk. The epoxy adhesive used to bond the pipe cap to the overlay should be a rapid curing epoxy with a minimum working life of 3 minutes. Apply a small amount of epoxy adhesive to the pipe cap surface and the cored disk. Do not allow any epoxy adhesive to flow over the edge of the cored disk or down into the cored area. If this occurs, a test result shall not be recorded, an alternate area shall be cored and another test performed. Heat may be applied to pipe cap by means of a small propane torch to decrease the curing time of the adhesive. Never heat the cored disk directly!!! The temperature of the pipe cap shall be monitored and at no time shall the temperature exceed 120° F (49° C).
- 3.14 Place a plywood template with a 2 1/2" (63.5 mm) diameter hole in the center around the pipe cap. The location of the template corners are marked on the deck so that the test rig for the dynamometer will be centered over the pipe cap during the tensile rupture test. The



plywood template will vary depending on the test apparatus used. The typical dimensions are 3/4" x 12 1/2" x 18 1/2" (19 mm x 318 mm x 470 mm).

- 3.15 Screw the lower 1/2" (13 mm) threaded hook into the pipe cap (Figure 1). Place the testing apparatus over the pipe cap and align with the marks on the bridge deck. The testing apparatus shop drawings are provided in Figures 2, 3 and 4.

Note: It is of the utmost importance that the equipment be aligned so the axis of the dynamometer will coincide with the extended axis of the pipe cap to give accurate test results.

- 3.16 Attach dynamometer to upper and lower hooks. Set the load indicator on the dynamometer to zero. Check the date of calibration on the dynamometer. It must have been calibrated within the last 12 months. Apply a tensile load at the rate of approximately 100 lbs. (45.4 kg) every 5 seconds. Record the load at which the pipe cap and connected core is separated from the concrete surface. Record the type of failure. There are five types of failures:

Type 1 - Failure in the concrete at a depth greater than or equal to 1/4" (6 mm) over more than 50% of test area.

Type 2 - Failure in the concrete at a depth less than 1/4" (6 mm) over more than 50% of test area.

Type 3 - Separation of the epoxy overlay from the concrete surface.

Type 4 - Failure within the epoxy overlay.

Type 5 - Failure of the epoxy test adhesive.

A properly applied epoxy overlay on a properly prepared surface should result in a failure in the concrete (Type 1). Record the percent of each type of failure for each pipe cap.

Three pull off tests will be performed on each 1.5' x 3' (0.5 m x 1 m) test patch. The average of the 3 tests will be recorded as one test result. If a tensile rupture test yields a Type 1 failure and the tensile rupture stress is less than 250 psi, (1.72 MPa) this test will be discarded and the test result will be the average of the 2 remaining tensile rupture tests; or the third test if two Type 1 failures occur.

- 3.17 The hole created by the tensile rupture test shall be repaired with a mixture of the epoxy and aggregate used in the overlay.

#### 4. Calculation

TRS = Tensile Rupture Strength

P = Load (Dynamometer)

A = Area of cored disc

A = 4.0"<sup>2</sup> (10,300 mm<sup>2</sup>) when a 2.25" (57 mm) diameter core is used

$$TRS = \frac{P}{A}$$

5. **Sample Worksheet For Test Patches**

Surface Preparation by Shotblasting

Number of passes	2
Time	15 seconds
Feet (Meters)	3 (0.9)
Speed	12 ft./min. (0.061 m/s)
Size of Shot	330
Shot Flow Valve Position	Wide Open

Epoxy - Lab No. EP 98765

	Course 1	Course 2
Batch Size	10 gallons (38 liters)	10 gallons (38 liters)
Mix Time	10:13 a.m. 6/2/06	12:30 p.m. 6/2/06
Gel Time	19 minutes	17 minutes
Aggregate Removal Time	12:15 p.m. 6/2/06	4:00 p.m. 6/2/06
Open to traffic		4:30 p.m. 6/2/06
Temperatures		
Deck	80° F (29° C)	85° F (29° C)
Air	77° F (28° C)	82° F (28° C)
Part A	75° F (27° C)	80° F (27° C)
Part B	75° F (27° C)	80° F (27° C)

Test Patch

Number	Location	Type Failure	Tensile Rupture Load, lbs. (kg)	Result (P/A) PSI (MPa)
1	Span 1, SBL 8 ft. (2.4 m) left of curb 15 ft. (4.6 m) S. of joint	1 3 2	1. 1300 (590) 2. 1100 (500) 3. 1000 (450)	283 (1.95)
2	Span 2, SBL 6 ft. (1.8 m) left of curb 10 ft. (3 m) S. of joint	2 1 3	1. 1200 (540) 2. 1000 (450) 3. 900 (410)	258 (1.78)
3	Span 3, SBL 9 ft. (2.7 m) left of curb 7 ft. (2.1 m) S. of joint	3 2 1	1. 1300 (590) 2. 1200 (540) 3. discard	313 (2.16)

6. **Sample Worksheet For Test Patches**

Surface Preparation by Shotblasting

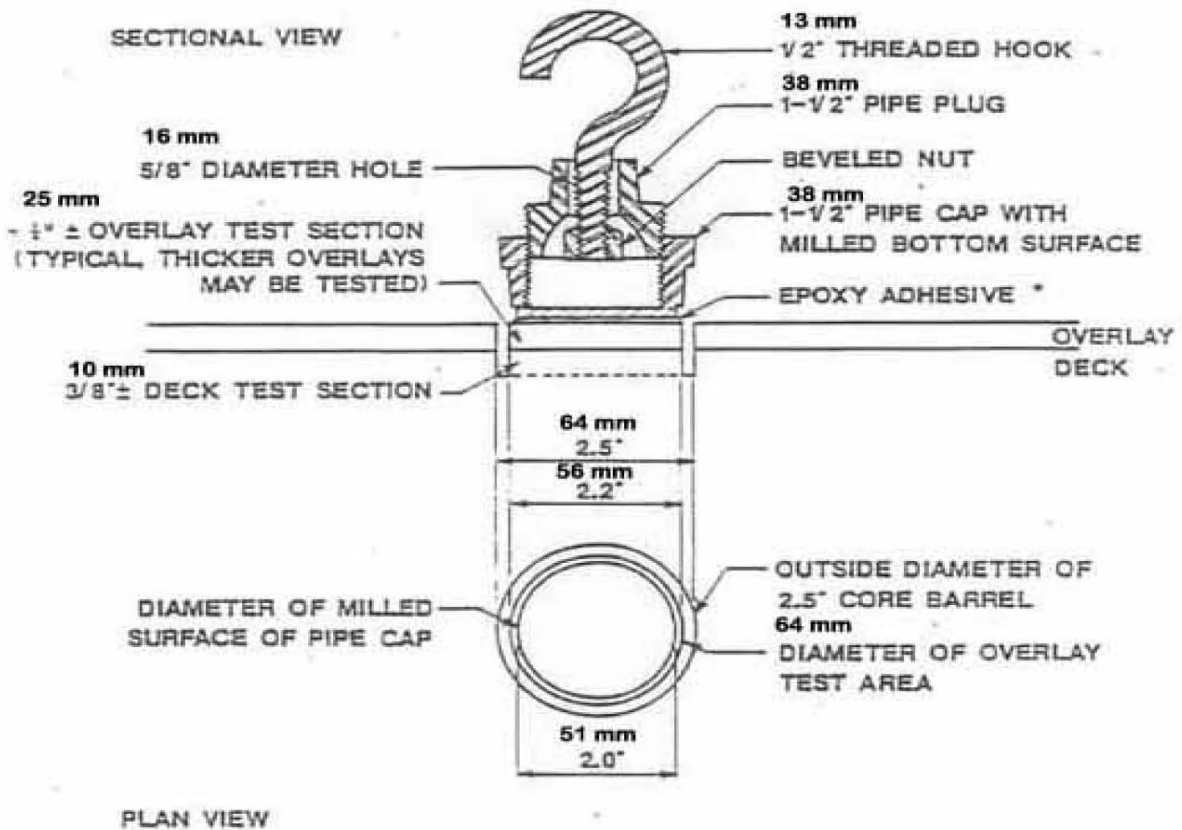
Number of passes	
Time	
Feet (Meters)	
Speed	
Size of Shot	
Shot Flow Value Position	

Epoxy - Lab No. EP

	Course 1	Course 2
Batch Size		
Mix Time		
Gel Time		
Aggregate Removal Time		
Open to traffic		
Temperatures		
Deck		
Air		
Part A		
Part B		

Test Patch

Number	Location	Type Failure	Tensile Rupture Load, lbs. (kg)	Result (P/A) PSI (MPa)
1				
2				
3				

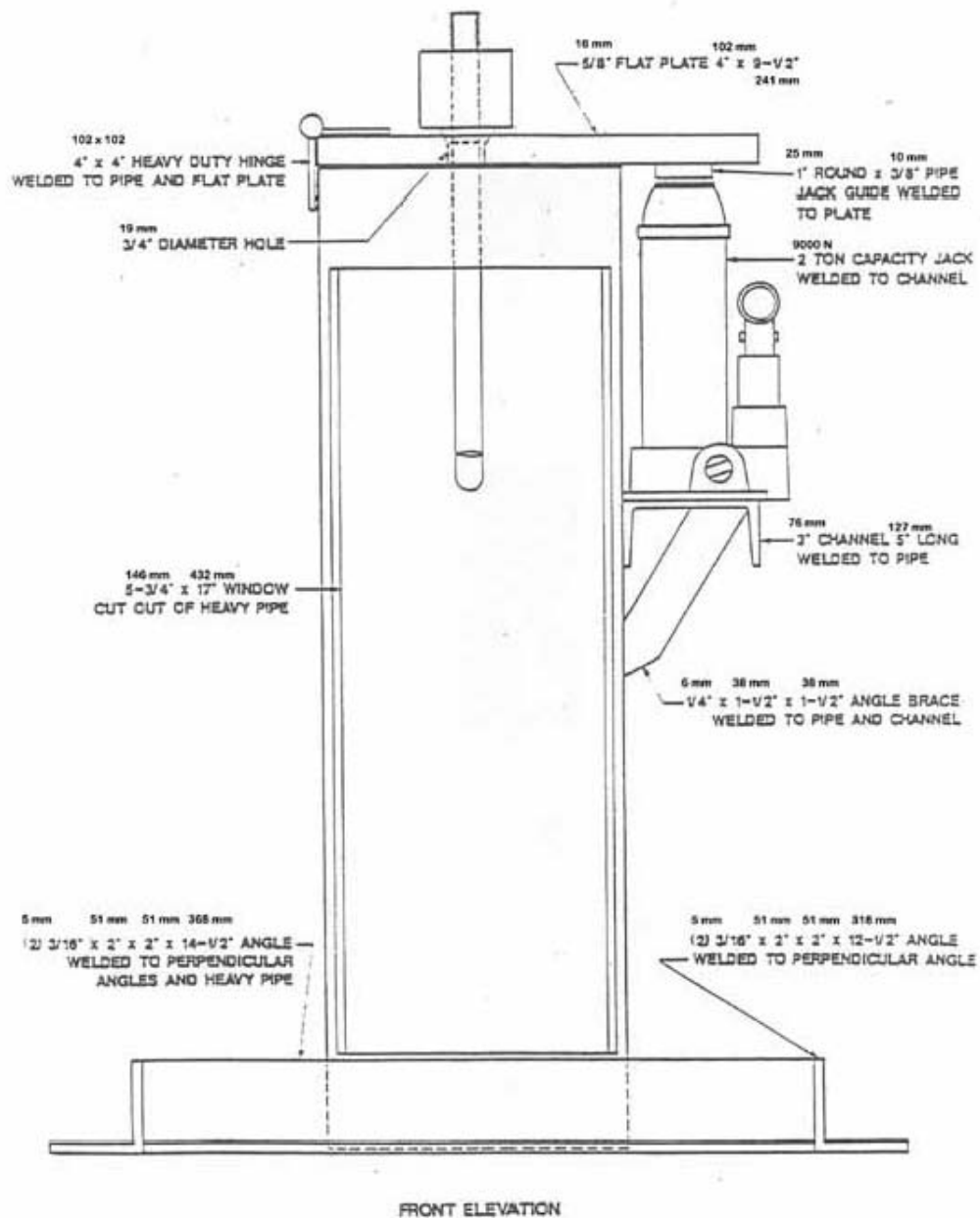


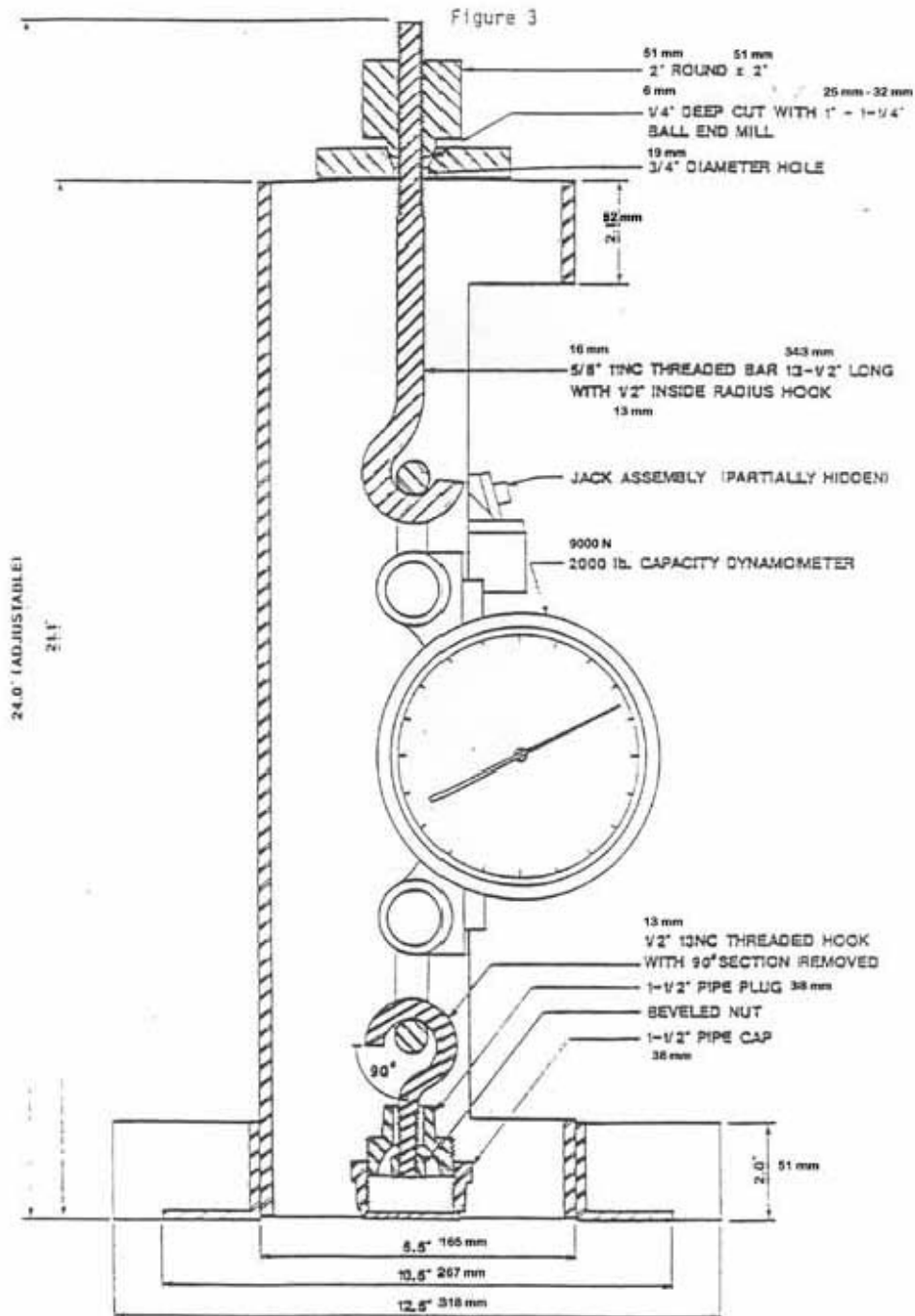
#### DETAILS OF LOWER CONNECTION

#### NOTE:

AFTER THE PIPE CAP IS BONDED TO THE DECK AND PRIOR TO TESTING THE CAP, A PLYWOOD TEMPLATE (3/4" x 12-1/2" x 18-1/2") WITH A 2-1/2" DIAMETER HOLE IN THE CENTER IS PLACED AROUND THE PIPE CAP. THE LOCATION OF THE TEMPLATE CORNERS ARE MARKED ON THE DECK SO THAT THE TEST RIG MAY BE CENTERED OVER THE PIPE CAP FOR THE TEST.

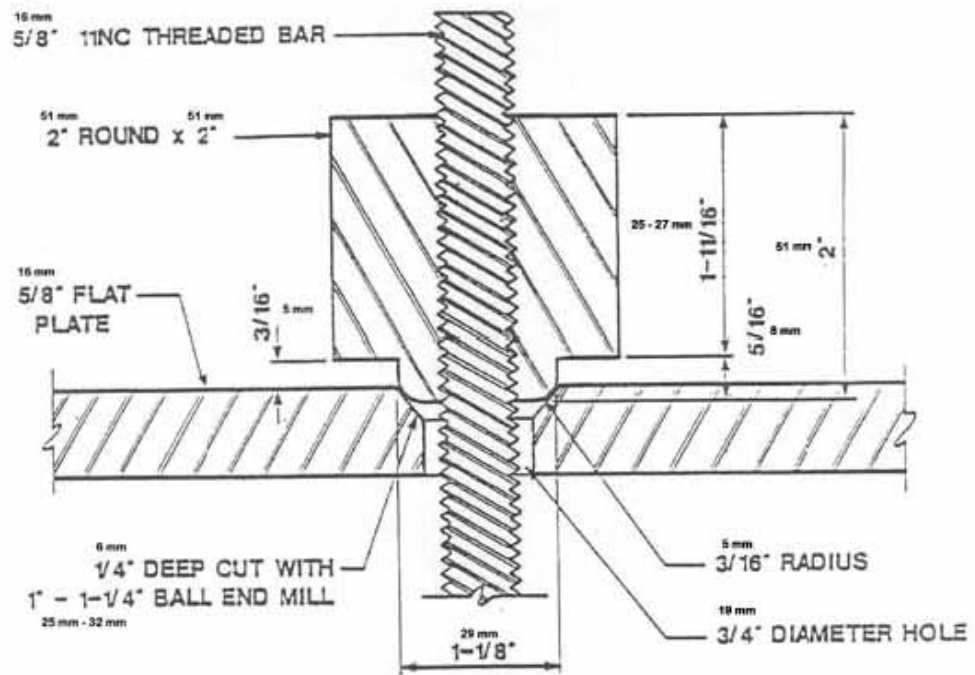
\* TEST NOT VALID IF EPOXY ADHESIVE ON DECK CONCRETE OR OUTSIDE OF TEST SECTION.





SECTION THROUGH CENTER SHOWING FACE OF DYNAMOMETER

Figure 4



DETAIL SHOWING ALLOWANCES FOR ECCENTRICITY  
IN UPPER CONNECTION



**SECTION 5  
TECHNICAL SPECIAL PROVISION IV  
ARMATEC 110 BONDING EPOXY**

**PART 1 - GENERAL**

**1.01 WORK INCLUDED**

- A. Furnish all materials, labor, tools, and equipment to bond plastic cement mortar/concrete to hardened hydraulic cement mortar/concrete as designated by the Owner or required by Contract Drawings and these Special Provisions.

**1.02 RELATED WORK**

- A. Hydraulic cement mortar/concrete placement
- B. Crack repairs

**1.03 QUALITY ASSURANCE**

- A. Manufacturer shall provide a well-trained technical field representative to direct the Contractor's work. This individual shall be at the project site for a minimum of two days at the beginning of this installation.
- B. Provide a notarized certificate stating that the epoxy resin adhesive meets the specified requirements and have the manufacturer's current printed literature on the specified product.

**1.04 DELIVERY, STORAGE AND HANDLING**

- A. Deliver the specified product in original, unopened containers with the manufacturer's name, labels, product identification and batch numbers.
- B. Store and condition the specified product as recommended by the manufacturer.

**1.05 JOB CONDITIONS**

- A. Environmental Conditions: Do not apply material if it is raining or snowing or if they appear to be imminent. Do not apply material if air or surface temperature is below 45 degrees F or is expected to fall below 40 degrees F before new concrete is placed.
- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the epoxy resin adhesive.

## PART 2 - PRODUCERS

### 2.01 ACCEPTABLE MANUFACTURERS

- A. Sika Armatec 110 EpoCem, as manufactured by Sika Corporation, Lyndhurst, New Jersey, is considered to conform to the requirements of this specification and has performed satisfactorily for bonding plastic hydraulic cement mortar/concrete to hardened hydraulic cement mortar/concrete.
- B. Substitutions: The use of other than the specified product will be considered providing the Contractor requests its use in writing to the Engineer. This request shall be accompanied by (a) A certificate of compliance from an approved independent testing laboratory that the proposed substitute product meets or exceeds the specified performance criteria, tested in accordance with the specified test standards; and (b) Documented proof that the proposed substitute product has a three-year proven record of performance of bonding plastic hydraulic cement mortar/concrete to hardened hydraulic cement mortar/concrete, confirmed by actual field tests and five successful installations that the Engineer can investigate.

### 2.02 PERFORMANCE CRITERIA

- A. Properties of the mixed epoxy resin/portland cement adhesive.
  - 1. Pot Life: 90 minutes @ 73° F
  - 2. Contact Time: 95°F (35°C) 6 hours
    - 80-95F (26-35C) 6 Hours
    - 65-79F (18-26C) 12 Hours
    - 50-64F (10-17C) 16 Hours
    - 40-49F (4-9C) wet on wet
  - 3. Color: dark gray
- B. Properties of the cured epoxy resin/portland cement adhesive.
  - 1. Compressive Strength (ASTM C-109)
    - a 3 day: 4500 psi (31.0 MPa)
    - b. 7 day: 6500 psi (44.8 MPa)
    - c. 28 day: 8500 psi (58.6 MPa)
  - 2. Splitting Tensile Strength (ASTM C-496)
    - a. 28 days: 600 psi (4.1 MPa)
  - 3. Flexural Strength (ASTM C-348)
    - a. 1250 psi (8.6 MPa)
  - 4. Bond Strength ASTM C-882 at 14 days
    - a. Wet on Wet, 0-hr. open time: 2800 psi ( 19.3 MPa)
  - 5. Bond of Steel Reinforcement to Concrete (Pullout Test)
    - a. Sika Armatec 110 coated 625 psi (4.3 MPa)
    - b. Epoxy coated 508 psi (3.5 MPa)
    - c. Plain Reinforcement 573 psi (3.95 MPa)
  - 6. The epoxy resin/portland cement adhesive shall not produce a vapor barrier.
  - 7. Material must be proven to prevent corrosion of reinforcing steel when tested under the procedures as set forth by the Federal Highway Administration Program Report No. FHWA/RD86/193. Proof shall be in the form of an independent testing laboratory corrosion report showing prevention of corrosion of the reinforcing steel.

Note: Tests above were performed with material and curing conditions at 73°F and 45-55% relative humidity.

## 2.03 MATERIALS

### A. Epoxy resin/hydraulic cement adhesive:

1. Component "A" shall be an epoxy resin/water emulsion containing suitable viscosity control agents. It shall not contain butyl glycidyl ether.
2. Component "B" shall be primarily a water solution of a polyamine.
3. Component "C" shall be a blend of selected Portland cements and sands.
4. The material shall not contain asbestos.

## PART 3 - EXECUTION

### 3.01 SURFACE PREPARATION

- A. Concrete surface must be clean and sound. Substrate may be dry or damp, but free of standing water and frost. Remove dust, laitance, grease, curing compounds, waxes, impregnations, foreign particles, coatings, and disintegrated materials by mechanical means, i.e. - sandblasting, high-pressure waterblasting, etc., as approved by the Engineer.
- B. Cracks in the substrate in the area of the patching or overlay work must be treated as directed by the Engineer.
- C. Extend all existing control and expansion joints through any patch or overlay. Install new joints as directed by the Engineer. Fill all joints as directed by the Engineer.
- D. Supply and place hydraulic cement mortar/concrete as directed by the Engineer Mix designs must be pre-approved by the Engineer.

### 3.02 MIXING AND APPLICATION

- A. Mixing the epoxy resin: Shake contents of Components "A" and Component "B". Completely empty both components into a clean, dry mixing pail. Mix thoroughly for 30 seconds using a jiffy paddle with a low-speed (400-600 rpm) drill. Slowly add the entire contents of Component "C" while continuing to mix for 3 minutes until uniform with no lumps. Mix only that quantity that can be applied within its pot life.

### B. Placement procedure:

1. Apply to prepared surface with a stiff-bristle brush, broom or "hopper type" spray equipment.
  - a. For hand-applied mortars – Place fresh, concrete/mortar while the bonding bridge adhesive is "wet" or within open times indicated in section 2.02.
  - b. For machine-applied mortars – Apply while the bonding bridge adhesive is "wet" or within the open times indicated in section 2.02.

Adhere to all limitations and cautions for the epoxy resin/portland cement adhesive in the manufacturers current printed literature.

### 3.03 CLEANING

- A. The uncured epoxy resin/hydraulic cement adhesive can be cleaned from tools with water. The cured epoxy resin/hydraulic cement adhesive can only be removed mechanically.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

## **PART 4 - COMPENSATION**

### **4.01 METHOD OF MEASUREMENT**

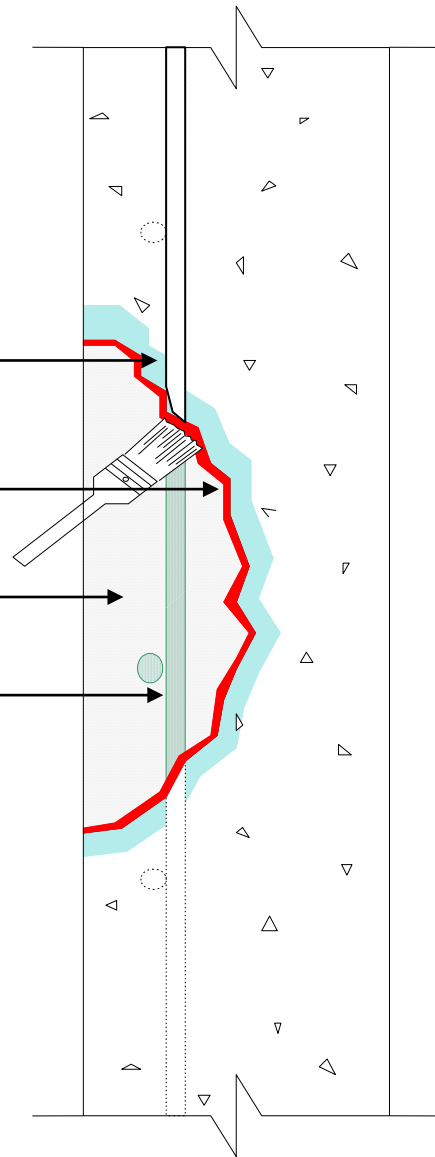
No measurement will be required for Arimatec 110 Bonding Epoxy; the costs shall be included in the associated concrete bid items.

### **4.02 BASIS OF PAYMENT**

Arimatec 110 Bonding Epoxy is not a pay item. It shall be paid for in associated concrete bid items.

# Bonding Epoxy

1. Pre-wet surface (keep wet min. 3 hours) to saturated surface dry (SSD).
2. Apply by stiff bristle brush or spray apply with “hopper type” or equal equipment.
3. Place repair material while **Sika Armatec 110 EpoCem** is still wet or within indicated open times
4. Indicates **Sika Armatec 110 EpoCem** applied to reinforcing steel per spec.



**SECTION 5  
SPECIAL PROVISION V  
DECK EDGE REPAIR, TYPE A**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

This item shall consist of removal and disposal of spalled and delaminated concrete, saw cutting around the perimeter of the repair area to  $\frac{3}{4}$ " depth or to a lesser depth if steel cover is less than  $\frac{3}{4}$ ", as directed by the Engineer and as shown on the plans. Also included is removal and disposal of existing concrete, sandblasting the reinforcing steel and faces of the existing concrete that will contact the new concrete, 2-hour pre-wetting concrete surfaces, scrubbing concrete into substrate filling all pores and voids, forming, furnishing and placing VDOT approved very rapid set concrete (2500 psi in 2 hours) with aggregate, wet curing, finishing and removal of forms.

**PART 2 - PRODUCTS**

**2.01 MATERIALS**

Concrete used for deck edge, Type A repairs shall be VDOT approved very rapid set concrete (2500 psi in 2 hours) with aggregate.

**PART 3 - PAYMENT**

**3.01 METHOD OF MEASUREMENT**

"Deck Edge Repair, Type A" will be measured on a linear foot basis measured parallel to centerline of existing joint.

**3.02 BASIS OF PAYMENT**

The unit price shown in the contract for this item shall be full compensation for the removal and disposal of existing concrete, saw cutting, sandblasting, pre-wetting concrete surfaces, scrubbing concrete into substrate, furnishing and placing VDOT approved very rapid set concrete (2500 psi in 2 hours) with aggregate, curing, form removal, labor, tools, equipment and incidentals necessary to complete the work in accordance with the plans and specifications.

Payment will be made under the contract pay item of:

"DECK EDGE REPAIR, TYPE A" – Pay unit will be on a "LINEAL FOOT" basis of area actually repaired.

**SECTION 5  
SPECIAL PROVISION VI  
DECK EDGE REPAIR, TYPE B**

**PART 1 - GENERAL**

**1.02 DESCRIPTION**

This item shall consist of removal and disposal of spalled and delaminated concrete, saw cutting around the perimeter of the repair area to  $\frac{3}{4}$ " depth or to a lesser depth if steel cover is less than  $\frac{3}{4}$ ", as directed by the Engineer and as shown on the plans. Also included is removal and disposal of existing concrete, sandblasting the reinforcing steel and faces of the existing concrete that will contact the new concrete, 2-hour pre-wetting concrete surfaces, furnishing and scrubbing concrete into substrate filling all pores and voids, forming, furnishing and placing VDOT approved very rapid set concrete (2500 psi in 2 hours) with aggregate, wet curing, finishing and removal of forms.

**PART 2 - PRODUCTS**

**3.03 MATERIALS**

Concrete used for deck edge, Type B repairs shall be VDOT approved very rapid set concrete (2500 psi in 2 hours) with aggregate.

**PART 3 - PAYMENT**

**4.01 METHOD OF MEASUREMENT**

"Deck Edge Repair, Type B" will be measured on a linear foot basis measured parallel to centerline of existing joint.

**4.02 BASIS OF PAYMENT**

The unit price shown in the contract for this item shall be full compensation for the removal and disposal of existing concrete, saw cutting, sandblasting, pre-wetting concrete surfaces, furnishing and placing VDOT approved very rapid set concrete (2500 psi in 2 hours) with aggregate, scrubbing concrete into substrate, curing, form removal, labor, tools, equipment and incidentals necessary to complete the work in accordance with the plans and specifications.

Payment will be made under the contract pay item of:

"DECK EDGE REPAIR, TYPE B" – Pay unit will be on a "LINEAL FOOT" basis of area actually repaired.

**SECTION 5  
SPECIAL PROVISION VIII  
CONCRETE SURFACE COLOR COATING**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

This work shall consist of furnishing and applying concrete surface color coating in accordance with this provision and in reasonably close conformity with the details and locations indicated on the plans. The color of the coating shall be similar to the Federal Standard Color Number specified on the plans or as approved by the ENGINEER.

**1.02 LIMITATIONS**

Except as otherwise specified on the plans, the concrete surface color coating shall be applied to the following surfaces of the bridge structure:

- a. All inside and outside faces of parapet, top of parapet and terminal walls (see contract drawings for limits) for their entire lengths, and the ends of the terminal walls.

Concrete surface color coating shall be gray, similar to Federal Standard Color No. 595- 36622.

The concrete surface color coating shall be applied in accordance with the manufacturer's recommendations, except as otherwise specified. The concrete surface color coating shall not be applied until all concrete placement operations for the particular structure have been completed.

The concrete surface shall be sandblasted to a light finish; sufficient to expose fine aggregate with occasional exposure of coarse aggregate and to make the color uniform – maximum reveal 1/16 inch prior to applying coating.

All work shall be performed by experienced workmen familiar with concrete finishing work and with the materials specified. Surfaces not to be treated shall be protected from splatter.

Materials shall be delivered to the job site in sealed containers bearing the manufacturer's labels. Materials shall be mixed and applied in accordance with the manufacturer's printed instructions of which two copies shall be furnished the ENGINEER.

**PART 2 – PRODUCTS**

**2.01 MATERIALS**

Concrete surface color coating shall be from VDOT's current list of approved concrete surface color coatings.



## **PART 3 - PAYMENT**

### **3.01 METHOD OF MEASUREMENT**

"CONCRETE SURFACE COLOR COATING" will be paid for on a "LUMP SUM" basis per structure wherein no other measurement will be made and will be paid for at the contract lump sum price per structure which price shall be full compensation for preparation of surfaces and for furnishing and applying coating.

### **3.02 BASIS OF PAYMENT**

The lump sum price shown in the contract for "CONCRETE SURFACE COLOR COATING" shall be full compensation furnishing and applying concrete surface color coating and cleaning existing concrete in accordance with this provision and in reasonably close conformity with the details and locations indicated in the plans, this Special Provision and for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work. Payment will be made under the contract pay item of:

"CONCRETE SURFACE COLOR COATING" – Pay unit will be on a "LUMP SUM" for a basis.

**SECTION 5  
SPECIAL PROVISION VIII  
RESEAL EXPANSION JOINTS**

**PART 1 – GENERAL**

**1.01 DESCRIPTION**

This item shall consist of removal and disposal of existing joint sealer, abrasive blast cleaning the concrete joint interfaces, blowing debris out of joint, furnishing and installing primer, backer rod, bond breaker tape, new Engineer-approved elastomeric polyurethane sealant (white color) and curing.

Joint sealant shall be cured per manufacturer's recommendations.

**1.02 METHOD OF MEASUREMENT**

"RESEAL EXPANSION JOINTS" shall be measured on a per "linear foot" basis measured parallel to centerline of existing joint or joint opening.

**1.03 BASIS OF PAYMENT**

This unit price shown in the contract for this item shall be full compensation for removal of existing joint sealer, disposal of material, abrasive blast cleaning the concrete joint interfaces, blowing debris out of joint, furnishing and installing backer rod, bond breaker tape, new Engineer-approved elastomeric polyurethane sealant (white color), curing and labor, tools, equipment and incidentals necessary to complete the work in accordance with the plans and specifications. Payment will be made under the contract pay item of:

"RESEAL EXPANSION JOINTS" – Pay unit will be on a "linear foot" basis actually installed.

**SECTION 5**  
**SPECIAL PROVISION IX**  
**REMOVE EXPANSION JOINT COVER PLATE**

**PART 1 – GENERAL**

**1.01 DESCRIPTION**

This item shall consist of the removal and disposal of existing expansion joint cover plates, screws, inserts, concrete (as shown in drawings), sawcutting, sandblasting concrete faces and existing reinforcing steel, furnishing and applying Armatec 110 bonding epoxy to existing concrete, forming, furnishing and placing VDOT approved A4 post & rail concrete. Also included is 2-hour pre-wetting concrete surfaces where new concrete will contact the old concrete, curing, removal of forms and all labor, tools, equipment and incidentals necessary to complete the work in accordance with the contract drawings and these special provisions.

**1.02 METHOD OF MEASUREMENT**

“REMOVE EXPANSION JOINT COVER PLATE” shall be on a per “Each” basis as measured.

**1.03 BASIS OF PAYMENT**

This unit price shown in the contract for this item shall be full compensation for removal and disposal of expansion joint cover plates, screws, inserts, concrete, sawcutting, sandblasting concrete faces, and existing reinforcing steel, furnishing and applying Armatec 110 bonding epoxy, forming, furnishing and placement of VDOT approved A4 post & rail concrete. Also included is 2-hour pre-wetting the concrete surfaces where new concrete will contact existing concrete, curing, removal of forms and all labor, tools, equipment and incidentals necessary to complete the work in accordance with the contract drawings and these special provisions. Payment will be made under the contract pay item of:

“REMOVE EXPANSION JOINT COVER PLATE” – Pay unit will be on a per “Each” basis actually completed.

**SECTION 5**  
**SPECIAL PROVISION X**  
**CLEAN DEBRIS AT ABUTMENT AND PIER BEARING SEATS**

**PART 1 – GENERAL**

**1.01 DESCRIPTION**

This work shall consist of removal and disposal of debris on Abutment A & B, Pier 1-2 seats and wash areas.

**1.02 METHOD OF MEASUREMENT**

“CLEAN DEBRIS AT ABUTMENT AND PIER BEARING SEATS” will be measured on a per “Lump Sum” basis wherein no measurement will be made

**1.03 BASIS OF PAYMENT**

The contract price for “CLEAN DEBRIS AT ABUTMENT AND PIER BEARING SEATS” shall be full compensation for removal and disposal of debris on Abutment A & B, Piers 1-2 seats and wash areas, furnishing of all materials, labor, tools, equipment and incidentals necessary to complete the work. Payment will be made under the contract pay item of:

“CLEAN DEBRIS AT ABUTMENT AND PIER BEARING SEATS” – Pay unit will be on a per “Lump Sum” basis.

**SECTION 5  
SPECIAL PROVISION XI  
MILLING, TYPE A**

**PART 1 – GENERAL**

**1.01 DESCRIPTION**

In addition to Section 425 of the VDOT Road and Bridge Specification, 2020. This item shall include removing existing epoxy overlay from top of sidewalks, top of deck, top of median, all curb faces from back of backwall at Abutment A to back of backwall at Abutment B.

Type A milling shall be to a depth of 1/4" max into existing concrete.

This item also includes the removal and disposal of the material.

**1.02 METHOD OF MEASUREMENT**

"MILLING, TYPE A" will be measured on a per "Square Yard" of surface area.

**1.03 BASIS OF PAYMENT**

The unit price shown in the contract for this item shall be full compensation for all items specified in VDOT Road and Bridge Specifications, 2020, removal and disposal of the existing epoxy overlay (1/4" max depth into existing concrete) on top of sidewalks, top of deck, top of median, all curb faces from backwall to backwall (full length of bridge), labor, tools, equipment and incidentals necessary to complete the work in accordance with the plans and specifications. Payment will be made under the contract pay item of:

"MILLING, TYPE A" – Pay unit will be on a "Square Yard" basis.

**SECTION 5  
SPECIAL PROVISION XII  
SUBSTRUCTURE CONCRETE REPAIR**

**PART 1 – GENERAL**

**1.01 DESCRIPTION**

This item shall consist of the removal and disposal of existing concrete, repairing or replacing existing reinforcing steel, sawcutting, sandblasting concrete faces and reinforcing steel, offsetting forms to have a minimum of 2 ¾" cover over reinforcing steel, matching existing rustification, forming, furnishing and applying Armatec 110 bonding epoxy to existing concrete faces, VDOT approved A4 post & rail concrete or VDOT approved self-consolidating concrete.

Also included is 2-hour pre-wetting concrete surfaces where new concrete will contact the old concrete, curing, removal of forms and all labor, tools, equipment and incidentals necessary to complete the work.

**1.02 METHOD OF MEASUREMENT**

"SUBSTRUCTURE CONCRETE REPAIR" will be measured on a "Square Foot" basis as measured.

**1.03 BASIS OF PAYMENT**

The unit price shown in the contract for this item shall be full compensation for removal and disposal of existing concrete, replacing existing reinforcing steel, sawcutting, sandblasting concrete faces and reinforcing steel, offsetting forms to have a minimum of 2 ¾" clear cover over reinforcing steel, matching existing rustification, forming, furnishing and applying Armatec 110 bonding epoxy, furnishing and placement of a VDOT approved A4 post & rail concrete or VDOT approved self-consolidating concrete. Also included is 2-hour pre-wetting the concrete surfaces where new concrete will contact existing concrete, curing, removal of forms and all labor, tools, equipment and incidentals necessary to complete the work.

Payment will be made under the contract pay item of:

"SUBSTRUCTURE CONCRETE REPAIR" – Pay unit will be on a "Square Foot" basis.