CITY OF HARRISONBURG
FINANCE
& PURCHASING

409 SOUTH MAIN STREET, 3RD FLOOR
HARRISONBURG, VA 22801
FINANCE OFFICE (540) 432-7702 • FAX (540) 432-7779
PURCHASING OFFICE (540) 432-7794 • FAX (540) 432-7779

INVITATION TO BID (ITB) COVER PAGE

ISSUE DATE: January 7, 2022	**INVITATION TO BID NUMBER:** 2022015-PW-B	**FOR:** Proposed Bridge Substructure Repair for Martin Luther King, Jr. Way over Blacks Run, NS Railway & Chesapeake Ave.
DEPARTMENT: Public Works	**DATE/TIME OF CLOSING:** February 16, 2022 at 3:00pm local time	**CONTRACT ADMINISTRATOR:** Andy Powell, Capital Projects Manager
DATE/TIME LAST DAY FOR QUESTIONS: February 9, 2022 at 12:00pm (noon) local time	**DATE/TIME PRE-BID MEETING:** February 2, 2022 at 2:00pm local time	**PRE-BID MEETING MANDATORY:** _X_ Yes __ No ___ N/A

Bids - In accordance with the following and in compliance with all terms and conditions, unless otherwise noted, the undersigned offers and agrees, if the bid is accepted, to furnish items or services for which prices are quoted, delivered or furnished to designated points within the time specified. It is understood and agreed that this entire ITB and any addenda shall constitute a contract.

Sealed bids, subject to terms and conditions of this Invitation to Bid will be received by the City of Harrisonburg Purchasing Office, 409 South Main Street, Third Floor, Harrisonburg, Virginia 22801 until the date/ time specified above for furnishing items or services delivered or furnished to specified destinations within the time specified or stipulated by the vendor(s).

The City does not discriminate against small and minority businesses or faith-based organizations.

VENDOR INFORMATION

Name of Vendor:_____ Telephone #:_____

Address: _____ Federal Employer Identification #:_____

_____

Contact Name: _____ Contact Email Address:_____

By signing this bid, Vendor(s) certifies, acknowledges, understands and agrees to be bound by the conditions set forth in this ITB.

_____ _____
VENDOR'S LEGALLY AUTHORIZED SIGNATURE **DATE**

_____ _____
PRINT NAME **TITLE**

Please take a moment to let us know how you found out about this Invitation to Bid (ITB) – Check one:

☐ eVA Website ☐ Bid Room (Please List) _____

☐ The Daily News Record Newspaper ☐ Notified by City Directly ☐ Other (Please List) _____

This document shall be completed & returned with bid submission.

PROJECT MANUAL

FOR

CITY OF HARRISONBURG, VIRGINIA

PROPOSED BRIDGE SUBSTRUCTURE REPAIR OF MARTIN LUTHER KING, JR. WAY OVER BLACKS RUN, NORFOLK SOUTHERN RAILWAY & CHESAPEAKE AVENUE

PROJECT:
2022015-PW-B

CITY OF HARRISONBURG, VIRGINIA

DEPARTMENT OF PUBLIC WORKS

January 7, 2022

Prepared by

Department of Public Works
City of Harrisonburg
320 East Mosby Road
Harrisonburg, Virginia 22801

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SECTION 0001
INVITATION TO BID

1. PROJECT

Proposed Bridge Substructure Repair of Martin Luther King, Jr. Way over Blacks Run, Norfolk Southern (NS) Railway and Chesapeake Avenue for the City of Harrisonburg, VA

2. DESCRIPTION OF WORK

Repair work to include but not limited to: expansion bearing slots, replacement of anchor bolts, replacement of bearing, concrete surface repairs (Shotcrete Ty. A), coating of structure, general maintenance and incidental items required to complete the work. Entire project must be completed by November 11, 2022.

3. DOCUMENTS

Bid documents are available for viewing on the internet at www.harrisonburgva.gov/bids-proposals. Bid documents are available for purchase at DTS Reprographics 4803 South Valley Pike, Harrisonburg VA, 22801, (540) 433-8373.

4. MANDATORY PRE-BID CONFERENCE

February 2, 2022 at 2:00 PM local time via GOTO Meeting. Attendance is mandatory. Please contact Danielle Morris at 540-434-5928 or Danielle.Morris@harrisonburgva.gov to register for the meeting. Attendees must register by 3:00 PM local time on February 1, 2022.

5. QUESTIONS

All questions must be received no later than February 9, 2022 at 12:00 PM (noon) local time. Questions related to the ITB or requests for clarification shall be directed to Mr. Shane Smith, Procurement Manager, by email to Questions@harrisonburgva.gov Oral questions will not be permitted. All responses to inquiries will be in writing and will be posted as addenda at www.harrisonburgva.gov/bids-proposals. It is the responsibility of all Bidders to ensure that they have received all addenda and to include signed copies of any and all addenda with their bid submission

6. BIDS DUE

Bids shall be received by the Purchasing Office no later than February 16, 2022 at 3:00 PM local time. The Purchasing Office is located in City Hall at 409 South Main Street, Third Floor, Harrisonburg, VA, 22801. Office hours are Monday through Friday, 8:00am to 5:00pm, except City holidays (www.harrisonburgva.gov/city-holidays). Any bids received after this date and time will not be accepted.

All bids must be in an opaque, sealed envelope or box and clearly marked: "Sealed Bid: Proposed Bridge Substructure Repair of Martin Luther King, Jr. Way over Blacks Run, NS Railway & Chesapeake Avenue ITB#2022015-PW-B". Bids shall clearly indicate the legal name, address

and telephone number of the bidder (company, firm, partnership, or individual). All expenses for making the bid to the City shall be borne by the bidder. Bidders shall provide one (1) paper copy of the bid documents. Bid documents shall be mailed or hand-delivered; faxed or emailed bids will not be accepted. The City of Harrisonburg is not responsible for delays in the delivery of the mail by the U.S. Postal Service, private couriers, or the inter-office mail system. The bidder has the sole responsibility to have the bid received by the Harrisonburg Purchasing Office at the above address and by the above stated time and date.

7. BID OPENING

   Bids will be opened and read publicly at City Hall, 409 South Main Street, Room 11, Harrisonburg, VA 22801. The names of bidders will be announced along with the bid amount.

8. COVID-19

   City contractors shall adhere to all aspects of the VOSH COVID-19 Permanent Standard 16VAC25-220 to include, but not limited to: face covering requirements, social distancing practices, VDH/VOSH notification procedures, and screening methods to ensure individuals who are known or suspected to be infected with COVID-19 shall not enter any City work site until they are cleared to return to work as specified by the VOSH COVID-19 Permanent Standard. City contractors shall also immediately notify the City's Contract Administrator if one of their employees is known or suspected to be infected with COVID-19 and was present at a City worksite within two (2) days prior to symptom onset.

9. OWNER

   City of Harrisonburg, 409 South Main Street, Harrisonburg, VA, 22801.

10. CONTRACT ADMINISTRATOR

    Andy Powell, Capital Projects Manager, 320 East Mosby Road, Harrisonburg, VA 22801.

SECTION 0100
INSTRUCTIONS TO BIDDERS

1. BIDDER ELIGIBILITY

   A. Bids will only be accepted from Contractors who are experienced in and actively engaged in the type of construction of the item(s) called for in the bid.

   B. No bid 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.

   C. 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.

   D. Bidders must be prequalified with VDOT to be considered responsive bidders on this project. A copy of the bidder's VDOT Certificate of Qualifications must be submitted with the bid documents. All subcontractors shall be prequalified with VDOT for all prequalifiable trades.

   E. Bidders are required under Chapter 11, Title 54, Code of Virginia, to show evidence of certificate of registration before bid may be received and considered.

   F. By signing the Bid Form, Bidders certify that they are not currently barred from bidding on contracts by any agency of the Commonwealth of Virginia or any federal agency.

2. BID FORM AND SUBMISSION

   In order to receive consideration, submit bids in accordance with the following:

   A. Make bids upon the forms provided herewith, properly signed and with all items filled out. Do not change the wording of the bid form, and do not add words to the bid form. Unauthorized conditions, limitations, or provisions attached to the bid may be cause for rejection of the bid.

      All documents contained within the bid submission shall be completed in their entirety and signed and dated where required.

   B. Indicate receipt of issued addenda. All Bidders are cautioned to check at www.harrisonburgva.gov/bids-proposals to assure that all Addenda have been received and that the cost consequences thereof have been included in the bid. It is the responsibility of all Bidders to ensure that they have received all addenda and to include signed copies of any and all addenda with their bid submission.

   C. The following documents fully completed and signed where appropriate are required for a responsive bid:

- ☐ Signed Cover Sheet
- ☐ Insurance Requirements for the City of Harrisonburg
- ☐ Bid Security
- ☐ 0300 Bid Form
- ☐ 0302 Contractor Eligibility and Registration
- ☐ 0303 State Corporation Commission Registration
- ☐ 0304 Non-Collusion Affidavit
- ☐ 0311 References List
- ☐ 0312 Insurance Requirements
- ☐ 0401 Escrow Election Form
- ☐ Copy of VDOT Certification of Qualifications
- ☐ Signed Addenda, if applicable

3. BID SECURITY & BONDS

A. Bid security in the amount of five percent (5%) must accompany each bid. The successful bidder's security will not be returned until he has signed the Contract and has furnished the required Certificates of Insurance.

B. The Owner reserves the right to retain the security of all bidders until the successful bidder enters into the Contract or until 90 days after bid opening, whichever is sooner. Other bid security will be returned as soon as practicable. If any bidder refuses to enter into a Contract, the bid security may be forfeited.

C. Prior to signing the Contract, the Owner will require the successful bidder to secure and post a Payment Bond and a Performance Bond, each in the amount of 100% of the Contract Sum. Such Bonds shall be issued by a Surety acceptable to the Owner.

4. EXAMINATION OF DOCUMENTS AND SITE OF WORK

Before submitting a bid, each bidder shall examine the Drawings carefully, shall read the Project Manual and all other proposed Contract Documents, and shall visit the site of the Work. Each bidder shall fully inform himself prior to bidding as to existing conditions and limitations under which the Work is to be performed, and shall include in his bid a sum to cover the cost of items necessary to perform the Work as set forth in the proposed Contract Documents. No allowance will be made to a bidder because of lack of such examination and knowledge. If any person contemplating submitting a bid for construction of the Work is in doubt as to the true meaning of any part of the proposed Contract Documents, or finds discrepancies on or omissions from any part of the proposed Contract Documents, they shall submit a written request as specified in Section 0001 of this ITB. The submission of a bid will be considered as conclusive evidence that the bidder has made such examination.

5. AWARD OF CONTRACT

The Contract, if awarded, will be awarded to the lowest responsive and responsible bidder, meeting all specifications, without discrimination on the grounds of: race, color, gender or

national origin. The Owner reserves the right to reject any or all bids and to waive informality and irregularity in the bids and in the bidding.

If the bid from the lowest responsible bidder exceeds available funds, the Procurement Manager, or designee, may negotiate with the apparent low bidder to obtain a contract price within available funds.

Prices or changes shown on the outside of an envelope will not be considered in determination of low bid.

6. EXECUTION OF AGREEMENT

A. The form of the Agreement which the successful bidder will be required to execute is included in the ITB.

B. At or prior to delivery of the signed Agreement, the bidder shall deliver to the Owner a copy of their City Business License. The bidder shall ensure that the business license indicated a basis amount equal to or greater than the awarded Contract value. For information on City Business Licenses contact the Harrisonburg Commissioner of Revenue office at 540-432-7704.

C. Beginning upon receipt of the fully signed Agreement, and within ten (10) calendar days thereof, successful contractor shall deliver to the Owner as required by the Contract Documents:

- Certificates of Insurance and Endorsement
- Performance and Payment Bonds
- City Business License
- Recent W-9 Form

D. All requirements in Item C above shall be approved by the Owner before the successful bidder may proceed with work.

7. CONTRACT TERM / NOTICE TO PROCEED / TIME OF COMPLETION

The contract term shall begin on the date the contract is signed. Work shall begin upon City issue of Notice to Proceed document. Project shall be completed by November 11, 2022. The City may issue the Notice to Proceed immediately or within thirty (30) days of the contract date. The contractor is not to begin work until the receipt of the Notice to Proceed.

8. LIQUIDATED DAMAGES

A. 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 in its entirety on or before November 11, 2022. The Contractor shall begin work on or after May 9, 2022. The Agreement shall stipulate that the Contractor shall complete the work no later than November 11, 2022. This is a "Fixed Completion Date" (187-day)

Contract with the "Fixed Completion Date" being November 11, 2022. A Notice of "Award" will be issued by the Owner around March 2, 2022.

B. All work for this Contract shall be completed and accepted on or before the time limit established in the Contract. In the event the Contractor fails to complete the work by the time limit, liquidated damages, representing the estimated additional cost of administration, engineering, supervision, inspection and other expenses will be assessed in the amount of $1,500.00 for each calendar day beyond the time limit, including Sundays and Holidays, that the project is not completed.

The Contract time specified in the Bid Form shall be on the basis of "Fixed Completion Date" as defined in Section 108.04 of the Virginia Department of Transportation Road & Bridge Specifications, 2020.

9. SPECIFICATIONS AND STANDARDS

Work in this project shall conform to the latest editions of the Virginia Department of Transportation (VDOT) Road and Bridge specifications, the VDOT Road and Bridge Standards, the Virginia Erosion and Sediment Control handbook, the Virginia Erosion and Sediment Control regulations, Virginia Work Area Protection Manual and the City of Harrisonburg Design and Construction Standards Manual. In the event of conflict between any of these standards, specifications or plans, the VDOT specification 105.12 will apply, and shows the hierarchy of documents and which shall govern.

10. CONSIDERATION OF PROJECT COMPLEXITIES

A. In preparing this bid, Contractor shall understand and account in their costs for the complexities involved in administrating the construction required by this Contract. Contractor shall be aware that the project area receives heavy vehicular and pedestrian traffic. Contractor shall accommodate such traffic through and around the work area in a safe and well-marked manner. The specific requirements for this project are shown in Section 0900.

B. Submission of a bid shall be an affirmation that the Contractor understands these complexities and difficulties associated with this project, that he has included in his bid a sufficient dollar amount to compensate for the additional time and effort these complexities and difficulties will require on his part, and that he understands that the Owner will not accept any claim for time extension or additional costs associated with them.

END INSTRUCTIONS TO BIDDERS

0300 BID FORM

The undersigned, having visited and examined the site and having carefully studied the drawings and specifications, hereby proposes to furnish all labor, equipment, materials, and services and to perform all operations necessary to execute and complete the work required for the project in strict accordance with the ITB and with any addenda issued during bidding period and hereby acknowledged subject to the terms and conditions of the Agreement for the following sums of money:

BASE BID

All labor, material, services and equipment necessary for the completion of the work shown on the Drawings and in the Project Manual and in the Addenda (if issued).).**Note: In case of a discrepancy between the total listed on the bid tab and the total written below, the written one will prevail.

_____($_____)

This bid submitted by (name of firm): _____

It is understood and agreed that the Owner, in protecting his best interests, reserves the right to:

Reject any and all bids, or waive any defects in favor of the City

Or

Accept any bid at the bid price, whereupon the contractor shall furnish equipment and materials as specified.

Contractors shall indicate a unit price for each item listed in the Pay Items Summary which follows. The listed pay items are to contain all necessary costs required for completion of the work. 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. Unit prices shall be used in determining partial and full payment.

This document shall be completed & returned with bid submission.

BID PROPOSAL FORM

PROPOSED BRIDGE SUBSTRUCTURE REPAIR OF MARTIN LUTHER KING JR. WAY (CANTRELL AVENUE) OVER BLACKS RUN, NS RAILWAY & CHESAPEAKE AVENUE

CITY OF HARRISONBURG, VIRGINIA

This document shall be completed and returned with bid submission.

NO MAJOR ITEMS & NO PRICE ADJUSTMENTS

Item No.	Description	Estimated Quantities	Unit Price	Total Amount
1	MOBILIZATION	LUMP SUM	LUMP SUM	$
2	MAINTENANCE OF TRAFFIC - "MLK"	LUMP SUM	LUMP SUM	$
3	FLOWABLE FILL REPAIR	LUMP SUM	LUMP SUM	$
4	ENLARGE EXPANSION BEARING SLOTS (PER BEARING)	24 EACH	$	$
5	JACKING & BLOCKING BEAM	29 EACH	$	$
6	ANCHOR BOLT REPLACEMENT	48 EACH	$	$
7	BEARING REPLACEMENT	24 EACH	$	$
8	SHOTCRETE, TYPE A	558 S.F.	$	$
9	CONCRETE SUBSTRUCTURE SURFACE REPAIR	77 S.Y.	$	$
10	ZONE COATING OF EXISTING STRUCTURE (STR. #8000) TYPE B	LUMP SUM	LUMP SUM	$
11	ENVIRONMENTAL PROTECTION, HEALTH & SAFETY (STR. #8000)	LUMP SUM	LUMP SUM	$
12	DISPOSAL OF MATERIAL (STR. #8000) TYPE B	LUMP SUM	LUMP SUM	$
13	GENERAL MAINTENANCE	LUMP SUM	LUMP SUM	$
			TOTAL BASE BID	**$**

0302 CONTRACTOR ELIGIBILITY AND REGISTRATION

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.

Check one:

_____I am currently registered as a contractor in the Commonwealth of Virginia.

_____My registration number is _____

_____I am currently not required to register as a contractor in the Commonwealth of Virginia per Chapter 11, Title 54 of the Code of Virginia.

_____
Contractor

_____
Address

_____

_____

_____
Attest

By:_____
Signature

_____
Title

_____
Date

This document shall be completed & returned with bid submission.

0302-1

0303 STATE CORPORATION COMMISSION FORM

Virginia State Corporation Commission ("SCC") registration information:

The undersigned Offeror:

☐ is a corporation or other business entity with the following SCC identification number: _____ **-OR-**

☐ is not a corporation, limited liability company, limited partnership, registered limited liability partnership, or business trust **-OR-**

☐ is an out-of-state business entity that does not regularly and continuously maintain as part of its ordinary and customary business any employees, agents, offices, facilities, or inventories in Virginia (not counting any employees or agents in Virginia who merely solicit orders that require acceptance outside Virginia before they become contracts, and not counting any incidental presence of the Offeror in Virginia that is needed in order to assemble, maintain, and repair goods in accordance with the contracts by which such goods were sold and shipped into Virginia from bidder's out-of-state location) **-OR-**

☐ is an out-of-state business entity that is including with this bid an opinion of legal counsel which accurately and completely discloses the undersigned Offeror's current contacts with Virginia and describes why those contacts do not constitute the transaction of business in Virginia within the meaning of § 13.1-757 or other similar provisions in Titles 13.1 or 50 of the Code of Virginia. **Attach opinion of legal counsel to this form.**

****NOTE** >>** Check the following box if you have not completed any of the foregoing options but currently have pending before the SCC an application for authority to transact business in the Commonwealth of Virginia and wish to be considered for a waiver to allow you to submit the SCC identification number after the due date for proposals (the Commonwealth reserves the right to determine in its sole discretion whether to allow such waiver): ☐

Signature: _____ **Date:** _____

Name: _____
Print

Title: _____

Name of Firm: _____

This document shall be completed & returned with bid submission.

0304 NON-COLLUSION AFFIDAVIT

Under oath, I hereby affirm under penalty of perjury:

(1) That I am the bidder or a partner of the bidder, or an officer or employee of the bidding corporation with authority to sign on its behalf;

(2) That the attached bid or bids have been arrived at by the bidder and have been arrived at and submitted without collusion or any design to limit bidding or competition;

(3) That the contents of the bid or bids have not been communicated to any person not an employee or agent of the bidder on any bid furnished with the bid or bids, and will not be communicated to any such person prior to the official opening of the bid or bids; and

(4) That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed_____

Title_____

Firm Name _____

CITY / COUNTY OF _____

STATE OF_____, to wit:

I, _____, a Notary Public, do certify that

_____whose name is signed to the foregoing has

this date acknowledged the same before me in my City foresaid.

Given under my hand this_____day of_____, 20___.

My Commission expires_____.

_____
Notary Public

This document shall be completed & returned with bid submission.

0311 REFERENCES LIST

Indicate below a listing of at least three (3) current or recent client references, either commercial or governmental, that your company is servicing, has serviced, or has provided similar goods or services.

Reference #1

Company:_____ Contact Person:_____

Phone #:_____ Email:_____

Project:_____ Dates of Service:_____

Reference #2

Company:_____ Contact Person:_____

Phone #:_____ Email:_____

Project:_____ Dates of Service:_____

Reference #3

Company:_____ Contact Person:_____

Phone #:_____ Email:_____

Project:_____ Dates of Service:_____

Indicate below a listing of at least one (1) current or recent client/account that has terminated your company's services within the last two (2) years. Account(s) are preferred to be government accounts of a similar size and nature.

Terminated Reference ***(If Applicable)***

Company:_____ Contact Person:_____

Phone #:_____ Email:_____

Project:_____ Dates of Service:_____

COMPANY BACKGROUND ***(Attach additional sheets if necessary.)***

Number of Years in Business:_____

Overview of Work History, Experience & Background of Company: _____

_____

_____

_____

****This document shall be completed & returned with bid submission.***

312 INSURANCE REQUIREMENTS

By signing and submitting a bid or proposal the contractor certifies that if awarded the contract, they will have the following insurance coverages at the time the contract is awarded. If any subcontractors are involved, the subcontractor will have the same insurance. The contractor further certifies that they or any subcontractor will maintain these coverages during the entire term of the contract.

1.) The contractor will maintain a general liability policy with $1,000,000 combined single limits with a $2,000,000 aggregate. Coverage is to be on an occurrence basis with an insurer licensed to conduct business in the Commonwealth of Virginia. The insurer must have an A. M. Best rating of A- or better. **The insurer must list the City of Harrisonburg and Schwartz & Associates, Inc. as an additional insured. The endorsement must be issued by the insurance company. A notation on the certificate of insurance is not sufficient.**

2.) The contractor will maintain workers' compensation coverage in compliance with the laws of the Commonwealth of Virginia. The coverage must have statutory limits and be with an insurer licensed to conduct business in the Commonwealth of Virginia. The insurer must have an A. M. Best rating of A- or better. As an alternative, it is acceptable for the contractor to be insured by a group self insurance association that is licensed by the Virginia Bureau of Insurance. The contractor will also carry employers liability insurance with a limit of at least $100,000 bodily injury by accident/$500,000 bodily injury by disease policy limit/$100,000 bodily injury by disease each employee.

3.) The contractor will maintain automobile liability insurance with limits of at least $1,000,000. The coverage is to be written with a symbol "1". The insurer must be licensed to conduct business in the Commonwealth of Virginia. The insurer must have an A. M. Best rating of A- or better.

Please provide the City with two (2) documents upon request:

1.) Certificate of Insurance (COI) for the City of Harrisonburg, 409 South Main St, Harrisonburg, VA 22801. COI must show the Additional Insured status.

2.) Additional Insured Endorsement issued by the insurance company to show the Additional Insured addition was made to the policy.

BIDDER STATEMENT

We understand the Insurance Requirements of these specifications and will comply in full if awarded this contract.

Signature:_____Date: _____

Name:_____Title:_____
(Print)

Name of Firm: _____

This document shall be completed & returned with bid submission.

0400 GENERAL TERMS AND CONDITIONS OF THE CITY OF HARRISONBURG, VA (REV. 09-20-19)

These General Terms & Conditions shall apply to all purchases and be a part of every contract awarded by the City of Harrisonburg unless otherwise specified in writing. Bidders/Offerors are expected to inform themselves fully as to the conditions, requirements and specifications before submitting bids/proposals. Procurement by the City is subject to the Virginia Public Procurement Act (VPPA) Title 2.2, Chapter 43 of the Code of Virginia and the provisions of The Purchasing and Contracting Policy Manual for the City of Harrisonburg and any revisions thereto. If an inconsistency exists between the VPPA and the Purchasing and Contracting Policy Manual for the City, the VPPA Virginia Code sections take precedence.

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DEFINITIONS

ADDENDUM/ADDENDA: Addition(s) or supplement(s) to a solicitation to clarify, modify or support information which becomes part of the contract.

BID: The offer of a prospective vendor/supplier to an Invitation To Bid to provide specific goods or services at specified prices and/or other conditions specified in the solicitation.

BIDDER/OFFEROR: Any individual, company, firm, corporation, partnership or other organization who submits a response to an Invitation to Bid or a Request for Proposal and offering to enter into a contract with the City.

COLLUSION: A secret agreement or cooperation between two or more parties to accomplish a fraudulent, deceitful, or unlawful purpose.

CONFLICT OF INTEREST: An actual or potential situation in which the personal interests of a vendor, employee or public official are, or appear to be, in conflict with the best interests of the City.

CONTRACTOR: The entity that has a direct contract with the City to furnish goods, services or construction for a certain price.

CITY or OWNER: City of Harrisonburg, Virginia.

DAY(S): Defined as calendar days unless otherwise specified as business days.

INFORMALITY: A minor defect or variation of a bid or proposal from the exact requirements of the Invitation to Bid or Request for Proposal which does not affect the price, quality, quantity or delivery schedule for the goods, services or construction being procured.

INVITATION TO BID (ITB): A formal request which is made to prospective suppliers (bidders) for their quotation on goods, services, or construction desired by the City. The issuance of an ITB will contain or incorporate by reference the specifications and contractual terms and conditions applicable to the procurement.

PROFESSIONAL SERVICES: Any type of professional service performed by an independent contractor within the practice of accounting, actuarial services, architecture, dentistry, land surveying, landscape architecture, law, medicine, optometry, pharmacy, or professional engineering (which shall be procured as set forth in the Code of Virginia). **2.2-4301**

PROPOSAL: The document submitted by the offeror in response to the RFP to be used as the basis for negotiations for entering into a contract.

PURCHASING AGENT: The individual employed and given authority by the Harrisonburg City Council by adoption of the City of Harrisonburg Purchasing and Contracting Policy Manual. Purchasing Agent may also be referred to as Procurement Manager.

REQUEST FOR PROPOSAL (RFP): A formal request for a proposal from prospective offerors which will indicate the general terms which are sought to be procured from the offeror and where negotiations are conducted to come to a final contract. The RFP will specify the evaluation criteria to be used and will contain or incorporate by reference other contractual terms and conditions applicable to the procurement.

RESPONSIBLE BIDDER/OFFEROR: An individual, company, firm, corporation, partnership or other organization having the capability in all respects to perform fully the contract requirements, and also having the moral and business integrity and reliability which will assure good faith performance.

RESPONSIVE BIDDER/OFFEROR: An individual, company, firm, corporation, partnership or other organization having submitted a bid/proposal which conforms in all material respects to the ITB or RFP.

SOLICITATION: A formal document issued by the City with the intent to purchase goods, services or construction. Can be either an Invitation To Bid or a Request For Proposal.

SWAM: Small, Women, and Minority-owned businesses.

SUBCONTRACTOR: A business entity that has a contract to supply labor or materials to the prime contractor to whom the contract was awarded or to any subcontractor in the performance of the work provided for in such contract.

CONDITIONS OF BIDDING

BID PRICE CURRENCY: Unless stated otherwise in the solicitation, bidders/offerors shall state bid/proposal prices in US dollars.

BID/PROPOSAL ACCEPTANCE PERIOD: Unless otherwise specified, all bids/proposals submitted shall be binding and may not be withdrawn for sixty (60) days following the bid/proposal opening date and time, unless extended by mutual consent of all parties. If the bid/proposal is not withdrawn at that time it remains in effect until an award is made or the solicitation is cancelled.

CANCELLATION OF SOLICITATIONS: 2.2-4319 An ITB, RFP or any other solicitation may be cancelled or rejected, but shall not be cancelled or rejected solely to avoid awarding a contract to a particular responsive and responsible bidder/offeror. The reasons for cancellation shall be made part of the contract file.

CITY HALL CLOSURE: If City Hall is closed for business at the time scheduled for the bid opening, for whatever reasons, sealed bid/proposal will be accepted and opened on the next business day of the City, at the original scheduled hour.

CLARIFICATION of TERMS: 2.2-4316 If any prospective bidder/offeror has questions about the specifications or other solicitation documents, the prospective bidder/offeror should contact the person identified in the solicitation no later than five (5) business days before the due date. Any revisions to the solicitation will be made only by addendum issued by the City.

CONFLICT OF INTEREST/COLLUSION: Contractor certifies by signing their bid/proposal submission to the City, that no conflict of interest or collusion exists between the Contractor and City that interferes with fair competition and no conflict of interest or collusion exists between Contractor and any other person or organization that constitutes a conflict of interest with respect to the contract with the City.

DEBARMENT STATUS: By signing their bid/proposal, the bidders/offerors certify that they are not currently debarred from submitting bids/proposals on contracts from any agency, public entity/locality or authority of the Commonwealth of Virginia.

DISCRIMINATION PROHIBITED: **2.2-4310** In the solicitation or awarding of a contract the City shall not discriminate against a bidder/offeror because of race; religion; color; sex; national origin; age; disability; status as a small, women-owned, minority-owned, or service disabled veteran-owned; employment services organization; or any other basis prohibited by state law relating to discrimination in employment. The City encourages the participation of these entities in public procurement activities. Towards that end, the City encourages contractors to provide for the participation of these entities through partnerships, joint ventures, subcontracts, and other contractual opportunities.

ERRORS IN BIDS/PROPOSALS: When an error is made in extending total prices, the unit price will govern. Bidders/Offerors are cautioned to recheck their bids/proposals for possible errors prior to submission.

ETHICS IN PUBLIC CONTRACTING: 2.2-4371 By submitting their bids/proposals, the bidders/offerors certify that their bids/proposals are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other bidder/offeror, supplier, manufacturer or subcontractor in connection with their bid/proposal, and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal or minimal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

EXCUSABLE DELAY: The City shall not be in default of any failure in performance of this agreement in accordance with its terms if such failure arises out of causes beyond its reasonable control and without the fault of or negligence of the City. Such causes may include, but are not restricted to acts of God or the public enemy, fires, flood, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather, but in every case the failure to perform must be beyond the reasonable control and without the fault or negligence of the City.

LICENSES, PERMITS and FEES: All proposals submitted shall have included in price the cost of any business or professional licenses, permits or fees required by the City of Harrisonburg or the Commonwealth of Virginia. At or prior to delivery of the signed contract, the bidder/offeror to whom the contract is awarded shall deliver to the City a copy of their City Business License (if applicable). The bidder/offeror shall ensure that the Business License indicates a basis amount equal to or greater than the awarded Contract value. For information on City Business Licenses contact the Harrisonburg Commissioner of the Revenue's office at 540-432-7704. The bidder/offeror must have all necessary licenses to perform the services in the Commonwealth of Virginia and, if practicing as other than an individual, be authorized to do business in the Commonwealth of Virginia.

MANDATORY USE of CITY FORMS AND TERMS and CONDITIONS for ITBs AND RFPs: Failure to submit a bid/proposal on the official City form(s) provided or in the format identified, for that purpose shall be a cause for rejection of the bid/proposal. Unauthorized modification of or additions to any portion of the ITB or RFP may be cause for rejection of the bid/proposal. The City reserves the right to decide, on a case by case basis, in it's sole discretion, whether to reject any bid/ proposal which has been modified. As a precondition to its acceptance of an ITB response, the City may, in its sole discretion, request that the bidder withdraw or modify nonresponsive portions of a bid which do not affect quality, quantity, price, or delivery. No modification to the provisions of the contract shall be effective unless the modification is incorporated into the contract document.

MODIFICATION & WITHDRAWAL OF BIDS/PROPOSALS: 2.2-4330

1. A bidder for a public 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 in the bid, 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 a 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.

   If a bid contains both clerical and judgment mistakes, a bidder may withdraw his bid from consideration if the price bid would have been substantially lower than the other bids due solely to the clerical mistake, that was an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of a bid that shall 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.
2. The bidder shall give notice in writing of his claim of right to withdraw his bid within two business days after the conclusion of the bid opening procedure and shall submit original work papers with such notice.
3. No bid shall be withdrawn under this section when the result would be the awarding of the contract on another bid of the same bidder or of another bidder in which the ownership of the withdrawing bidder is more than five percent.
4. If a bid is withdrawn in accordance with this section, the lowest remaining bid shall be deemed to be the low bid.
5. No bidder who is permitted to withdraw a bid shall, for compensation, supply any material or labor to or perform any subcontract or other work agreement for the person or firm to whom the contract is awarded or otherwise benefit, directly or indirectly, from the performance of the project for which the withdrawn bid was submitted.
6. The public body shall notify the bidder in writing within five business days of its decision regarding the bidder's request to withdraw its bid. If the public body denies the withdrawal of a bid under the provisions of this section, it shall state in such notice the reasons for its decision and award the contract to such bidder at the bid price, provided such bidder is a responsible and responsive bidder. At the same time that the notice is provided, the public body shall return all work papers and copies thereof that have been submitted by the bidder.
7. These procedures also apply for the withdrawal of bids for other than construction contracts.
8. A bidder/offeror may modify or withdraw his bid/proposal, either personally or by written request to the Purchasing office at any time prior to the scheduled time for opening of bids/proposals.

PUBLIC INSPECTION OF CERTAIN RECORDS: 2.2-4342 Public inspection of all records is strictly governed by Code of Virginia 2.2-4342 and in accordance with the Virginia Freedom of Information Act (VA Code 2.2-3700 et seq). Any inspection of procurement transactions shall be subject to reasonable restrictions to ensure the security and integrity of the records. Cost estimates relating to a proposed procurement transaction prepared by or for a public body shall not be open to public inspection.

REVISIONS to the OFFICIAL ITB/RFP: No bidder/offeror shall modify, revise, edit or make any unauthorized change(s) to the original official ITB/RFP. ~~The official solicitation document and the Addenda(um) are the documents posted on the eVA website (www.eva.virginia.gov).~~ Due to the eVA upgrade and subsequent system shut down, all official solicitation documentation will temporarily be posted on the City's website (www.harrisonburgva.gov/bids-proposals). Any such violation as stated above may result in rejection of the ITB/RFP response. In addition, violations may result in the debarment of the bidder/offeror by the City of Harrisonburg.

TAXES: Sales to the City of Harrisonburg are normally exempt from State sales tax. Virginia Sales and Use Tax Certificate of Exemption, Form ST-12, will be issued upon request. The City may also be exempt from other taxes and fees.

AWARD

CONTRACT AWARD

For ITB: The award(s) made in response to an ITB will be made to the lowest responsive and responsible bidder(s) for each item, or group of items indicated in the bid. The City reserves the right to make the sole determination of whether the product and/or options offered meet the minimum specifications and is acceptable in accordance with the specifications. The City's decision shall be final. The City reserves the right to make a separate award for each item, a group of items or all items, and to make awards either in whole or in part, whichever is deemed by the City to be in its best interest. Delivery time lines may be a factor in making an award.

For RFP: The award(s) made in response to an RFP will be made to the highest qualified offeror whose proposal is determined to be the most advantageous to the City, taking into consideration the evaluation criteria set forth in the RFP. After negotiations, the offeror who has made the best proposal and provides the best value shall be awarded the contract.

Professional services shall be procured and awarded by competitive negotiation as set forth in **2.2-4302.2 A 4.**

The City reserves the right to cancel a solicitation at any time and to reject any or all bids/proposals, in whole or in part, to waive any informality and to delete items prior to making the award(s), whenever it is deemed in the sole opinion of the City to be in its best interest.

NEGOTIATION WITH THE LOWEST BIDDER: 2.2-4318 Unless all bids are canceled or rejected, the City reserves the right to negotiate with the lowest responsive and responsible bidder to obtain a contract price within the funds available to the City whenever such low bid exceeds the City's available funds for the project. The City shall initiate such negotiations by written notice to the lowest responsive, responsible bidder that its bid exceeds the available funds and the City wishes to negotiate a lower contract price. The times, places and manner of negotiating shall be agreed to by the City and the lowest responsive, responsible bidder.

PRECEDENCE of TERMS: General Terms and Conditions shall apply in all instances with the exceptions for projects funded by the Federal Highway Administration (FHWA) and by the Federal Transportation Administration (FTA). In the event there is a conflict between the General Terms and Conditions and any Federal, Special, Standard, or Supplementary Terms and Conditions in this solicitation, the Federal, Special, Standard, or Supplementary Terms and Conditions shall apply.

QUALIFICATIONS of BIDDERS/OFFERORS: The City may make such reasonable investigations as deemed proper and necessary to determine the responsibility and ability of the bidder/offeror to perform the services/furnish the goods and the bidder/offeror shall furnish to the City all such information and data for this purpose as may be requested. The City reserves the right to inspect bidder's/offeror's physical facilities prior to award to satisfy questions regarding the bidder's/offeror's capabilities. The City further reserves the right to reject any bid/proposal if the evidence submitted by, or investigations of, such bidder/offeror fails to satisfy the City that such bidder/offeror is properly qualified to carry out the obligations of the contract and to provide the services and/or furnish the goods contemplated therein.

SELECTION PROCESS/NOTICE OF AWARD: Upon the award or the announcement of the decision to award a contract as a result of this solicitation, the Purchasing Office will publicly post such notice and/or will notify all responsive bidders/offerors and records are available for public inspection in accordance with the VA Freedom of Information Act (VA Code 2.2-3700 et seq). ~~The City posts all Notice of Awards on eVA at www.eva.virginia.gov~~. Due to the eVA upgrade and subsequent system shut down, all Notice of Award documentation will temporarily be posted on the City's website (www.harrisonburgva.gov/bids-proposals).

CONTRACT PROVISIONS

ANTI-DISCRIMINATION: 2.2-4311 By submitting their bids/proposals, bidders/offerors certify to the City that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act.
In every contract over $10,000 the provisions below apply:

1. 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, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
   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 these requirements.
2. The contractor will include the provisions of 1. above in every subcontract or purchase order over $10,000, so that the provisions will be binding upon each subcontractor or vendor.

ANTITRUST: By entering into a contract, the contractor conveys, sells, assigns, and transfers to the City all rights, title and interest in and to all causes of action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by the City under said contract.

APPLICABLE LAWS and COURTS: This solicitation and any resulting contract shall be governed in all respects by the laws of the Commonwealth of Virginia, excluding its conflict of laws provisions, and venue for litigation with any respect thereto shall be proper only in the Circuit Court of Rockingham County, Virginia. The contractor shall comply with all applicable federal, state and local laws, rules and regulations.

ASSIGNMENT of CONTRACT: A contract shall not be assignable by the contractor in whole or in part without the written consent of the City.

CHANGES to the CONTRACT: Changes can be made to the contract in any of the following ways:

1. The parties by mutual agreement in writing, to modify the terms, conditions or scope of the contract subject to item 2. below. Any additional goods or services to be provided shall be of a sort that is ancillary to the contract goods or services, or within the same broad product or service categories as were included in the contract award. Any increase or decrease in the price of the contract resulting from such modification shall be agreed to by the parties as a part of their written agreement to modify the scope of the contract.
2. A public contract may include provisions for modification of the contract during performance, but no fixed-price contract may be increased by more than twenty-five percent (25%) of the amount of the contract or $50,000, whichever is greater, without the advance written approval of the Harrisonburg City Council. In no event may the amount of any contract, without adequate consideration, be increased for any purpose, including, but not limited to, relief of a bidder/offeror from the consequences of an error in its (bid/offer). **2.2-4309**
3. The Procurement Manager (or City delegated agent) may order changes within the general scope of the contract at any time by written notice to the contractor. Changes within the scope of the contract include, but are not limited to, things such as services to be performed, the method of packing or shipment, and the place of delivery or installation. The contractor shall comply with the notice upon receipt unless the contractor intends to claim an adjustment to compensation, schedule, or other contractual impact that would be caused by complying with such notice, in which case the contractor shall, in writing, promptly notify the City of the adjustment to be sought, and before proceeding to comply with the notice, shall await the City's written decision affirming, modifying, or revoking the prior written notice. If the City decides to issue a notice that requires an adjustment to compensation, the contractor shall be compensated for any additional costs incurred as the result of such order and shall give the City a credit for any savings. Said compensation shall be determined by one of the following methods:
   a. By mutual agreement between the parties in writing; or
   b. By agreeing upon a unit price or using a unit price set forth in the contract, if the work to be done can be expressed in units, and the contractor accounts for the number of units of work performed, subject to the City's right to audit the contractor's records and/or to determine the correct number of units independently; or
   c. By ordering the contractor to proceed with the work and keep a record of all costs incurred and savings realized. A markup for overhead and profit may be allowed if provided by the contract. The same markup shall be used for determining a decrease in price as the result of savings realized. The contractor shall present the City with all vouchers and records of expenses incurred and savings realized. The City shall have the right to audit the records of the contractor as it deems necessary to determine costs or savings. Any claim for an adjustment in price under this provision must be asserted by written notice to the City within thirty (30) days from the date of receipt of the written order from the City. If the parties fail to agree on an amount of adjustment, the question of an increase or decrease in the contract price or time for

performance shall be resolved in accordance with the procedures for resolving disputes provided by the Disputes Clause of this contract or, if there is none, in accordance with the disputes provisions of the City of Harrisonburg Purchasing and Contracting Policy Manual. Neither the existence of a claim nor a dispute resolution process, litigation or any other provision of this contract shall excuse the contractor from promptly complying with the changes ordered by the City or with the performance of the contract generally.

CONTRACT EXECUTION: Per City Code (Sec 3-1-2, 3-1-1), the City Manager and the Deputy City Manager shall have authority to execute all contracts and agreements on behalf of the City except as otherwise directed by the Harrisonburg City Council in specific instances.

CONTRACTUAL DISPUTES: Contractual claim procedures shall be as per Code of VA **2.2-4363**.

COOPERATIVE PROCUREMENT: 2.2-4304 This procurement is being conducted in accordance with the provisions of 2.2-4304 Code of VA. Except for contracts for architectural and engineering services, if agreed to by the contractor, other public bodies may utilize this contract. The Contractor shall deal directly with any public body it authorizes to use the contract. The City, its officials and staff are not responsible for placement of orders,invoicing, payments, contractual disputes, or any other transactions between the Contractor and any other public bodies, and in no event shall the City, its officials or staff be responsible for any costs, damages or injury resulting to any party from use of a City Contract. The City assumes no responsibility for any notification of the availability of the contract for use by other public bodies, but the Contractor may conduct such notification. Other public bodies desiring to use this contract must make their own legal determination as to whether the use of this contract is consistent with their laws, regulations, and other policies

DEFAULT: In case of failure to deliver goods or services in accordance with the contract terms and conditions, the City, after due oral or written notice, may procure items of a comparable quality from other sources and hold the contractor responsible for any resulting additional costs above the contract price when purchases are made in the open market. This remedy shall be in addition to any other remedies, which the City may have.

DRUG-FREE WORKPLACE: 2.2-4312 During the performance of this contract, the contractor agrees to: (i) provide a drug-free workplace for the contractor's employees; (ii) 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; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over $10,000, so that the provisions will be binding upon each subcontractor or vendor.

IMMIGRATION REFORM and CONTROL ACT OF 1986: 2.2-4311.1 By submitting their bids/proposals, bidders/offerors certify that they do not and will not during the performance of this contract employ illegal alien workers or otherwise violate the provisions of the federal Immigration Reform and Control Act of 1986.

INDEMNIFICATION: Contractor agrees to indemnify, defend and hold harmless the City, its officers, agents, volunteers, and employees against any and all liability, losses, damages, claims, causes of action, suits of any nature, cost, and expenses, including attorney's fees, resulting from or arising out of Contractor's or it's agent's and subcontractor's negligent activities or omissions, or from which the Contractor would have legal liability outside of contract.

INSURANCE: By signing and submitting a bid/proposal under this solicitation, the bidder/offeror certifies that if awarded the contract, it will have insurance coverages per the solicitation document at the time of contract execution. For construction contracts, if any subcontractors are involved, the subcontractor will have workers' compensation insurance in accordance with **2.2-4332** and **65.2-800** et seq. of the Code of Virginia. The bidder/offeror further certifies that the contractor and any subcontractors will maintain these insurance coverages during the entire term of the contract and that all insurance coverages will be provided by insurance companies authorized to sell insurance in Virginia by the Virginia State Corporation Commission.

LIABILITY AND LITIGATION: The City shall not indemnify or hold harmless any contractor or other third party. The City does not waive any right or release any party from liability, whether on its own behalf or on behalf of any boards, employees or agents. The City does not waive the right to trial by jury for any cause of action arising from the contract and shall not submit any contract claim to binding arbitration or mediation. The City shall not be liable to contractor for any special, punitive or exemplary damages arising from the performance of the contract, including, but not limited to, incidental damages, and lost profit and lost wages, even if such special damages are reasonably foreseeable. Any provision(s) in the contract contrary to these statements is/are hereby deleted and rendered void.

NONDISCRIMINATION OF CONTRACTORS: 2.2-4343.1H A bidder, offeror, or contractor shall not be discriminated against in the solicitation or award of this contract because of race, religion, color, sex, national origin, age, disability, faith-based

organizational status, any other basis prohibited by state law relating to discrimination in employment or because the bidder or offeror employs ex-offenders unless the state agency, department or institution has made a written determination that employing ex-offenders on the specific contract is not in its best interest. If the award of this contract is made to a faith-based organization and an individual, who applies for or receives goods, services, or disbursements provided pursuant to this contract objects to the religious character of the faith-based organization from which the individual receives or would receive the goods, services, or disbursements, the public body shall offer the individual, within a reasonable period of time after the date of his objection, access to equivalent goods, services, or disbursements from an alternative provider.

PAYMENT: 2.2-4352 – 2.2-4354

1. To Prime Contractor:
   Invoices for items ordered, delivered and accepted shall be submitted by the contractor directly to the payment address shown on the purchase order/contract. Any payment terms requiring payment in less than 45 days will be regarded as requiring payment 45 days after invoice or delivery, whichever occurs last. This shall not affect offers of discounts for payment in less than 45 days, however. All goods or services provided under this contract or purchase order, that are to be paid for with public funds, shall be billed by the contractor at the contract price.

   The following shall be deemed to be the date of payment: the date of postmark in all cases where payment is made by mail, or the date of offset when offset proceedings have been instituted as authorized under the Virginia Debt Collection Act. Individual contractors shall provide their social security numbers, and proprietors, partnerships, and corporations shall provide the City with a federal employer identification number, prior to receiving any payment from the City. The City requires an updated IRS Form W-9 be filed with the Purchasing Office at or before the contract is signed.

   Unreasonable Charges: Under certain emergency procurements and for most time and material purchases, final job costs cannot be accurately determined at the time orders are placed. In such cases, contractors should be put on notice that final payment in full is contingent on a determination of reasonableness with respect to all invoiced charges. Charges which appear to be unreasonable will be researched and challenged, and that portion of the invoice held in abeyance until a settlement can be reached. Upon determining that invoiced charges are not reasonable, the City shall promptly notify the contractor, in writing, as to those charges which it considers unreasonable and the basis for the determination. A contractor may not institute legal action unless a settlement cannot be reached within thirty (30) days of notification.

   The provisions of this section do not relieve the City of its prompt payment obligations with respect to those charges which are not in dispute **(2.2.4363).**

2. To Subcontractors:
   A contractor awarded a contract under this solicitation is hereby obligated to pay the subcontractor(s) within seven (7) days of the contractor's receipt of payment from the City for the proportionate share of the payment received for work performed by the subcontractor(s) under the contract; or;

   Notify the City and the subcontractor(s), in writing, of the contractor's intention to withhold payment and the reason.
   The contractor is obligated to pay the subcontractor(s) interest at the rate of one percent per month (unless otherwise provided under the terms of the contract) on all amounts owed by the contractor that remain unpaid seven (7) days following receipt of payment from the City, except for amounts withheld as stated in (2) above. The date of mailing of any payment by U. S. Mail is deemed to be payment to the addressee. These provisions apply to each sub-tier contractor performing under the primary contract. A contractor's obligation to pay an interest charge to a subcontractor may not be construed to be an obligation of the City. Any such contract awarded shall further require the contractor to 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 may not be construed to be an obligation of the City.

SAFETY and OSHA STANDARDS: All parties performing services for the City shall comply with all Occupational Safety and Health Administration (OSHA), State Occupational Health Standards, and any other applicable rules and regulations. All parties shall be held responsible for the training, supervision, and safety of their employees. Any unsafe acts or hazardous conditions that may cause injury or damage to any persons or property within and around the work site areas under this contract shall be remedied per the regulatory agency's guidelines.

TERMINATION: Subject to the provisions below, the contract may be terminated by the City upon thirty (30) days advance written notice to the other party. Any contract cancellation notice shall not relieve the contractor of the obligation to deliver and perform on all outstanding orders issued prior to the effective date of cancellation.

1. Termination for Convenience: In the event that the contract is terminated upon request and for the convenience of the City, without the required thirty (30) days advance notice, then the City shall be responsible for payment of services up to the termination date.

2. Termination for Cause: Termination by the City for cause, default or negligence on the part of the contractor shall be excluded from the foregoing provision; termination costs, if any shall not apply. However, the City may hold the contractor responsible for any resulting additional purchase and administrative costs. The thirty (30) day advance notice requirement is waived in the event of Termination for Cause.
3. Termination Due to Unavailability of Funds: Agreements are made subject to the appropriation of funds (including grant funds, gifts or donations) by the Harrisonburg City Council and are null and void in the event of non-appropriation by the City Council. Non-appropriation of funds shall not be deemed a cancellation and shall terminate this agreement without recourse and with no liability on the part of the City.

SPECIFICATIONS

CONDITION OF ITEMS: Unless otherwise specified in the solicitation, all items shall be new, latest edition/model in first class condition.

FORMAL SPECIFICATIONS: When a solicitation contains a specification which states no substitutes, no deviation therefrom will be permitted and the bidder will be required to furnish articles in conformity with that specification.

USE OF BRAND NAMES: 2.2-4315 Unless otherwise provided in this solicitation, the name of a certain brand, make or manufacturer does not restrict bidders/offerors to the specific brand, make or manufacturer named, but conveys the general style, type, character, and quality of the article desired. Any article which the public body, in its sole discretion, determines to be the equal of that specified, considering quality, workmanship, economy of operation, and suitability for the purpose intended, shall be accepted. The bidder/offeror is responsible to clearly and specifically identify the product being offered and to provide sufficient descriptive literature, catalog cuts and technical detail to enable the City to determine if the product offered meets the requirements of the solicitation. This is required even if offering the exact brand, make or manufacturer specified. Normally in competitive sealed bidding only the information furnished with the bid will be considered in the evaluation. Failure to furnish adequate data for evaluation purposes may result in declaring a bid nonresponsive. Unless the bidder/offeror clearly indicates in its bid/proposal that the product offered is an "equal" product, such bid/proposal will be considered to offer the brand name product referenced in the solicitation. The City reserves the right to determine the suitability of substituted items for those specified and to accept in whole or in part any and all bids/proposals received.

DELIVERY

DEFECTS OR IMPROPRIETIES: In instances where there is a defect or impropriety in an invoice or in the goods or services received, the City shall notify the supplier of the defect or impropriety, if the defect or impropriety would prevent payment by the payment date. The notice shall be sent within (30) thirty days after receipt of the invoice or the goods or services.

TESTING AND INSPECTION: 2.2-4302.1 The City reserves the right to conduct any test/inspection it may deem advisable to assure goods and services conform to the specifications. Materials or components that have been rejected by the City, in accordance with the terms of the contract, shall be replaced by the Contractor at no cost to the City.

TRANSPORTATION AND PACKAGING: All materials shipped to the City must be shipped Free On Board (FOB) Destination unless otherwise stated in the contract. By submitting their bids/proposals, all bidders/offerors certify and warrant that the price offered for FOB destination includes only the actual freight rate costs at the lowest and best rate and is based upon the actual weight of the goods to be shipped. Except as otherwise specified herein, standard commercial packaging, packing and shipping containers shall be used. All shipping containers shall be legibly marked or labeled on the outside with purchase order number, commodity description, and quantity.

0401 ESCROW ACCOUNT ELECTION

ELECTION OF ESCROW ACCOUNT PROCEDURE FOR RETAINAGE

If determined to be the successful low bidder(s), the below signed elects to use the Escrow Account Procedure for retainage.

_____

Write "Yes" or "No" on above line

If the successful bidder elects to use the Escrow Account Procedure for Retainage, an "Escrow Agreement" form will be provided by the City and shall be executed and submitted to the City within fifteen (15) calendar days after notification. If the "Escrow Agreement" form is not submitted within the fifteen (15) day period, the Contractor shall forfeit his rights to the use of the Escrow Account Procedure.

Company_____

Authorized Signature_____

This document shall be completed & returned with bid submission.

0401 ESCROW AGREEMENT
CITY OF HARRISONBURG, VIRGINIA

THIS AGREEMENT ("Agreement"), made and entered into this _____ day of _____, 20_____ by, between and among the City of Harrisonburg, Virginia ("City" or Owner"), _____("Contractor"), _____(Name of Escrow Agent) _____(Address of Escrow Agent) a trust company, bank, or savings and loan institution (hereinafter referred to collectively as "Escrow Agent") with its principal office located in the Commonwealth of Virginia ("Commonwealth") and _____("Surety") provides:

I.

The City and the Contractor have entered into a contract dated _____ with respect to City of Harrisonburg ITB No. _____ , for _____ _____("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. Payments should be made to _____ and mailed to _____ _____(Name and Address of Escrow Agent).

II.

In order to assure full and satisfactory performance by the Contractor of its obligations under the Contract, the City is required thereby to retain 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 Escrow Agent. This agreement sets forth the terms of the escrow. The Escrow Agent 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.

III.

The City shall from time to time pursuant to the Contract pay to the Escrow Agent 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 Escrow Agent for the payment of funds retained under the Contract and paid by the City to the Escrow Agent.

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

Funds and securities held by the Escrow Agent 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.

IV.

Upon receipt of checks drawn by the City and made payable to the Escrow Agent under this agreement, the Escrow Agent shall promptly notify the Contractor, negotiate the same and deposit or invest and reinvest the proceeds in approved securities in accordance with the written instructions of the Contractor. In no event shall the Escrow Agent invest the escrowed funds in any security not approved, as set forth in Section V. below.

V.

The following securities, and none other, are approved securities for all purposes of this Agreement:

(1) United States Treasury Bonds, United States Treasury Notes, United States Treasury Certificates of Indebtedness or United States Treasury Bills,

(2) Bonds, notes and other evidences of indebtedness unconditionally guaranteed as to the payment of principal and interest by the United States,

(3) Bonds or notes of the Commonwealth of Virginia,

(4) Bonds of any political subdivision of the Commonwealth of Virginia, if such bonds carried, at the time of purchase by the Escrow Agent or deposit by the Contractor, a Standard and Poor's or Moody's Investor Service rating of at least "A", and

(5) Certificates of deposit issued by commercial Banks located within the Commonwealth of Virginia, including, but not limited to, those insured by the Escrow Agent and its affiliates.

(6) Any bonds, notes, or other evidences of indebtedness listed in Sections (1) through (3) may be purchased pursuant to a repurchase agreement with a bank, within or without the Commonwealth of Virginia having a combined capital, surplus and undivided profit of not less than $25,000,000, provided the obligation of the bank to repurchase is within the time limitations established for investments as set forth herein. The repurchase agreement shall be considered a purchase of such securities even if title, and/or possession of such securities is not transferred to the Escrow Agent, so long as the repurchase obligation of the bank is collateralized by the securities themselves, and the securities have on the date of the repurchase agreement a fair market value equal to at least 100% of the amount of the repurchase obligation of the bank, and the securities are held by a third party, and segregated from other securities owned by the bank.

No security is approved hereunder which matures more than five (5) years after the date of its purchase by the Escrow Agent or deposit by the Contractor.

VI.

The Contractor may from time to time withdraw the whole or any portion of the escrowed funds by depositing with the Escrow Agent approved securities as set forth in Section V. above in an amount equal to, or in excess of, the amount so withdrawn. Any securities so deposited or withdrawn shall be valued at such time of deposit or withdrawal at the lower of par or market value, the latter as determined by the Escrow Agent. Any securities so deposited shall thereupon become a part of the escrowed fund.

Upon receipt of a direction signed by the City of Harrisonburg Director of Finance or designee, the Escrow Agent shall pay the principal of the fund, or any specified amount thereof, to the City or the Contractor as the City may direct. If payment is to be made to the Harrisonburg City Treasurer, it shall be made in cash or cash equivalent. However, if payment has been authorized to be made to the Contractor, the Contractor may specify to the Escrow Agent if payment is to be made in cash or in kind. Any such payment and delivery required hereunder shall be made as soon as is practicable after receipt of the direction.

VII.

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

VIII.

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 Escrow Agent's fee or any other costs of administration, such income shall be deemed a part of the principal of the fund.

IX.

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.

X.

This Escrow Agreement shall be governed by, and construed in accordance with, the laws of the Commonwealth of Virginia, without application of Virginia's conflict of law provisions. Venue and any actions for any litigation, suits, and claims arising from or connected with this Escrow Agreement and/or Contract referred to herein shall only be proper in the Rockingham County Circuit Court, or in the Rockingham County General District Court if the amount in controversy is within the jurisdictional limit of such court, and all parties to this Escrow Agreement and/or such Contract voluntarily submit themselves to the jurisdiction and venue of such courts, regardless of the actual location of such parties.

SIGNATURE PAGE TO FOLLOW

IN WITNESS WHEREOF, the parties hereto have signed this Escrow Agreement by their authorized representatives.

Typed Name of Contractor

Attest: (if corporation)
Witness: (if individual)

President/Vice-President;
Partner or Owner (Seal

Typed Name of Escrow Agent

Attest:

Bank Officer

Vice President

Witness:

Typed Name of Surety Company

By:_____
Attorney-In-Fact

Attest:

City of Harrisonburg, Virginia

City Clerk

City Manager/Deputy City Manager

Approved as to form:

City Attorney

Approved as to execution:

City Attorney

0501 AGREEMENT

This AGREEMENT is dated as of the ___ day of _____ in the year 20__ between the City of Harrisonburg, Virginia (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR). OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents for the project titled City of Harrisonburg, Virginia, Proposed Bridge Substructure Repair for Martin Luther King, Jr. Way over Blacks Run, NS Railway and Chesapeake Avenue. The Work is generally described as follows:

Repair work to include but not limited to: expansion bearing slots, replacement of anchor bolts, replacement of bearing, concrete surface repairs (Shotcrete Ty. A), coating of structure, general maintenance and incidental items required to complete the work.

ARTICLE 2. CONTRACT ADMINISTRATOR

This Project has been designed by Schwartz and Associates, Inc. and administered by the Department of Public Works. The Director of Public Works of Harrisonburg, Virginia, or their designee, is hereinafter called CONTRACT ADMINISTRATOR, will assume all duties and responsibilities and will have the rights and authority assigned to CONTRACT ADMINISTRATOR in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 3. CONSTRUCTION TIME AND LIQUIDATED DAMAGES

3.1 Contract Time shall be Fixed Completion Dates for the various phases of work as follows:

All work shall be completed by November 11, 2022.

3.2 Consideration for time extensions attributable to weather will not be given except as provided for in Section 108.04 of the VDOT Standard Specifications.

3.3 Liquidated Damages

A. 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 in its entirety on or before November 11, 2022. The Contractor shall begin work on or after May 9, 2022. The Agreement shall stipulate that the Contractor shall complete the work no later than November 11, 2022. This is a "Fixed Completion Date" (187-day) Contract with the "Fixed Completion Date" being November 11, 2022. A Notice of "Award" will be issued by the Owner around March 2, 2022.

B. All work for this Contract shall be completed and accepted on or before the time limit established in the Contract. In the event the Contractor fails to complete the work by the time limit, liquidated damages, representing the estimated additional cost of administration, engineering, supervision, inspection and other expenses will be assessed in the amount of $1,500.00 for each calendar day beyond the time limit, including Sundays and Holidays, that the project is not completed.

The Contract time specified in the Bid Form shall be on the basis of "Fixed Completion Date" as defined in Section 108.04 of the Virginia Department of Transportation Road & Bridge Specifications, 2020.

ARTICLE 4. CONTRACT PRICE

4.1 OWNER shall pay CONTRACTOR for performance of the Work in accordance with the Contract Documents such amounts as required by the Contract Documents.

ARTICLE 5. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Section 0800 of the Project Manual.

5.1 Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by CONTRACT ADMINISTRATOR, on or about the 1st day of each month during construction as provided below. All Progress Payments will be on the basis of the progress of the Work measured by the schedule of values established in the bid documents. Retainage will be held per Virginia Code 2.2-4333.

5.1.1 Prior to completion Progress Payments will be made in an amount equal to:

95% of the Work completed, and

95% of the materials and equipment not incorporated in the Work but delivered and suitably stored less in each case the aggregate of payment previously made.

5.1.2 Upon substantial completion, OWNER shall pay amount sufficient to increase total payments to CONTRACTOR to 98% of the Contract Price, less such amount as CONTRACT ADMINISTRATOR shall determine.

5.2. Final Payment. Upon final completion and acceptance of the Work in accordance with the Virginia Department of Transportation's Road & Bridge Specifications, OWNER shall pay the remainder of the Contract Price.

ARTICLE 6. INTEREST

All monies not paid when due hereunder shall bear interest at maximum rated allowed by law at the place of the Project.

ARTICLE 7. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

7.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.

7.2 CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon by CONTRACT ADMINISTRATOR in the preparation of the Drawings and Specifications and which have been identified in the Supplementary Conditions.

7.3 CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in Paragraph 7.2. as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examination, investigations, tests, reports or similar data are or will be required by CONTRACTOR for such purposes.

7.4 CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

7.5 CONTRACTOR has given CONTRACT ADMINISTRATOR written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by CONTRACT ADMINISTRATOR is acceptable to CONTRACTOR.

ARTICLE 8. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR are attached by reference to this Agreement, made a part hereof and consist of the following:

8.1 This Agreement (pages 1 to 5, inclusive)

8.2 Performance and Payment bonds

8.3 Certificate of Insurance and Endorsement

8.4 Notice of Award

8.5 Notice to Proceed

8.6 City's Invitation to Bid ITB#:2022015-PW-B Proposed Bridge Substructure Repair for Martin Luther King, Jr. Way over Blacks Run, NS Railway & Chesapeake Avenue

8.7 Drawings sheets numbered 1 through 12

8.8 Signed Addenda

8.9 Contractor's Bid

8.10 Documentation submitted by Contractor prior to Notice of Award.

8.11 Any modifications or change orders, duly delivered after execution of Agreement.

All contract documents must be listed in this article. Contract documents may be altered, amended or repealed only as allowed by the Virginia Department of Transportation's Road & Bridge Specifications.

ARTICLE 9. MISCELLANEOUS

9.1 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies that are now due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.2 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

ARTICLE 10. OTHER PROVISIONS

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and CONTRACT ADMINISTRATOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by CONTRACT ADMINISTRATOR on their behalf.

OWNER: City of Harrisonburg	CONTRACTOR:_____
Signature_____	Signature_____
Name & Title: Alexander "Ande" Banks, VI Interim City Manager	Name & Title:_____
Attest _____	Attest_____
Address for giving notices:	Address for giving notices:
_____	_____
_____	_____
	Contractor License No._____

END OF AGREEMENT

0502 NOTICE TO PROCEED

DATE:

TO:

Re: City of Harrisonburg

PROJECT TITLE:

PROJECT NO:

In accordance with the Contract between the City of Harrisonburg and Contractor you are notified that the Time for Completion under the above Agreement will commence to run on [DATE]. By that date, you are to start performing your obligations under the Contract Documents. In accordance with the Contract between Owner and Contractor, the Work shall be substantially completed within [DAYS] calendar days from and after the said date, which is [DATE]

Before you may start any Work at the site, the City of Harrisonburg requires that you deliver to the City the Certificates of Insurance which the Contractor is required to purchase and maintain in accordance with the Contract Documents.

By _____
Owner Authorized Signature

_____
Name & Title (Print)

0800 APPLICATION FOR PAYMENT

1. Applications for progress payment shall be made on forms identical/similar to those shown on pages 0800-2 and 0800-3. The following application for payment is an excel spreadsheet and will be made available for the contractor's use.

2. A draft of the application for progress payment shall be emailed to the Project Manager and Project Coordinator for review. After review and approval by the City, the contractor shall **mail two signed applications** for progress payment to: 320 East Mosby Road, Harrisonburg, VA 22801.

3. It shall be the responsibility of the Contractor to supply daily quantities to the Project Manager and Project Coordinator for comparison to the Inspector's quantities. The format shall be agreed upon during the pre-construction meeting. Unless otherwise state, the cut-off date for all progress payments shall be the last day of the month.

0800 APPLICATION AND CERTIFICATE FOR PAYMENT

To Owner: City of Harrisonburg
320 E. Mosby Rd.
Harrisonburg, VA 22801

Project:

Application No.:

Period To:

From Contractor:

Contract Date:

1. Original Contract Sum	$
2. Net Change by Change Order	$
3. Contract Sum To Date (line 1 + line 2)	$
4. Total Completed and Stored To Date (column G)	$
5. Retainage:	
a. ___% of Completed Work (column D + column E)	$
b. ___% of Stored Materials (column F)	$
6. Total Earned Less Retainage (line 4 less line 5)	$
7. Less Previous Applications for Payment	$
8. Current Payment Due	$
9. Balance to Finish, Plus Retainage	$

CHANGE ORDER SUMMARY	Additions	Deductions
Total Changes Approved Previously		
Total Approved this Month		
Totals		
Net Changes by Change Order		

The undersigned contractor hereby swears and 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 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 and encumbrances.

Signature _____ Date _____

Printed Name _____ Title _____

State of _____ County of _____

Before me this _____ day of _____, 20 __ personally appeared _____ known to me, who being duly sworn, did depose and say that he/she is the _____ of the contractor above mentioned, that he/she executed the above application for payment on behalf of said contractor and that all of the statements contained herein are true, correct and complete.

Notary Public _____ Registration No. _____

My Commission Expires _____

APPLICATION NO.: PERIOD TO: PROJECT:

A	B	C				D		E		F	G			H
LINE NO.	WORK DESCRIPTION	SCHEDULED VALUE				COMPLETED WORK PREVIOUS PERIOD		COMPLETED WORK THIS PERIOD		STORED MATERIAL (not in D or E)	TOTAL WORK COMPLETED TO DATE		% (G/C)	BALANCE TO COMPLETION (C-G)
		Unit	Qty.	Unit Price	Amount	Qty.	Total	Qty.	Total		Qty	Total		
1	MOBILIZATION	LS	1	$200.00	$200.00	0.50	$100.00	0.50	$100.00		1.00	$200.00	100%	$0.00
2					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
3					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
4					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
5					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
6					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
7					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
8					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
9					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
10					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
11					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
12					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
13					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
14					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
15					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
16					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
17					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
18					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
19					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
20					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
21					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
22					$0.00				$0.00		0.00	$0.00	#DIV/0!	$0.00
TOTALS		$200.00					$100.00	$100.00		$0.00		$200.00		$0.00

SECTION 0900

STATE REQUIREMENTS

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Cn100-000051-02

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

Where Virginia Department of Transportation (VDOT) Supplemental Specifications, Special Provisions and Special Provision Copied Notes are used in this contract, the references therein to "the Specifications" shall refer to the Virginia Department of Transportation Road and Bridge Specifications, dated 2016 and the Supplement thereto, dated 2019. References to the "Road and Bridge Standard(s)" shall refer to the Virginia Department of Transportation Road and Bridge Standards, dated 2016 with revisions issued online as of the advertisement date for this project incorporated. References to the "Virginia Work Area Protection Manual" shall refer to the 2011 edition of the Virginia Work Area Protection Manual with Revision Number 2 incorporated, dated September 1, 2019. References to the "MUTCD" shall refer to the 2009 edition of the MUTCD with Revision Numbers 1 and 2 incorporated, dated May 2012; and the 2011 edition of the Virginia Supplement to the MUTCD with Revision Number 1 dated September 30, 2013.

Where the terms "Department", "Engineer", "Contract Engineer", "Construction Engineer", Materials "Engineer", and "Operations Engineer" appear in VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes used in this contract and the VDOT publication(s) that each references, the authority identified shall be according to the definitions in Section 101.02 of the Virginia Department of Transportation Road and Bridge Specifications, dated 2016. Authority identified otherwise for this particular project will be stated elsewhere in this contract.

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

VDOT Special Provision Copied Notes in this contract are designated with "(SPCN)" after the date of each document. VDOT Supplemental Specifications and Special Provision Copied Notes in this contract are designated as such above the title of each document. The information at the top and left of each VDOT Special Provision Copied Note in this contract is file reference information for VDOT use only.

The information in the upper left corner above the title of each VDOT Supplemental Specification and VDOT Special Provision in this contract is file reference information for VDOT use only. 12-2-19 (SPCN)

105.12 – Coordination of Plans, Standard Drawings, Specifications, Supplemental Specifications, Special Provisions, and Special Provisions Copied Notes has been amended to add the following (City Revision 01-08-2016):

The contract documents Section 0001 through 0900 shall be considered Special Provisions and Section 1000 shall be considered Supplementary Specifications.

105.19—Submission and Disposition of Claims

(a) **Notice of Intent to File a Claim**

Early or prior knowledge by the Department of an existing or impending claim for damages could alter the plans, scheduling, or other Department action or result in mitigation or elimination of the basis for the claim. Therefore, the Contractor shall submit a written statement describing the act of omission or commission by the Department or its agents that allegedly caused damage to the Contractor and the nature of the claimed damage to the Engineer at the time of each and every occurrence that the Contractor believes to be the basis of a claim or prior to the beginning of the work upon which a claim and any subsequent action will be based. "Occurrence" includes but is not limited to the Engineer's denial of the Contractor's timely request for time extension, additional compensation, change order, adjustment, or other request under the Contract, or any other decision, instruction, directive, or order that the Contractor believes will result in a claim. The written statement shall clearly inform the Department that it is a "notice of intent to file a claim." If such damage is deemed certain in the
opinion of the Contractor to result from his acting on an order from the Engineer, he shall immediately take written exception to the order. Submission of a notice of intent to file a claim as specified shall be mandatory. Failure to submit such notice of intent shall be a conclusive waiver to such claim for damages by the Contractor. An oral notice or statement will not be sufficient nor will a notice or statement after the event. Oral statements recorded in meeting minutes also will not be sufficient.

In addition, at the time of each and every occurrence that the Contractor believes to be the basis of a claim or prior to beginning the work upon which a claim and any subsequent action will be based, the Contractor shall furnish the Engineer an itemized list of materials, equipment, and labor for which additional compensation will be claimed. Only actual cost for materials, labor and equipment will be considered. The Contractor shall afford the Engineer every facility for keeping an actual cost record of the work. The Contractor and the Engineer shall compare records and bring them into agreement at the end of each day. Failure on the part of the Contractor to afford the Engineer proper facilities for keeping a record of actual costs will constitute a waiver of a claim for such extra compensation except to the extent that it is substantiated by the Department's records. The filing of such notice of intent by the Contractor and the keeping of cost records by the Engineer shall in no way establish the validity of a claim.

(b) **Time for Submittal of Claim**

Upon completion or termination of the Contract, the Contractor may, within 60 days after the final estimate date established by the Department pursuant to Code of Virginia § 33.2-1101, deliver to the Department a certified written claim, which must be a signed original claim document, along with an electronic copy of the claim document as a Portable Document Format (PDF) file, for the amount he deems he is entitled to under the Contract. For the purpose of this Section, the final estimate date shall be that date set forth in a letter from the Department to the Contractor sent by certified mail and shall be considered as the date of notification of the Department's final estimate. Regardless of the manner of delivery of the claim, the State Construction Engineer must receive and have physical possession of the Contractor's written claim within the 60 day period that commences with the final estimate date. Submittals received by the Department either before the final estimate date or after the 60 day period shall not have standing as a claim.

(c) **Content of Claim**

The Contractor's certified written claim shall set forth in detail the facts upon which the claim is based, including but not limited to the following:

1. A detailed statement of the facts upon which the claim is based providing items of work affected and included in each claim, and the date(s) on which actions or events resulting in the claim occurred or conditions resulting in the claim became evident; and

2. All pertinent data, documents, and correspondence that may substantiate the claim. The Department shall have the right, at its expense, to review and copy all of the Contractor's non-privileged project files and documents, both electronic and paper, for use in analyzing the claim; and

3. Identification of the provisions of the Contract that the Department allegedly breached, and the acts or omissions constituting such breach.

4. A detailed statement of the amount of the actual cost for materials, labor and equipment sought in the claim.

5. A copy of the notice(s) of intent to file a claim that the Contractor submitted to the Department for the claim(s).

(d) **Certification of Claim**

The Contractor shall submit with the claim a written certification of the claim in the following form:

Pursuant to the Code of Virginia, I hereby certify that this Contract claim submission for Virginia Department of Transportation Project No. _____ in _____ County, Virginia, is a true and accurate representation of additional costs, expenses, damages and/or delays incurred by _____ (Contractor) or its subcontractors or suppliers in the

performance of the required Contract work. Any statements, representations, writings, or documents, made or used and known to be false, shall be considered a violation of the Virginia Governmental Frauds Act, punishable as allowed by the Code of Virginia for a Class 6 Felony, and shall be considered a violation of the Virginia Fraud Against Taxpayers Act, subject to the civil penalties allowed by the Code of Virginia.

_____(Contractor)

By:_____

As officer or duly appointed agent of _____(Contractor)
Title: _____
Date: _____
State Of: _____
City/County of _____, To-Wit:

I, the undersigned, a Notary Public in and for the City/County and State aforesaid, do hereby certify that _____ , whose name is signed to the foregoing instrument, bearing date of the_____ day of_____, 20__, has this day acknowledged the same before me in my City/County and State aforesaid.

Given under my hand this _____ day of _____ , 20___.
Notary Public: _____
Notary Registration No.: _____
My commission expires: _____

Claims submitted by the Contractor for itself or its subcontractors or suppliers during the statutory period for submitting Contract claims that are submitted without the Contractor's certification described above shall not have standing as a claim and shall not be considered by the Department.

(e) **Review of Claim**
Within 90 days from the receipt of the claim, the Department will make an investigation and notify the Contractor by certified mail of its decision. However, by mutual agreement, the Department and Contractor may extend the 90-day period for another 30 days.

If the Contractor is dissatisfied with the Department's decision, within 30 days from receipt of the decision the Contractor shall notify the Commissioner in writing that it desires to appear before the Commissioner, whether in person or through counsel, and present additional facts and arguments in support of its claim. The Commissioner will schedule and meet with the Contractor within 30 days after receiving the request. However, the Commissioner and Contractor, by mutual agreement, may schedule the meeting to be held after 30 days but before the 60th day from the receipt of the Contractor's written request. Within 45 days from the date of the meeting, the Commissioner will investigate the claim, including the additional facts presented, and notify the Contractor in writing of his decision. However, the Commissioner and Contractor, by mutual agreement, may extend the 45-day period for another 30 days. If the Commissioner deems that all

or any portion of a claim is valid, he shall have the authority to negotiate a settlement with the Contractor subject to any approvals required by the Code of Virginia.

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

(f) **Compensation for Claims**

The Engineer will determine time extension according to 108.04 and compensation according to 109.05 if the Department concludes that the Contractor has established entitlement to compensation or a time extension for the claim.

END STATE REQUIREMENTS

SECTION 1000

SUPPLEMENTAL SPECIFICATIONS

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SECTION 1000

TECHNICAL SPECIFICATIONS

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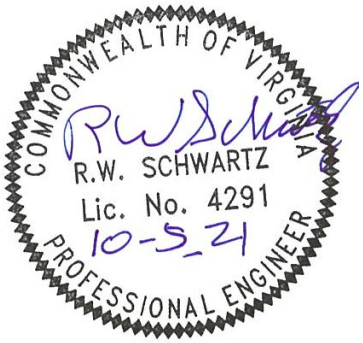
PROPOSED BRIDGE SUBSTRUCTURE REPAIR OF MARTIN LUTHER KING, JR. WAY (CANTRELL AVENUE) OVER BLACKS RUN, NS RAILWAY & CHESAPEAKE AVENUE

CITY OF HARRISONBURG, VA
DEPARTMENT OF PUBLIC WORKS



COMMISSION NO. 18028

BRIDGE TECHNICAL PORTION PREPARED BY
SCHWARTZ & ASSOCIATES, INC.
FOR
DEPARTMENT OF PUBLIC WORKS
320 EAST MOSBY ROAD
HARRISONBURG, VIRGINIA 22801

DIVISION I

GENERAL REQUIREMENTS

CITY OF HARRISONBURG, VIRGINIA
DEPARTMENT OF PUBLIC WORKS

Prepared by

SCHWARTZ & ASSOCIATES, INC.
for
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SECTION 01010

SUMMARY OF WORK

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. The "PROJECT," which the "WORK" of this CONTRACT constitutes, is titled, "PROPOSED BRIDGE SUBSTRUCTURE REPAIR OF MARTIN LUTHER KING, JR. WAY (CANTRELL AVENUE) OVER BLACKS RUN, NS RAILWAY & CHESAPEAKE AVENUE".

The work shall be completed in strict accordance with the Contract Documents as modified herein.

B. Related requirements specified elsewhere:

1. Project Meetings: Section 01200.

2. Construction Schedule: Section 01310.

3. Schedule of Values: General Conditions.

4. Temporary Facilities: Section 01510.

C. CONTRACTOR'S Duties:

1. Except as especially noted, provide and pay for:

a. Labor, materials and equipment.

b. Tools, construction equipment and machinery.

c. Water, heat, and utilities required for construction.

d. Other facilities and services necessary for proper execution and completion of Work.

2. Secure and pay for, as necessary for proper execution and completion of Work, and as applicable at time of receipt of bids.

a. Permits - None required

b. Government fees - None required

c. Licenses - City Business License, Contractor shall contact Commissioner of Revenue for more information, cost, etc.

3. Give required notices.

4. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of Work.

5. Promptly submit written notice to ENGINEER of observed variance of Contract Documents from legal requirements.

6. Enforce strict discipline and good order among employees. Do not employ on Work:

   a. Unfit persons.

   b. Persons not skilled in assigned task.

1.02 CONTRACTS:

A. Construct Work specified by the Contract Documents under prices shown in Bid Form.

1.03 CONCURRENT WORK:

A. Keep Work clear of encroachment into areas required for concurrent work.

1.04 WORK SEQUENCE:

A. Schedule Work as required by sequence of operations shown on Drawings and in Section 01310 and coordinate all activities which will affect other contractors and the ENGINEER.

1.05 CONTRACTOR USE OF PREMISES:

A. Confine operations at site to areas permitted by:

   1. Law

   2. Ordinances

   3. Permits

   4. Contract Documents

B. Do not unreasonably encumber site with materials or equipment.

C. Do not load structure with weight that will endanger structure.

D. Assume full responsibility for protection and safekeeping of products stored on premises.

E. Move any stored products which interfere with operations of OWNER or other contractor.

F. Obtain and pay for use of additional storage or work areas needed for operations.

G. Use of site: exclusive and complete, for execution of work, except:

1. For OWNER'S and OWNER'S representative's unrestricted access.

2. Access required for other construction at the site that may or may not be a part of these Contract Documents.

1.06 COMPLETION OF THE WORK:

A. All work described in these Contract Documents shall be completed and have passed all tests as required by the Contract Documents no later than the Date of Final Acceptance of the Project.

END OF SECTION

SECTION 01050

FIELD ENGINEERING

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Furnish all labor and materials and perform all field engineering and construction layout necessary to insure that the work conforms to the lines, grades and elevations shown on the Contract Documents.

B. Structural design of shores, forms, and similar items provided by the CONTRACTOR as part of his means and methods of construction.

1.02 RELATED WORK

A. Related Requirements Specified Elsewhere:

1. OWNER'S Responsibilities: General Conditions

2. Summary of Work: Section 01010

3. Construction Schedules: Section 01310

4. Shop Drawings and Project Data: Section 01340

5. CONTRACTOR'S Record Drawings: Section 01720

1.03 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.04 SUBMITTALS

A. Comply with pertinent provisions of Section 01340.

B. Upon request of the ENGINEER submit:

1. Data demonstrating qualifications of persons proposed to be engaged for field engineering services.

2. Documentation verifying accuracy of field engineering work.

3. Certification, signed by the CONTRACTOR'S retained field engineer, certifying that elevations and locations of improvements are in conformance or non-conformance with requirements of the Contract Documents.

1.05 PROCEDURES

A. In addition to procedures directed by the CONTRACTOR for proper performance of the CONTRACTOR'S responsibilities:

1. Locate and protect control points before starting work on the site.

2. Preserve permanent reference points during progress of the Work.

3. Do not change or relocate reference points or items of the Work without specific approval from the ENGINEER.

4. Promptly advise the ENGINEER when a reference point is lost or destroyed, or requires relocation because of other changes in the Work.

   a. Upon direction of the ENGINEER require the field engineer to replace reference stakes or markers.

   b. Locate such replacements according to the original survey control.

END OF SECTION

SECTION 01153

CHANGE ORDER PROCEDURE

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work included: Make such changes in the Work, in the Contract Sum in the Contract Time of Completion, or any combination thereof, as are described in written Change Orders signed by the OWNER and the ENGINEER and issued after execution of the Contract, in accordance with the provisions of this Section.

1.02 RELATED WORK SPECIFIED ELSEWHERE

1. Changes in the Work: General Terms & Conditions

2. Change in Contract Price: General Conditions

3. Construction Schedules: Section 01310

4. Shop Drawings and Project Data: Section 01340

5. CONTRACTOR'S Record Drawings: Section 01720

1.03 SUBMITTALS

A. Make submittals directly to the ENGINEER at the address shown on the Project Directory in the Project manual.

B. Submit the number of copies called for under the various items listed in this Section.

1.04 PRODUCT HANDLING

A. Maintain a "Register of Bulletins and Change Orders" at the job site, accurately reflecting current status of all pertinent data.

B. Make the Register available to the ENGINEER for review at his request.

1.05 PROCESSING CHANGES INITIATED BY THE OWNER

A. Should the OWNER contemplate making a change in the Work or a change in the Contract Time of Completion, the ENGINEER will issue a "Bulletin" to the CONTRACTOR.

1. Bulletins will be dated and will be numbered in sequence.

2. The Bulletin will describe the contemplated change and will carry one of the following instructions to the CONTRACTOR:

   a. Make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion;

   b. Make the described change in the Work, credit or cost for which will be determined in accordance with Article 11 of the General Conditions;

   c. Promptly advise the ENGINEER as to credit or cost proposed for the described change. This is not an authorization to proceed with the change.

B. If the CONTRACTOR has been directed by the ENGINEER to make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion, but the CONTRACTOR wishes to make a claim for one or both of such changes, the CONTRACTOR shall notify the ENGINEER as provided for in the General Terms and Conditions.

C. If the CONTRACTOR has been directed by the ENGINEER to promptly advise him as to credit or cost proposed for the described change, the CONTRACTOR shall:

   1. Analyze the described change and its impact on costs and time;

   2. Secure the required information and forward it to the ENGINEER for review;

   3. Meet with the ENGINEER as required to explain costs and, when appropriate, determine other acceptable ways to achieve the desired objective;

   4. Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the OWNER'S cost for making the change, advising the ENGINEER in writing when such avoidance no longer is practicable.

1.06 PROCESSING CHANGES INITIATED BY THE CONTRACTOR

A. Should the CONTRACTOR discover a discrepancy among the Contract Documents, a concealed condition as described in the General Conditions, or other cause for suggesting a change in the Work, a change in the Contract Sum, or a change in the Contract Time of Completion, he shall notify the ENGINEER as required by pertinent provisions of the Contract Documents.

B. Upon agreement by the ENGINEER that there is reasonable cause to consider the CONTRACTOR'S proposed change, the ENGINEER will issue a Change Order in accordance with the General Terms and Conditions.

1.07 PROCESSING BULLETINS

A. Make written reply to the ENGINEER in response to each Change Order:

1. State proposed change in the Contract Sum, if any;

2. State proposed change in the Contract Time of Completion, if any;

3. Clearly describe other changes in the Work required by the proposed change, or desirable therewith, if any;

4. Include full backup data such as subcontractor's letter of proposal or similar information;

5. Submit this response in a single copy.

B. When cost or credit for the change has been agreed upon by the OWNER and the CONTRACTOR, or the OWNER has directed that cost or credit be determined in accordance with provisions of Section 11.3 of the General Conditions, the ENGINEER will issue a "Change Order" to the CONTRACTOR.

1.08 PROCESSING CHANGE ORDERS

A. Change Orders will be dated and will be numbered in sequence.

B. The Change Order will describe the change or changes and will be signed by the OWNER and ENGINEER.

C. The ENGINEER will issue three copies of each Change Order to the CONTRACTOR:

1. The CONTRACTOR promptly shall sign all three copies and return two copies to the ENGINEER.

2. The ENGINEER will retain one signed copy in his file, will forward one signed copy to the OWNER.

D. Should the CONTRACTOR disagree with the stipulated change in Contract Sum or change in Contract Time of Completion, or both:

1. The CONTRACTOR promptly shall return three copies of the Change Order, unsigned by him, to the ENGINEER with a letter signed by the CONTRACTOR and stating the reason or reasons for the CONTRACTOR'S disagreement.

2. The CONTRACTOR'S disagreement with the Change Order shall not in any way relieve the CONTRACTOR of his responsibility to proceed with the change as ordered and to seek settlement of the dispute under pertinent provisions of the Contract Documents.

END OF SECTION

SECTION 01200

PROJECT COORDINATION AND PROGRESS MEETINGS

1.01 GENERAL

A. Related Requirements Specified Elsewhere:

1. Summary of Work: Section 01010.

2. Construction Schedules: Section 01310.

3. Shop Drawings and Project Data: Section 01340.

B. The ENGINEER will schedule and administer progress meetings.

1. Prepare agenda.

2. Distribute written notice and agenda of regular and called meetings 4 days in advance of meeting date.

3. Make physical arrangements for meetings.

4. Preside at meetings.

5. Record minutes; include significant proceedings and decisions.

6. Distribute copies of minutes to participants, within 4 days after the meetings.

C. All CONTRACTORS working at the Project Site at the time of such Project meetings shall attend meetings.

1.02 PRE-CONSTRUCTION MEETING

A. To be scheduled within 5 days after Date of Notice to Proceed.

B. Attendance:

1. OWNER.

2. ENGINEER and his Consultants.

3. Other CONTRACTORS working at the Project Site.

4. Major subcontractors of all CONTRACTORS.

5. Representative of Governmental or other Regulatory Agencies as necessary.

C. Minimum Agenda:

1. Distribute and discuss:

a. List of major subcontractors.

b. Tentative Construction Schedule.

2. Critical Work sequencing.

3. Relation and coordination of CONTRACTORS.

4. Designation of responsible personnel.

5. Processing of field decisions and Change Orders.

6. Adequacy of distribution of Contract Documents.

7. Submittal of shop drawings, project data and samples.

8. Procedures for maintaining Record Documents.

9. Use of premises:

a. Office and storage areas.

b. OWNER'S requirements.

10. Major equipment deliveries and priorities.

11. Safety and first-aid procedures.

12. Security procedures.

13. Housekeeping procedures.

1.03 PROGRESS MEETINGS

A. Schedule Regular Meetings to be held monthly at a time and place mutually agreed upon between CONTRACTOR and ENGINEER and OWNER.

B. Hold Called Meetings as progress of Work dictates.

C. Attendance:

1. ENGINEER and his Consultants.

2. All CONTRACTORS working at the Project Site.

3. Subcontractors as pertinent to agenda.

4. Safety Representatives.

5. Representatives of Governmental or other Regulatory Agencies, as required.

D. Minimum Agenda:

1. Review, approve minutes of previous meeting.

2. Review Work Progress since last meeting.

3. ENGINEER will accept and give preliminary review of all Applications for Progress Payments.

4. Note field observations, problems, and decisions.

5. Identify problems which impede planned progress.

6. Review off-site fabrication problems.

7. Develop corrective measures and procedures to regain planned schedule.

8. Review Construction Schedule as indicated.

9. Plan progress during next work period.

10. Coordinate projected progress with other CONTRACTORS on the Project Site.

11. Review submittal schedules, expedite as required to maintain schedule.

12. Review maintaining of quality and work standards.

13. Review changes proposed by OWNER for:

    a. Effect on Construction Schedule.

    b. Effect on completion date.

14. Complete other current business.

END OF SECTION

SECTION 01310

CONSTRUCTION SCHEDULES

PART 1 GENERAL

1.01 GENERAL:

A. Related Requirements Specified Elsewhere:

1. Summary of Work: Section 01010.

2. Shop Drawings and Project Data: Section 01340

3. Schedule of Values: General Terms & Conditions.

B. Provide projected construction schedules for entire Work to ENGINEER - revise monthly.

C. The Construction Schedule in the form specified will be used as the "Schedule of Values" when dollar values are assigned to each activity. See General Terms & Conditions.

1.02 FORM OF SCHEDULES:

A. Prepare in form of horizontal bar chart.

1. Provide separate horizontal bar column for each activity.

2. Order: Table of Contents of Specifications.

3. Identify each column:

a. By distinct graphic delineation.

b. Maximum of 100 activities will be allowed for all work.

c. Activity No. 1 shall be "Mobilization."

d. Activity No. 2 shall be "General Expense Items."

4. Horizontal time scale: Identify first work day of each week.

5. Scale and spacing: To allow space for updating.

B. Sheet size: 11" x 17" on transparent reproducible material.

1.03 CONTENT OF SCHEDULES:

A. Provide complete sequence of construction by activity.

1. Shop Drawings, Project Data and Samples:

a. Submittal dates.

b. Dates reviewed copies will be required.

2. Product procurement and delivery dates.

3. Dates for beginning, and completion of, each element of construction, specifically:

a. Concrete placement.

b. Subcontractor work.

c. Material installations.

d. Material tests.

B. Identify Work of separate phases, or other logically grouped activities.

C. Provide separate subschedule, showing submittals, review times, procurement schedules, and delivery dates.

D. Provide subschedules to define critical portions of entire schedule.

1.04 UPDATING:

A. Show all changes occurring since previous submission of updated schedule.

B. Indicate progress of each activity, show completion dates.

C. Include:

1. Major changes in scope.

2. Corrective action taken, or proposed, and its effect.

3. Revised projections due to changes.

4. Other identifiable changes.

D. Provide narrative report, including:

1. Discussion of problem areas, including current and anticipated delay factors, and their impact.

2. Corrective action taken, or proposed, and its effect.

3. Effect of change in schedules of other contractors at the project site.

4. Description of revisions:

   a. Effect on schedule due to change of scope.

   b. Revisions in duration of activities.

   c. Other changes that may affect schedule.

1.05 SUBMITTALS

A. Submit initial schedules within 15 days after date of Notice to Proceed:

1. ENGINEER will review schedules and return review copy within 10 days after receipt.

2. If required, resubmit within 7 days after return of review copy.

B. Submit monthly updated schedules accurately depicting progress.

C. Submit 2 copies to be retained by ENGINEER.

1.06 DISTRIBUTION:

A. Distribute copies of review schedules to:

1. Job site file.

2. Other contractors.

3. Subcontractors.

1.07 WEEKLY SCHEDULE:

A. In order to assist the Engineer with Project Staffing Requirements for the following week, the CONTRACTOR shall provide the Engineer (and City Engineer's office) 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. All concrete placements
2. All surface preparations
3. All joint installation
4. All bearing slot enlargement
5. All jacking and blocking
6. All traffic control installation
7. All anchor bolt replacement
8. All bearing replacements
9. All painting and surface preparation
10. All shotcrete work

Note: The contractor may be charged for additional costs of inspection when materials and workmanship are found not to be ready for inspection at the time contractor calls for inspection.

END OF SECTION

SECTION 01340

SHOP DRAWINGS AND PROJECT DATA

1.01 GENERAL:

A. Submit, to the ENGINEER, shop drawings, project data, warranty data, installation instructions, and samples (including hydraulic cement concrete mix designs, asphalt concrete mix designs, notarized letters of certification for all materials used) required by Specification sections.

B. Related requirements specified elsewhere:

1. Construction Schedules: Section 01310.

2. CONTRACTOR'S Record Drawings: Section 01720.

B. Prepare and submit, with Construction Schedule, a separate schedule listing dates for submission and dates for reviewing shop drawings.

C. No separate payment will be made for any of the requirements of this Section. The cost for all shop drawing submissions shall be deemed included in the Contract Lump Sum Price for this Contract.

1.02 SHOP DRAWINGS:

A. Drawings specifically prepared by CONTRACTOR, a subcontractor, supplier or distributor, for this Work, which illustrate some portion of the Work; showing fabrication, layout, setting or erection details. Installation instructions and any manufacturer's warranties that are required in a specific specifications section shall also be submitted with the shop drawings.

B. Shop drawings shall be prepared by a qualified detailer.

C. Identify details by reference to sheet and detail numbers shown on Contract Drawings and/or section number of the Specifications.

D. Reproductions for submittals: opaque diazo prints or blueprints.

1.03 PROJECT DATA:

A. Manufacturer's standard schematic drawings:

1. Modify drawings to delete information which is not applicable to Work.

2. Supplement standard information to provide additional information applicable to Work.

B. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data.

1. Clearly mark each copy to identify pertinent materials, products or models.

2. Show dimensions and clearances required.

3. Show performance characteristics and capacities.

4. Show schematic and physical wiring diagrams and controls.

1.04 CONTRACTOR RESPONSIBILITIES:

A. CONTRACTOR is responsible for: dimensions which shall be confirmed and correlated at the Work site; fabricating processes and techniques of construction; coordination of his work with that of all other trades and the satisfactory performance of his Work.

B. Review and approve Shop Drawings, Project Data and Samples prior to submission.

C. Verify:

1. Field measurements.

2. Field construction criteria.

3. Catalog numbers and similar data.

D. Coordinate each submittal with requirements of Work and of Contract Documents.

E. CONTRACTOR'S responsibility for errors and omissions in submittals is not relieved by ENGINEER'S review of submittals.

F. CONTRACTOR'S responsibilities of deviations in submittals from requirements of Contract Documents is not relieved by ENGINEER'S review of submittals. The CONTRACTOR may submit specific deviations to the ENGINEER for review, but such deviations will require the ENGINEER'S written approval for the specific deviation.

G. Notify ENGINEER, in writing at time of submission, of deviations in submittals from requirements of Contract Documents.

H. Begin no work which requires submittals until return of submittals with ENGINEER'S stamp and initials or signature indicating review.

I. Where shop drawings prepared by one trade require cross checking with the shop drawings of some other trade or trades, the CONTRACTOR shall assemble the shop drawings of all interdependent

trades, cross check and coordinate them himself, require corrections as necessary from the various trades and then present the corrected drawings in one submission. As an alternate to this procedure, the CONTRACTOR may make composite drawings showing the interrelation of the concerned trades, and subsequent shop drawings of these trades shall be required to conform to these reviewed composite drawings. Fragmentary or piecemeal transmittals of shop drawings for individual trades in violation of this requirement will be returned to the CONTRACTOR unchecked and will not be considered as a submission.

J. After ENGINEER'S review, distribute copies.

1.05 SUBMISSION REQUIREMENTS:

A. Schedule submissions at least 30 days before dates reviewed submittals will be needed.

B. Submit five (5) copies and one reproducible of shop drawings. Reproducible will be returned to the CONTRACTOR for his further distribution.

C. Submit number of samples specified in each of Specification sections.

D. Accompany submittals with transmittal letter, in duplicate, containing (Submittals without proper letter of transmittal will be returned without review):

1. Date.

2. Project title and OWNER'S and ENGINEER'S project numbers.

3. CONTRACTOR'S name and address.

4. The number of each shop drawing, project datum and sample submitted.

5. Statement that the submittals meet the requirements of the Contract Documents or notification of deviations from Contract Documents and justification for such deviations.

6. Other pertinent data.

E. Submittals shall include:

1. Date and revision dates.

2. Project title and number.

3. The names of:

a. ENGINEER.

b. CONTRACTOR.

c. Subcontractor.

d. Supplier.

e. Manufacturer.

f. Separate detailer when pertinent.

4. Identification of product or material.

5. Relation to adjacent structure or materials.

6. Field dimensions, clearly identified as such.

7. Applicable specification section number.

8. Applicable standards, such as ASTM number or Federal Specifications.

9. A blank space, 4" x 4".

10. Identification of deviations from Contract Documents.

11. CONTRACTOR'S stamp, initialed or signed, certifying the review of submittal, verification of field measurements and compliance of Contract Documents.

1.06 RESUBMISSION REQUIREMENTS:

A. Shop Drawings:

1. Review initial drawings as required and resubmit as specified for initial submittal.

2. Indicate on drawings any changes including those requested by ENGINEER.

B. Project Data and Samples: Submit new data and samples as required for initial submittal.

C. Each submittal, regardless of action taken, will count as one submission.

1.07 ENGINEER'S DUTIES:

A. Review submittals within fourteen (14) days from receipt of submission.

B. Review for general compliance with the design concept of the Project and general compliance with the information given in the Contract Documents. Any action shown is subject to the requirements of the Plans and Specifications.

C. Review of separate item does not constitute review of an assembly in which item functions.

D. Affix stamp and initials or signature indicating the review of submittal.

E. Disposition will be one of the following: No Exception Taken, Make Corrections Noted, Rejected, Revise and Resubmit, or Submit Specified Item.

F. Return required copies of submittals to CONTRACTOR for distribution.

END OF SECTION

SECTION 01510

TEMPORARY FACILITIES

PART 1 GENERAL

1.01 BY WHOM WORK TO BE DONE

A. Except as may be otherwise specifically noted herein, all work covered by this section shall be the responsibility of the CONTRACTOR.

1.02 WORK INCLUDED

A. Furnish labor and materials to complete all temporary construction and services essential to the carrying on of the complete construction.

B. The cost of permanently installed utilities shall be borne by the CONTRACTOR until issuance of the Certificate of Substantial Completion and occupancy of the Project by the OWNER at which time the OWNER will assume responsibility for such costs.

PART 2 FACILITIES TO BE PROVIDED

2.01 TEMPORARY ENCLOSURES

A. Provide temporary weathertight enclosures as needed.

B. Provide temporary field office for CONTRACTOR usage located on project site in staging area.

2.02 TEMPORARY TELEPHONE

A. Provide temporary telephone to the CONTRACTOR'S field office.

2.03 TEMPORARY HEAT

A. Provide, without extra cost to OWNER, temporary heating required for proper protection and drying of work. The system of temporary heat to be used shall be subject to the acceptance of the ENGINEER. Salamanders and similar temporary heating equipment will not be permitted. Heat shall be maintained around the clock (24 hours), seven (7) days a week, as necessary to fully meet Contract requirements.

2.04 TEMPORARY ELECTRIC POWER

A. Provide temporary service and remove as required for construction.

B. All power required for construction shall be furnished and cost paid by the CONTRACTOR.

C. Cost of all lamps shall be paid by the CONTRACTOR.

D. All electrical work shall conform to all applicable laws, rules, and regulations.

2.05 TEMPORARY SIGNS

A. Signs or advertisements: Not permitted to be displayed without OWNER'S written permission. CONTRACTOR may erect one painted sign giving project name, names and addresses of ENGINEER, CONTRACTOR, and various subcontractors. Such sign shall be subject to the OWNER'S review and acceptance. Sign shall be no larger than 24 square feet (per zoning administration) with edges sealed, painted plywood, free standing. Locate as directed.

2.06 TEMPORARY STAIRS, LADDERS, RAMPS, ETC.

A. Furnish, maintain equipment such as temporary stairs, ladders, ramps, scaffolds, runways, derricks, chutes, elevators and the like as required for proper execution of work by trades. Such apparatus, equipment, construction: as per Labor Law, other State or local laws applicable thereto.

2.07 TEMPORARY TOILET

A. Provide, maintain, sanitary temporary toilet located where directed and in close proximity to the work in progress for use by those engaged on work.

2.08 STORAGE SHEDS

A. CONTRACTOR shall provide, where directed, all storage sheds and work space as required and shall remove same when directed.

2.09 PUMPS AND DRAINAGE

A. CONTRACTOR shall do all pumping, bailing and drainage of all water which may be discharged into any portion of the project during its construction. Water accumulating in trenches must be removed.

2.10 TEMPORARY WATER

A. The CONTRACTOR shall furnish, maintain and pay for drinking water. Water used to fill pipes for testing will be provided free of charge for two events. Subsequent refills and other uses, such as road construction, will be charged at the City of Harrisonburg’s current rate per 1000 gallons. The City's fire hydrant use policy shall be applicable to this project.

END OF SECTION

SECTION 01551

SITE, ACCESS, STAGING, PARKING AND TRAFFIC REGULATIONS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. General Requirements: General Conditions.

B. Summary of Work: Section 01010.

C. Clearing: Section 02100

D. Maintenance of Traffic: Section 02703

1.02 ACCESS

A. The CONTRACTOR shall provide reasonable and safe access to the Project Site at all reasonable times for the OWNER, ENGINEER, representative of other governmental agencies and his workmen.

1.03 PARKING AND STAGING AREA

A. The CONTRACTOR shall provide off-street parking for all workmen engaged on the work of the Project and shall endeavor to ensure the use thereof. The CONTRACTOR shall make appropriate arrangements with local property owners in order to provide this area.

1.04 MAINTENANCE

A. The CONTRACTOR shall provide for the prompt removal from traveled streets and roadways of all dirt and other materials that have been deposited thereon by his operations whenever the accumulation is sufficient to cause the formation of dust or mud, damage to pavements or creates a traffic hazard.

END OF SECTION

SECTION 01630

PRODUCT DELIVERY, STORAGE AND PROTECTION

PART 1 GENERAL

1.01 APPLICABILITY

A. These specifications apply to all products furnished under this contract.

1.02 DELIVERY

A. Shipments of materials to be used by the CONTRACTOR or any subcontractor under this contract should be delivered to the job site only during the regular working hours of the CONTRACTOR or subcontractor. If a delivery is made during other than the normal working hours of the CONTRACTOR or subcontractor, his authorized agent must be on duty to receive such material. No employee of the OWNER or the ENGINEER is authorized to receive any shipment designated for the CONTRACTOR of subcontractor.

B. Products shall not be delivered to the OWNER or the ENGINEER.

B. Products shall not be delivered to project site until related shop drawings have been reviewed by the ENGINEER.

C. Products shall not be delivered to the project site until required storage facilities as specified below have been reviewed by the ENGINEER.

D. Products shall be delivered to site in manufacturer's original, unopened, labeled containers.

E. The CONTRACTOR shall not drop, roll or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

1.03 STORAGE AND PROTECTION

A. General:

1. The CONTRACTOR shall store and protect products in accordance with the manufacturer's recommendations and the requirements specified herein. No on-site or existing storage facilities are available for use by the CONTRACTOR. All on-site facilities shall be furnished by the CONTRACTOR if space is available in the area defined as the "Site Limits" for the Work.

2. When area for storage facilities is not available within the "Site Limits," the CONTRACTOR shall provide off-site, weather-

proof storage facilities reviewed by the ENGINEER at no extra charge to the OWNER in accordance with the storage requirements in the Contract Documents.

3. The CONTRACTOR shall provide weatherproof storage for all spare parts. This storage shall be off site in a facility reviewed by the ENGINEER when area within the "Site Limits" for provision of such facilities does not exist. Storage facilities shall provide for security of such spare parts and for the segregation of spare parts from uninstalled products that will be used by the CONTRACTOR in the performance of his work.

4. The CONTRACTOR shall provide all equipment, spare parts and supplies that are to be delivered to the OWNER in accordance with the Contract Documents in properly marked original packages that show the name of the item, the equipment, or system in which the item belongs, the OWNER'S requisition number, the quantity and the Specification's Section number.

5. The CONTRACTOR shall not store products in the structures being constructed unless consented to in writing by the ENGINEER.

6. The CONTRACTOR shall not block or restrict the use of access roads with stored materials.

7. The CONTRACTOR shall not store products where they will interfere with operations of the OWNER or other contractors or on the OWNER'S property outside the "Site Limits" of the Work.

8. The CONTRACTOR shall protect stored materials from damage by vandals. CONTRACTOR is fully responsible for products stored within his limits of work.

9. The CONTRACTOR shall protect all products from damage or deterioration by weather.

10. The CONTRACTOR shall not store any products directly on the ground.

11. The CONTRACTOR shall not store any products in drainage ditches or areas where water may stand.

12. The CONTRACTOR shall label containers to identify materials inside using the terminology found in these Specifications.

B. Uncovered Storage:

1. The following types of materials may be stored out-of-doors without cover:

a. Masonry units

b. Reinforcing steel

c. Structural steel

d. Piping

e. Precast concrete items

f. Castings

g. Gratings

h. Hand railing

2. Store the above materials on wood blocking.

C. Covered Storage:

1. The following types of materials may be stored out-of-doors if covered with material impervious to water.

a. Rough lumber

2. Tie down covers with rope and slope to prevent accumulation of water on covers.

3. Store materials on wood blocking of sufficient height to insure no contact of materials with ground.

D. Fully Protected Storage:

1. Store all products not named above in buildings or trailers which have a concrete or wooden floor, a roof and fully closed walls on all sides.

2. Provide heated storage space for materials which would be damaged by freezing.

3. Protect mechanical and electrical equipment from being contaminated by dust and dirt.

4. Maintain temperature and humidity at levels recommended by manufacturers for electrical and electronic equipment.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 DESCRIPTION

A. Work included: Provide an orderly and efficient transfer of the completed work to the OWNER.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Substantial Completion: General Conditions

B. Completion: General Conditions

C. Final Inspection: General Conditions

D. Final Application for Payment: General Conditions

E. Waiver of Claims: General Conditions

F. Change Order Procedure: Section 01153

G. Operations and Maintenance Data: Section 01350

H. Cleaning: Section 01710

I. CONTRACTOR'S Record Drawings: Section 01720

1.03 PROCEDURES

A. Substantial Completion:

1. Prepare and submit a list of items completed or to be completed.

3. Within a reasonable time after receipt of the list, the ENGINEER will inspect to determine status of completion.

4. Should the ENGINEER determine that the work is not substantially complete:

a. The ENGINEER promptly will so notify the CONTRACTOR, in writing, giving the reasons therefor.

b. CONTRACTOR will remedy the deficiencies and notify the ENGINEER when ready for reinspection.

c. The ENGINEER will reinspect the work.

4. When the ENGINEER concurs that the work is substantially complete:

   a. The ENGINEER will prepare a "Certificate of Substantial Completion" accompanied by the CONTRACTOR'S list of items to be completed or corrected, as verified by the ENGINEER.

   b. The ENGINEER will submit the Certificate to the OWNER and to the CONTRACTOR for their written acceptance of the responsibilities assigned to them in the Certificate.

B. Final Completion:

1. Prepare and submit the notice that work is ready for final inspection and acceptance.

2. Verify that the work is complete including, but not necessarily limited to, payment affidavits, consent of surety, receipts, waivers, operation and maintenance manuals.

3. Certify that:

   a. Contract Documents have been reviewed;

   b. Work has been inspected for compliance with the Contract Documents.

   c. Work has been completed in accordance with the Contract Documents;

   d. Equipment and systems have been tested as required, and are operational.

   e. Work is completed and ready for final inspection.

4. The ENGINEER will make an inspection to verify status of completion.

5. Should the ENGINEER determine that the work is incomplete or defective:

   a. The ENGINEER promptly will so notify the CONTRACTOR, in writing, listing the incomplete or defective work;

   b. CONTRACTOR will remedy the deficiencies promptly, and notify the ENGINEER when ready for reinspection.

5. When the ENGINEER determines that the work is acceptable under the Contract Documents, he will request the CONTRACTOR to make closeout submittals.

C. Closeout submittals include, but are not necessarily limited to:

1. Project Record Documents.

3. Operation and maintenance data for items so listed in pertinent other Sections of these Specifications, and for other items when so directed by the ENGINEER.

3. Warranties and bonds.

4. Spare parts and materials extra stock.

4. Evidence of compliance with requirements of governmental agencies having jurisdiction including, but not necessarily limited to:

a. Certificates of Inspection

b. Certificates of Occupancy

6. Certificates of Insurance for products and completed operations.

7. Evidence of payment and release of liens.

8. List of subcontractors, service organizations, and principal vendors, including names, addresses, and telephone numbers where they can be reached for emergency service at all times including nights, weekends, and holidays.

D. Final adjustment of accounts:

1. Submit a final statement of accounting to the ENGINEER showing all adjustments to the Contract Sum.

2. If so required, the ENGINEER will prepare a final Change Order showing adjustments to the Contract Sum which were not made previously by Change Orders.

1.04 INSTRUCTION

A. Instruct the OWNER'S personnel in proper operation and maintenance of systems, equipment, and similar items which were provided as part of the work.

END OF SECTION

SECTION 01710

CLEANING

PART 1 GENERAL

1.01 DESCRIPTION

A. Related Requirements Specified Elsewhere:

1. Summary of Work: Section 01010.

3. Cleaning for Specific Products of Work: Specifications Section for that work.

B. Maintain premises and public properties free from accumulations of waste, debris, and rubbish, caused by operations.

C. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight exposed surfaces; leave project clean and ready for occupancy.

1.02 SAFETY REQUIREMENTS:

A. Standards: Maintain project in accordance with the following safety and
insurance standards.

1. Applicable State, City, County and Federal Codes and Regulations.

B. Hazards Control:

1. Store volatile wastes in covered metal containers and remove from premises daily.

2. Prevent accumulation of wastes which create hazardous conditions.

2. Provide adequate ventilation during use of volatile or noxious substances.

B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not burn or bury rubbish and waste materials on project site.

3. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.

3. Do not dispose of wastes into streams or waterways.

PART 2 PRODUCTS

2.01 MATERIALS:

A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 EXECUTION

3.01 DURING CONSTRUCTION:

A. Execute cleaning to ensure that Work, grounds, and public properties are maintained free from accumulations of waste materials and rubbish.

B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.

B. At reasonable intervals during progress of work, clean site and public properties, and dispose of waste materials, debris and rubbish.

C. Provide on-site dump containers for collection of waste materials, debris and rubbish.

E. Dispose of waste materials, debris and rubbish in a legal manner.

3.02 FINAL CLEANING:

A. Employ experienced workmen, or professional cleaners, for final cleaning.

C. In preparation for substantial completion or occupancy, conduct final inspection of sight exposed interior and exterior surfaces and of concealed spaces.

C. Broom clean paved surfaces; rake clean other surfaces of grounds.

D. Maintain cleaning until project, or portion thereof, is occupied by OWNER.

END OF SECTION

SECTION 01720

CONTRACTOR'S RECORD DRAWINGS

1.01 GENERAL:

A. Contractor shall maintain, mark, record & submit drawings as described in more detail as follows below.

1.02 MAINTENANCE OF DOCUMENTS:

A. Maintain at job site, one copy of:

1. Contract Drawings.

2. Contract Specifications.

3. Addenda.

4. Reviewed Shop Drawings.

5. Change Orders.

6. Other Modifications to Contract.

7. Field Test Records.

B. Provide files and racks for storage of documents.

C. Maintain drawings in clean, dry legible condition.

D. Do not use record drawings for construction purposes.

E. Make drawings available at all times for inspection by ENGINEER and OWNER.

1.03 MARKING DEVICES:

Provide felt marking pen for marking, conforming to the following color codes:

A. Blue for architectural work.

B. Green for structural work.

C. Yellow for piping work.

D. Black for heating, ventilating and air conditioning work.

E. Purple for electrical work.

F. Red for other written notations.

1.04 RECORDING:

A. Label each drawing "CONTRACTOR'S Record Drawings" in 2-inch high printed letters.

B. Do not permanently conceal any work until required information has been recorded.

C. Do not permanently conceal any work until required information has been recorded.

D. Record Drawings: Legibly mark to record actual construction on full size prints:

1. Depths of various elements of foundation.

2. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.

3. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.

4. Field changes of dimension and detail.

5. Changes made by Change Order.

6. Details not on original Contract Drawings.

E. Specifications and Addenda: Legibly mark up each Section to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.

2. Changes made by Change Order.

3. Other matters not originally specified.

E. Shop Drawings: Maintain as record documents; legibly annotate all drawings to record changes made after review.

1.05 SUBMITTAL:

A. At completion of Work:

1. CONTRACTOR'S Record Drawings: One set of reproducible drawings, furnished to the CONTRACTOR by the ENGINEER, which the CONTRACTOR has revised, at appropriate scale and suitable for tracing, to show the required information.

B. Accompany submittal with transmittal letter, in duplicate, containing:

1. Date.

2. Project title and number.

3. CONTRACTOR'S name and address.

4. Title and number of each record document.

5. Certification that each drawing as submitted is complete and accurate.

6. Signature of CONTRACTOR, or his authorized representative.

END OF SECTION

DIVISION II

CONCRETE

CITY OF HARRISONBURG, VIRGINIA
DEPARTMENT OF PUBLIC WORKS

Prepared by

SCHWARTZ & ASSOCIATES, INC.
for
Department of Public Works
320 East Mosby Road
Harrisonburg, Virginia 22801

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SECTION 02001

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL REQUIREMENTS

1.01 The work under this section includes but is not limited to the following:

A. Formwork

B. Construction joints, expansion joints, and waterstops.

C. Installation of reinforcing and cast-in-place concrete.

D. Mixing, placing and curing cast-in-place concrete.

E. Finishing exposed concrete surfaces.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Materials for built-in items of other trades.

1.03 RESPONSIBILITY

A. The CONTRACTOR shall be solely responsible for the ability of formwork to produce members of the size, shape, and exterior finish required, for the structural adequacy of the forms to carry construction loads without excessive deflection, and for the safe use of forms in connection with completion of the concrete work. The CONTRACTOR shall be responsible for any injury or damage arising from inadequate forms or from premature removal of formwork.

1.04 SUBMITTALS

A. Samples and certifications shall be submitted for review as directed by the ENGINEER.

B. Shop Drawings: Submit reinforcement steel shop drawings prepared in accordance with ACI 315 and General Conditions. Drawings shall indicate bending diagrams, shapes, dimensions, clearances, splicing and laps, accessories, and installation notes.

C. Admixtures: Submit manufacturer's literature for all admixtures proposed for the Work.

D. Concrete: Submit deliver tickets in accordance with ASTM C94 for each batch of ready-mixed concrete. Total water content shall be indicated.

E. Placement Schedule: The CONTRACTOR shall submit a proposed concrete placement schedule for review of the ENGINEER.

1.05 QUALITY CONTROL

A. Materials and methods of mixing and placing concrete shall conform to the most current applicable ACI Standard Specifications.

B. "Laboratory tests: The OWNER will retain the services of an acceptable testing laboratory and pay all costs to make tests and submit reports to the ENGINEER.

Any additional tests or analysis required because concrete fails to meet specifications shall be paid for by the CONTRACTOR.

Field Tests: The OWNER will provide VDOT-Certified Concrete Technicians for field testing of concrete for slump and air content prior to placement."

C. As directed by the ENGINEER, the testing laboratory may provide for inspection of the concrete batch plant to see that the concrete is properly mixed and that the consistency of mix is being controlled.

D. Compressive Strength Tests

1. Compressive test will be required for fifty (50) cubic yards of concrete or fraction thereof, but not less than one (1) set of cylinders for each day's pour, except the ENGINEER may waive this requirement for miscellaneous, non-structural pours of less than three (3) cubic yards. For each set, a minimum of six (6) standard 4" x 8" cylinders shall be prepared in accordance with ASTM C172.

2. Owner's Inspectors will prepare cylinders for testing and arrange for breakage tests."

E. Enforcement of Strength Requirements

1. For each class of concrete, the average of any three consecutive compressive strength tests and laboratory-cured specimens shall be greater than the specified strength and not more than one of the three tests shall be less than the specified strength, the CONTRACTOR shall, at his sole expense, make appropriate corrective measures. The proposed corrective measures shall be accepted by the ENGINEER prior to commencement of the corrective work.

2. "Contractor shall consider that testing provided by the Owner will be used to qualify or disqualify the concrete for acceptance."

F. Slump Tests: Tests for slump shall be made for each strength test, in accordance with ASTM C143, and when directed by the ENGINEER.

G. Air Entrainment Tests: Determine total air content for each strength test, and when change in consistency of the concrete mix is noted. The air content tests shall be made in accordance with ASTM C1381, C173, C231, or AASHTO T-152.

1.06 ADVERSE WEATHER CONDITIONS

A. Comply with ACI 306 and 305 as applicable for cold and hot weather concrete placement.

B. Do not mix salt, chemicals, or other foreign materials with the concrete to prevent freezing. Maintain the temperature of concrete above 50 degrees F for 5 days after placement. When high early strength portland cement concrete is used, the temperature shall not be less than 70 degrees F for 2 days or 50 degrees F for 3 days. Transition the concrete to the ambient temperature at a rate of 1 degree F each hour for the first 24 hours and 2 degrees F each hour thereafter.

C. In no case shall the temperature of concrete exceed 85 degrees F at the time of placement.

PART 2 - PRODUCTS

2.01 FORMWORK

A. Form ties shall be the watersealing snap-in-type.

B. Forms shall be made of plywood, steel or other suitable materials with an interior surface capable of producing concrete that can be finished as specified.

C. Carton Forms: Carton form components shall be made of corrugated fiberboard, laminated with water resistant adhesive. The fabricated forms and boxes shall be capable of supporting the concrete weight plus normal construction loads.

2.02 JOINT FILLERS AND SEALANTS

A. Joint fillers and sealants shall comply with the applicable provisions of Section 212, JOINT MATERIALS, of the Standard Specifications.

2.03 WATERSTOP

A. Waterstop shall be polyvinyl chloride and shall be dense, homogeneous and uniform. Holes and imperfections shall be cause for rejection.

B. Unless otherwise indicated on the Contract Documents, waterstops for construction joints shall be as follows:

1. Horizontal Construction Joints: 6" x 3/16" with hollow center bulb.

2. Waterstop for Expansion Joints shall be cellular by Water Seal Inc., 9" x 5/32" with u-shaped center bulb by W. R. Meadows, Inc., or equal.

C. Provide prefabricated tees, crosses, and other configurations as required for all intersections of waterstop.

D. Waterstops in structures designed specifically to retain water shall be prefabricated in the shop to the lengths required to eliminate field-splicing, except the weight of any one prefabricated length of waterstop shall not exceed 400 pounds.

2.04 REINFORCEMENT

A. Reinforcement shall comply with the applicable provisions of Sections 228 and 406 of the Standard Specifications.

B. Accessories for proper installation of reinforcement shall conform to CRSI "Manual of Standard Practice for Reinforced Concrete Construction."

C. Reinforcement fabrication shall conform to ACI 318 and 315, and shop drawings.

2.05 CONCRETE MATERIALS

A. Comply with applicable provisions of Section 218 of the Standard Specifications.

2.06 MISCELLANEOUS MATERIALS

A. Patching mortar: Mix 1 part cement to 3 parts fine aggregate. For concrete exposed to view, add white cement to match color of adjacent concrete. Mix with minimum amount of water necessary.

B. Cement Grout: Mix 1 part cement and 1 part sand with water to a thick paint consistency. Add white cement to match color of adjacent concrete. Sand shall pass a No. 188 sieve.

2.07 CONCRETE MIXTURES

A. Comply with Section 217 of the Standard Specifications for class of concrete specified.

B. When temperature of concrete, as placed, is less than 40 degrees F., use of an accelerator will be considered for acceptance by the ENGINEER, (except in structural concrete) but do not use calcium chloride.

C. When temperature of concrete, as placed, exceeds 65 degrees F., use of water-reducing retarder will be considered for acceptance by ENGINEER.

2.08 MIXING CONCRETE

A. Mix in accordance with Section 217 of the Standard Specifications.

B. Obtain approval of ENGINEER before adding water to concrete at the site, and note amount on deliver ticket initialed by ENGINEER.

PART 3 - EXECUTION

3.01 PREPARATIONS

A. Remove existing concrete and provide openings for installation of new work as indicated on drawings. Repair all damage to existing work caused by concrete removal.

B. Subgrade preparation: The subgrade and/or bedding shall be compacted and free of frost. If placement is allowed at temperatures below freezing, provide temporary heat and protection as required to remove all frost. Dampen subgrade prior to placing concrete in areas where vapor barrier is not required. Remove all standing water, ice, mud and foreign matter before concrete is deposited. Mud slabs shall be provided where necessary to obtain a dry and stable working platform for placement of slabs on grade.

C. Vapor barrier: On porous subgrade or beddings (except sidewalks less than eight feet wide) lay vapor barrier. Lay sheets with 6-inch edge laps and tape or seal with mastic. Stretch and weight edges and laps to maintain their positions until concrete is placed.

D. Fastening devices for other work: Coordinate with other trades and properly place and locate in position all necessary dowels, bolts, anchors, anchor slots, inserts, hangers, metal ties and other fastening devices required for attachment and support of adjacent work. Securely anchor all fixtures and embedded items.

3.02 FORMS

A. Except as modified herein, forms and formwork shall comply with the applicable provisions of Section 404.03 of the Standard Specifications.

B. Formwork shall conform to shape, lines and dimensions of the members as indicated on the drawings. Joints in forms shall be horizontal or vertical. Forms shall be properly braced or tied to maintain position and shape under all dead and live loads and to prevent leakage. Forms shall be assembled so their removal will not damage the concrete.

C. Before concrete is placed, install dowels, anchors, inserts, sleeves, openings, joint fillers, and devices required for attachment of other work. See drawings and other sections of these Specifications for details of items to be embedded in concrete.

D. Observation of Formwork: Concrete shall not be placed until the forms have been observed by the ENGINEER to assure surfaces in conformance with the drawings and specifications. The observation of formwork by the ENGINEER does not relate to the structural adequacy or the safety of the formwork.

E. Removal of Forms: Forms shall be removed in accordance with requirements of Section 404 of Standard Specifications and ACI 318, without damaging the concrete. Leave shoring in place until concrete will safely support its own weight plus any live loads that may be placed upon it. Strength of concrete shall be based on compressive strength tests of field-cured specimens. Upon removal of forms, the ENGINEER shall be notified by the CONTRACTOR in order that a review of the newly stripped surfaces may be made prior to patching.

3.03 CONSTRUCTION JOINTS

A. General: Arrange construction joint bulkheads to allow concrete to be placed between construction joints in one continuous operation.

1. Erect bulkheads where shown on the drawings or where permitted by the ENGINEER at right angles to the main reinforcement with a tongue and grooved joint two inches deep and 1/3 of the width of the concrete chamber. Install waterstop as indicated or required.

2. Obtain the ENGINEER'S acceptance if it becomes necessary to eliminate or relocate construction joints shown on the drawings.

3. Tops of edge forms, bulkheads and screeds shall be set to the finished elevations and to provide uniform pitch to drains as indicated on Drawings. If wet screeds are used, grade stakes or other fixed markers shall be established.

B. Horizontal Joints: Provide methods of achieving a leakproof joint. No horizontal construction joints will be permitted in slabs (unless indicated otherwise), beams, or girders.

C. Vertical Joints: Joints in reinforced slabs, beams and girders will not be permitted.

3.04 EXPANSION JOINTS

A. General: Provide expansion joints and waterstops where shown. Joint fillers shall be placed on each side of the waterstops.

B. Interior Horizontal Joints: Unless otherwise indicated, provide preformed sponge rubber or preformed cork filler. Allow for two-component polyurethane sealant.

C. Exterior Horizontal Joints: For drives, pavements, parking areas, walks and slabs on grade, unless otherwise indicated, provide preformed asphalt strip filler set 1/8 inch below finished surface, without allowance for sealant. Tool concrete edges on each side of joint.

D. Interior and Exterior Vertical Joints: Unless otherwise indicated, provide preformed sponge rubber or cork filler with allowance for two-component polysulfide sealant.

E. Submerged Horizontal and Vertical Joints: Unless otherwise indicated, provide preformed sponge rubber or cork filler with allowances for two-component polysulfide sealant.

3.05 CONTROL JOINTS

A. Control joints in slabs shall consist of partial depth plastic strips set flush with finished surface or 1/8 inch wide joints cut with a diamond saw.

B. Saw joints as soon as concrete has hardened sufficiently so aggregate will not be dislodged but before shrinkage stresses develop cracks. Joints shall be filled with joint sealant in accordance with Section 213 of the Standard Specifications.

3.06 WATERSTOPS

A. Unless otherwise indicated, provide continuous waterstops in all joints of below grade slabs, exterior walls and base slabs of water-retaining structures, and walls below grade adjacent to dry occupied areas. Continuous waterstops shall be provided in all expansion joints and construction joints in walls and slabs of water-retaining structures and in walls and slabs of dry working area below grade.

B. Embed approximately half of the waterstop on each side of the joint. Field splice and join PVC waterstop by heat sealing butt joints. Rubber waterstop shall be spliced or jointed with solid web rubber unions and the manufacturer's approved cold applied cement.

C. All splices and joints shall be in accordance with the manufacturer's recommendations to produce a water-tight joint. Lap splices will not be permitted. Support and protect the waterstop during construction. Repair or replace any damaged waterstop.

D. Locate bulb, or other provision to accommodate joint movement, directly over the joint opening.

E. Position U-bulb so it is open in the hydrostatic head.

F. Brace or lash waterstop securely to prevent movement during placement of concrete.

3.07 REINFORCEMENT

A. Unless otherwise modified herein, the placement of reinforcement shall comply with the applicable provisions of Sections 406.08, 406.09 and 406.10 of the Standard Specifications.

B. Reinforcement shall be reviewed by the ENGINEER before enclosing forms are erected and shall be rechecked immediately prior to depositing concrete.

C. Provide continuous reinforcement on dowels through construction joints. One half of reinforcement shall be discontinued across control joints unless otherwise indicated. All reinforcement shall be discontinued across expansion joints, except for sleeved or greased dowels, if indicated.

D. Reinforcement for formed concrete: Secure steel reinforcement to maintain proper position during concrete placement. Provide spacer bars or other suitable devices between two layers of wall reinforcement at such spacing as to maintain the specified distance between the two layers of reinforcement. Concrete protection for reinforcement shall conform to ACI 318, except as otherwise indicated on drawings. The cover shall be as required by drawings.

E. Concrete shall not be placed before review of reinforcement by the ENGINEER.

3.08 MIXING AND TRANSPORTING CONCRETE

A. Concrete shall be ready-mixed or job-mixed at the CONTRACTOR'S option.

B. Mixing and transporting of concrete shall comply with the applicable provisions of Section 217 of the Standard Specifications.

3.09 DEPOSITING CONCRETE

A. Except as modified herein, depositing of concrete shall comply with the applicable provisions of Section 404 of the Standard Specifications.

B. Concrete shall be placed in accordance with the requirements of ACI 318. Place concrete only during normal working hours unless the ENGINEER is notified at least 72 hours in advance. Concrete shall <u>not</u> be placed unless ENGINEER is present.

C. Concrete shall not be more than 60 minutes old for placement at 90 degrees F. and higher; below 90 degrees F., maximum age of concrete shall be 90 minutes. Concrete that has partially hardened or has been contaminated shall not be used.

D. Whenever new concrete is to be placed against existing concrete surfaces (over 30 days old), roughen and clean the surface to improve bond and apply epoxy bonding compound in accordance with the manufacturer's recommendations.

3.10 FINISHING CONCRETE SURFACES

A. Except as modified herein, finishing of concrete surfaces shall comply with the applicable provisions of Section 404 of the Standard Specifications.

B. Sidewalks and steps shall receive a broom finish in addition to a Class 7 finish.

C. Retaining walls, headwalls and other such exposed surfaces shall receive a Class 2 finish.

D. All other surfaces, including curbs, shall receive a Class 1 finish.

E. Broom Finish: Broom at right angles to direction of traffic to give a non-skid finish. Use a fine, soft-bristled broom for pedestrian ramps and walks, and a coarse, hard-bristled broom for vehicular pavement.

3.11 PROTECTION AND CURING

A. Comply with the applicable provisions of Section 404 of the Standard Specifications.

3.12 DEFECTIVE CONCRETE

A. Any concrete not formed as shown on the drawings within specified tolerances shall be removed and replaced.

B. Concrete that has a defective surface shall be patched or replaced. If patching does not restore the quality and appearance of the surface, the defective concrete shall be replaced.

C. Temperature and shrinkage cracks which develop prior to final acceptance of the work shall be repaired.

3.13 FINISHING FORMED CONCRETE

A. Patching

1. After review by the ENGINEER, patch tie holes and defective areas. Where necessary, chip out defective areas to a minimum depth of 1 inch. Wet the area to be patched and the surrounding 6 inches to prevent absorption of water from the patching mortar and/or apply a brush coat of a suitable bonding compound or cement grout immediately prior to patching with mortar.

2. Thoroughly compact patching mortar into place and screed, leaving the patch slightly higher than the surrounding surface. For holes passing entirely through the wall, use a plunger grout gun to force the mortar through the wall, starting at the back face. Leave undisturbed for a period of one to two hours to permit initial shrinkage before final finishing. The patch shall be finished to match the texture and appearance of the adjoining surface.

3.14 MISCELLANEOUS CONCRETE WORK

A. Equipment Pads and Supports: Provide concrete equipment pads and supports as shown and conforming to shop drawings. Fastening devices and accessories shall be located by templates or setting diagram furnished by the manufacturer.

B. Correcting Slab Tolerances: Slabs exceeding specified tolerances shall have high spots ground down and low spots filled with 100 percent epoxy resin. Epoxy resin shall be applied in strict accordance with the manufacturer's printed instructions.

3.15 CLEAN-UP

A. All concrete floor construction shall have the surfaces thoroughly scrubbed and cleaned with clear water. Cleaning shall be done immediately before application or finish flooring or coating. After cleaning, the slabs shall be protected until they are accepted for floor finishing work.

B. Clean all surfaces affected by the concrete work. No extraneous concrete or discoloration shall be left on any construction.

END OF SECTION

SECTION 02010

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.

C. 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 Armatec 110 Bonding Epoxy; the costs shall be included in the associated concrete bid items.

4.02 BASIS OF PAYMENT

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

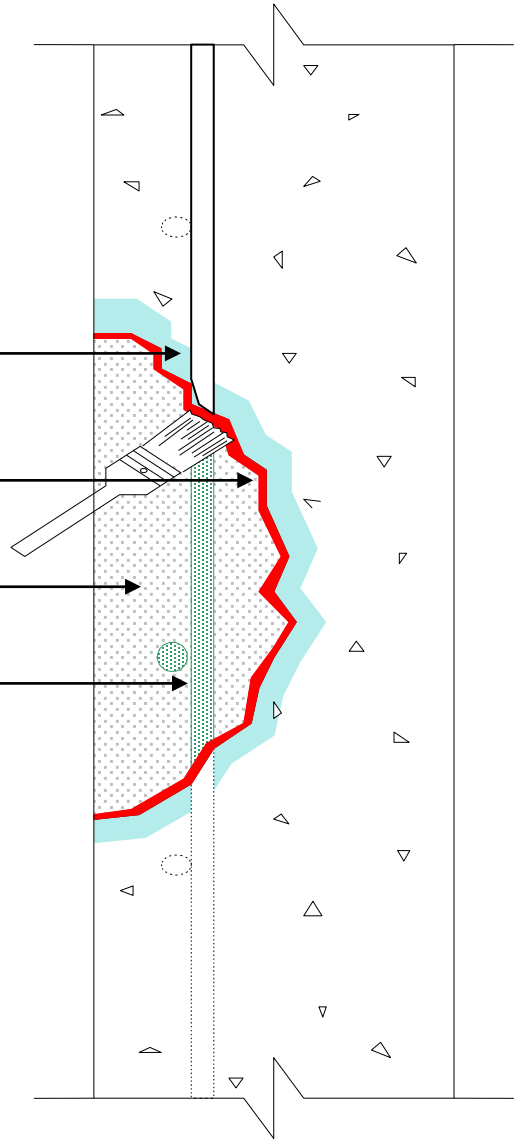
Bonding Epoxy

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.



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DIVISION III

REVISIONS TO VIRGINIA DEPARTMENT OF
TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, 2020

CITY OF HARRISONBURG, VIRGINIA
DEPARTMENT OF PUBLIC WORKS

Prepared by

SCHWARTZ & ASSOCIATES, INC.
for
Department of Public Works
320 East Mosby Road
Harrisonburg, Virginia 22801

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DIVISION III – MISCELLANEOUS REVISIONS

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SECTION 03010

REVISIONS TO VIRGINIA DEPARTMENT OF
TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, 2020

1.01 HYDRAULIC CEMENT CONCRETE OPERATIONS

1. 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 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.

1.02 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.

1.03 MISCELLANEOUS NOTES

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

2. Section 217 - Hydraulic Cement Concrete of the Specifications is amended as follows:

TABLE 11-17 Requirements for Hydraulic Cement Concrete is replaced with the following:

Class of Concrete	Design Min. Laboratory Compressive Strength a 28 days (f' c) (psi)	Aggregate Size No.[6]	Design Max. Laboratory Permeability at 28 Days (Coulombs)[5]	Nominal Max Aggregate Size (in)	Min. Grade Aggregate	Min. Cementitious Content (lb./cu yd)	Max. Water/Cementitiou Mat. (lb. Water/lb. Cement)	Consistency (in of slump)	Air Content (percent)[1]
A4.5	4,500	56 or 57	2,500	1	A	635	0.40	2-4	6 1/2 ± 1 1/2
A4 General	4,000	56 or 57	2,500	1	A	635	0.40	2-4	6 1/2 ± 1 1/2
A4 Post & rails	4,000	7,8 or 78	2,500	0.5	A	635	0.40	2-5	7±2
A3 General	3,000	56 or 57	3,500	1	A	588	0.40	1-5	6±2
A3a Paving	3,000	56 or 57	3,500	1	A	564	0.49	0-3	6±2
A3b Paving	3,000	357	3,500	2	A	N.A.	0.49	0-3	6±2
B2 Massive or lightly Reinforced	2,200	57	N.A.	1	B	494	0.58	0-4	4±2
C1 Massive Unreinforced	1,500	57	N.A.	1	B	423	0.71	0-3	4±2
T3 Tremie Seal	3,000	56 or 57	N.A.	1	A	635	0.49	3-6	4±2
Latex hydraulic cement concrete overlay[3]	3,500	7,8 or 78	1,500	0.5	A	658	0.40	4-6	5±2
Silica fume, silica fume/Class F Fly Ash or silica fume/slag concrete overlay[4]	5,000	7,8 or 78	1,500	0.5	A	658	0.40	4-7	6±2
Class F Fly Ash or slab overlay	4,000	7,8 or 78	1,500	0.5	A	658	0.40	4-7	6±2

3. **Section 217.07** of the Specifications is amended as follows:

In all structural concrete the water/cement ratio shall not exceed 0.40, maximum slump of concrete upon arrival at construction site shall not be less than 3” and shall not exceed 7”. All concrete with a 0.40 water/cement ratio shall contain a mid range superplasticizer, such as Master Builder’s Polyheed, conforming to ASTM C 494, Type F and added at the concrete plant as part of the batch procedure.

4. **Section 217.09** of the Specifications is amended as follows:

Structural concrete (any concrete used in bridge structures) 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 ever load of structural concrete (concrete to be used in the bridge structures) prior to its leaving the plant site. All tests required on the form, SAI-1, shall be performed by the technician and the results listed and the form signed by the technician. Each test result shall be within the specification range allowed in order to the project site to be allowed. A ticket showing the actual batch weights of the materials used in concrete shall be delivered to the site with each load of concrete.

This completed and signed form shall be sent to the project site with each load of structural concrete shipped. Failure to provide this completed form and batch ticket for each load 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 A3 and A4 structural concrete will not 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.

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DIVISION IV

SPECIAL PROVISIONS

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SECTION 04001
MAINTENANCE OF TRAFFIC – "MLK"

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, sidewalk closed signs, sign posts, flags, cones, Type III barricades, Group 2 channelizing devices and all other items used for traffic maintenance as required by the contract drawings and the Virginia Work Area Protection Manual. It also includes the furnishing of flagmen and lights, furnishing and maintaining illuminated flashing amber arrows and truck mounted attenuators. 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 and barricading the work areas from pedestrians and motorists according to the plan developed by the CONTRACTOR and approved by the ENGINEER.

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 barricades and 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 twice 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 "Martin Luther King, Jr. Way (Cantrell Avenue)" unless otherwise noted.

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).

Name/Organization	Reg. No.	Email
Aaron Rhoney, Public Works Dept.	(540)434-5928	AaronRhoney@harrisonburgva.gov
Randy Saunders Schwartz & Assoc., Inc.	(434) 237-6584	rsaunders@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 for covering and uncovering existing signs, furnishing, installing, erecting, maintenance and removal of new construction signs, sidewalk closed signs, sign posts, flags, Group 2 channelizing devices, cones, Type III barricades, lights, furnishing and maintaining illuminated flashing amber arrows, and truck mounted attenuators. Also included is lighting and barricading the work area from pedestrians and motorists; providing safe pedestrian access to all businesses and residencies; and for all materials, labor, tools, equipment, and incidentals necessary to complete the work. Payment will be made under the Contract pay item:

"MAINTENANCE OF TRAFFIC – "MLK" – Pay unit will be on a "Lump-Sum" basis.

The Contractor will be paid 30-percent of the lump sum bid price upon satisfactory installation of the required maintenance of traffic items to commence construction operations and active prosecution of the work. Contingent upon active pursuit of work, the Contractor will receive monthly payments for maintenance of traffic based on the daily dollar amount of the bid price for maintenance of traffic until 90-percent of the unit bid price is paid. The remaining 10-percent will be paid for after all maintenance of traffic items are removed at final acceptance of the Contract.

SECTION 04010
FLOWABLE FILL REPAIR

PART 1 - GENERAL

1.01 DESCRIPTION

This work shall consist of cutting five (5) 2′ x 2′ windows in ground in front of Abutment B footing, removal and disposal of material, furnishing and placing Engineer approved flowable fill in each window and filling void under Abutment B footing, forming and finishing flowable fill.

1.02 METHOD OF MEASUREMENT

"Flowable Fill Repair" – shall be measured on a "Lump Sum" basis wherein no measurement will be made.

1.03 BASIS OF PAYMENT

The contract price for "Flowable Fill Repair" shall be full compensation for the cutting of five (5) 2′ x 2′ in ground in front of Abutment B footing, removal and disposal of material, furnishing and placing Engineer approved flowable fill in each window and filling void under Abutment B footing, forming, finishing and the furnishing of all material, labor, tools, equipment and incidentals necessary to complete the work. Payment will be made under the contract pay item of:

"Flowable Fill Repair" – pay unit will be on a "Lump Sum" basis.

SECTION 04020
ENLARGE EXPANSION BEARING SLOTS (PER BEARING)

PART I – GENERAL

1.01 DESCRIPTION

This item shall consist of enlarging existing slots in sole plates at Pier 2-Span 2, Pier 2-Span 3 and Pier 4-Span 5 to have 7/8" clearance on each side at the anchor bolt at 60°F to allow for expansion. Also included is the removal and reinstalling of the anchor bolt nuts and washers. All cutting shall be performed by a certified welder doing this type of work.

1.02 METHOD OF MEASUREMENT

"Enlarge Expansion Bearing Slots (Per Bearing)" will be measured on a per "Each" basis for each bearing assembly actually modified.

1.03 BASIS OF PAYMENT

The unit price shown in the contract for this item shall be full compensation for removing and reinstalling anchor bolt nuts and washers, enlarging slots in sole plates at Pier 2-Span 2, Pier 2-Span 3 and Pier 4-Span 5 to have 7/8" clearance on each side of the anchor bolts at 60°F, certified welder, and the furnishing of all materials, labor, tools, equipment and incidentals necessary to complete the work. Payment will be made under the contract pay item of:

"Enlarge Expansion Bearing Slots (Per Bearing)" - Pay Unit will be on a per "Each" basis for each bearing assembly actually modified.

SECTION 04030
ANCHOR BOLT REPLACEMENT

PART I – GENERAL

1.01 DESCRIPTION

This item shall consist of removing end struts, bolts, nuts and washers, laying out new anchor bolt locations, removing concrete at new anchor bolt locations, removing concrete at new anchor bolt locations down to top of existing longitudinal reinforcing steel, trimming, removing and disposal of portion of existing sole and masonry plates, removal and disposal of concrete around existing anchor bolts, cutting off existing anchor bolts, and core drilling new anchor bolt hole. Also included is the re-installation of the end strut, furnishing, and installing new 7/8" diameter bolts, nut and washers and torque them to the required torque, new 1 ¼" diameter swedged anchor bolts, nuts and washers, Cleaning out new anchor bolt hole and existing area around existing anchor bolt, furnishing and installing new 1 ¼" diameter swedged anchor bolts, grouting (Engineer approved grout), pre-wetting concrete for 2 hours, sandblasting, furnish and installing Sikatop 111 Plus in concrete removal area, curing and finishing.

1.02 METHOD OF MEASUREMENT

"Anchor Bolt Replacement" will be measured on a per "Each" basis for each anchor bolt actually replaced.

1.03 BASIS OF PAYMENT

The unit price shown in the contract for this item shall be full compensation for removing and disposal of existing concrete, cutting and removal of existing anchor bolts, portion of existing sole and masonry plates; removal of end struts, removal and disposal of end strut bolts, nuts and washer, re-installing end struts, furnishing, install, tightening and torqueing new 7/8" diameter bolts, nuts and washer in end struts; furnishing and installing new 1 ¼" diameter swedged anchor bolts, Engineer approved grout, Sikatop 111 Plus, core drilling, sandblasting, pre-wetting concrete for 2 hours, finishing, curing and furnishing of all materials, labor, tools equipment and incidentals necessary to complete the work. Payment will be made under the contract pay item of:

"Anchor Bolt Replacement" - Pay Unit will be on a per "Each" basis for each anchor bolt actually replaced.

SECTION 04040
BEARING REPLACEMENT

PART I - GENERAL

1.01 DESCRIPTION

This item shall consist of removal and disposal of existing bearings, sole plates, masonry plates and rocker plates, cutting existing welds loose and grinding welds flush between existing sole plate and bottom flange of existing beam, furnishing and installing new sole plates, laminated elastomeric bearing pads, welding, epoxy, silicon carbide or aluminum oxide to sole plate underside that will contact laminated bearing pad and cleaning and painting new sole plate with same paint system used on the rest of the structure. All welding and removal of existing welds shall be performed by a certified welder that is certified for this type and position of required work.

1.02 METHOD OF MEASUREMENT

"Bearing Replacement" will be measured on a per "Each" basis for each bearing actually replaced.

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 bearings, sole plate, masonry plate, rocker plate, cutting existing welds loose and grinding flush between existing sole plate and bottom beam flange, cleaning, blasting, furnishing and installing new sole plate, laminated elastomeric bearing pads, curing, epoxy, silicon carbide or aluminum oxide, cleaning and painting new sole plate, certified welder and furnishing of all materials, labor, tools, equipment and incidentals necessary to complete the work. Payment will be made under the contract pay item of:

"Bearing Replacement" - Pay Unit will be on a per "Each" basis for each bearing actually replaced.

SECTION 04050

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'c with no individual core less than 0.75f'c.

   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.

SECTION 04060
GENERAL MAINTENANCE

PART I – GENERAL

1.01 DESCRIPTION

This work shall consist of removal and disposal of debris on Abutment A & B, Piers 1-4 seats and wash areas.

1.02 METHOD OF MEASUREMENT

"General Maintenance" will be measured on a per "Lump Sum" basis wherein no measurement will be made.

1.03 BASIS OF PAYMENT

The contract price for "General Maintenance" shall be full compensation for removal and disposal of debris on Abutment A & B, Piers 1-4 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:

"General Maintenance" - Pay Unit will be on per "Lump Sum" basis.

E. Norfolk Southern – Special Provisions for Protection of Railway Interests

1. AUTHORITY OF RAILROAD ENGINEER AND SPONSOR ENGINEER:

   Norfolk Southern Railway Company, hereinafter referred to as "Railroad", and their authorized representative shall have final authority in all matters affecting the safe maintenance of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks. For Public Projects impacting the Railroad, the Railroad's Public Projects Engineer, hereinafter referred to as "Railroad Engineer", will serve as the authorized representative of the Railroad.

   The authorized representative of the Project Sponsor ("Sponsor"), hereinafter referred to as the "Sponsor's Engineer", shall have authority over all other matters as prescribed herein and in the Project Specifications.

   The Sponsor's Prime Contractor, hereinafter referred to as "Contractor" shall be responsible for completing any and all work in accordance with the terms prescribed herein and in the Project Specifications. These terms and conditions are subject to change without notice, from time to time in the sole discretion of the Railroad. Contractor must request from Railroad and follow the latest version of these provisions prior to commencing work.

2. NOTICE OF STARTING WORK:

   A. The Contractor shall not commence any work on railroad rights-of-way until he has complied with the following conditions:

      1. Signed and received a fully executed copy of the required Norfolk Southern Contractor Right of Entry Agreement.

      2. Given the Railroad written notice in electronic format to the Railroad Engineer, with copy to the Sponsor's Engineer who has been designated to be in charge of the work, at least ten days in advance of the date he proposes to begin work on Railroad rights-of-way.

      3. Obtained written approval from the Railroad of Railroad Protective Liability Insurance coverage as required by paragraph 14 herein. It should be noted that the Railroad does not accept notation of Railroad Protective insurance on a certificate of liability insurance form or Binders as Railroad must have the full original countersigned policy. Further, please note that mere receipt of the policy is not the only issue but review for compliance. Due to the number of projects system-wide, it typically takes a minimum of 30-45 days for the Railroad to review.

      4. Obtained Railroad's Flagging Services as required by paragraph 7 herein.

      5. Obtained written authorization from the Railroad to begin work on Railroad's rights-of-way, such authorization to include an outline of specific conditions with which he must comply.

      6. Furnished a schedule for all work within the Railroad's rights-of-way as required by paragraph 7.B.1.

B. The Railroad's written authorization to proceed with the work shall include the names, addresses, and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

3. INTERFERENCE WITH RAILROAD OPERATIONS:

A. The Contractor shall so arrange and conduct his work that there will be no interference with Railroad's operations, including train, signal, telephone and telegraphic services, or damage to the property of the Railroad or to poles, wires, and other facilities of tenants on the rights-of-way of the Railroad. Whenever work is liable to affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor which requires flagging service or inspection service shall be deferred by the Contractor until the flagging service or inspection service required by the Railroad is available at the job site.

B. Whenever work within Railroad's rights-of-way is of such a nature that impediment to Railroad's operations such as use of runaround tracks or necessity for reduced speed is unavoidable, the Contractor shall schedule and conduct his operations so that such impediment is reduced to the absolute minimum.

C. Should conditions arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of the Railroad, the Contractor shall make such provisions. If in the judgment of the Railroad Engineer, or in his absence, the Railroad's Division Engineer, such provisions is insufficient, either may require or provide such provisions as he deems necessary. In any event, such unusual provisions shall be at the Contractor's expense and without cost to the Railroad or the Sponsor.

D. "One Call" Services do not locate buried Railroad utilities. The contractor shall contact the Railroad's representative 2 days in advance of work at those places where excavation, pile driving, or heavy loads may damage the Railroad's underground facilities. Upon request from the Contractor or Sponsor, Railroad forces will locate and paint mark or flag the Railroad's underground facilities. The Contractor shall avoid excavation or other disturbances of these facilities. If disturbance or excavation is required near a buried Railroad facility, the contractor shall coordinate with the Railroad to have the facility potholed manually with careful hand excavation. The facility shall be protected by the Contractor during the course of the disturbance under the supervision and direction of the Railroad's representative.

4. TRACK CLEARANCES:

A. The minimum track clearances to be maintained by the Contractor during construction are shown on the Project Plans. If temporary clearances are not shown on the project plans, the following criteria shall govern the use of falsework and formwork above or adjacent to operated tracks.

1. A minimum vertical clearance of 22'-0" above top of highest rail shall be maintained at all times.

2. A minimum horizontal clearance of 13'-0" from centerline of tangent track or 14'-0" from centerline of curved track shall be maintained at all times. Additional horizontal

clearance may be required in special cases to be safe for operating conditions. This additional clearance will be as determined by the Railroad Engineer.

3. All proposed temporary clearances which are less than those listed above must be submitted to Railroad Engineer for approval prior to construction and must also be authorized by the regulatory body of the State if less than the legally prescribed clearances.

4. The temporary clearance requirements noted above shall also apply to all other physical obstructions including, but not limited to: stockpiled materials, parked equipment, placement or driving of piles, and bracing or other construction supports.

B. Before undertaking any work within Railroad right-of-way, and before placing any obstruction over any track, the Contractor shall:

1. Notify the Railroad's representative at least 72 hours in advance of the work.

2. Receive assurance from the Railroad's representative that arrangements have been made for flagging service as may be necessary.

3. Receive permission from the Railroad's representative to proceed with the work.

4. Ascertain that the Sponsor's Engineer has received copies of notice to the Railroad and of the Railroad's response thereto.

5. CONSTRUCTION PROCEDURES:

A. General:

1. Construction work and operations by the Contractor on Railroad property shall be:

a. Subject to the inspection and approval of the Railroad Engineer or their designated Construction Engineering Representative.

b. In accordance with the Railroad's written outline of specific conditions.

c. In accordance with the Railroad's general rules, regulations and requirements including those relating to safety, fall protection and personal protective equipment.

d. In accordance with these Special Provisions.

2. Submittal Requirements

a. The Contractor shall submit all construction related correspondence and submittals electronically to the Railroad Engineer.

b. The Contractor shall allow for 30 days for the Railroad's review and response.

c. All work in the vicinity of the Railroad's property that has the potential to affect the Railroad's train operations or disturb the Railroad's Property must be submitted and approved by the Railroad prior to work being performed.

d. All submittals and calculations must be signed and sealed by a registered engineer licensed in the state of the project work.

e. All submittals shall first be approved by the Sponsor's Engineer and the Railroad Engineer, but such approval shall not relieve the Contractor from liability.

f. For all construction projects, the following submittals, but not limited to those listed below, shall be provided for review and approval when applicable:

(1) General Means and Methods
(2) Ballast Protection
(3) Construction Excavation & Shoring
(4) Pipe, Culvert, & Tunnel Installations
(5) Demolition Procedure
(6) Erection & Hoisting Procedure
(7) Debris Shielding or Containment
(8) Blasting
(9) Formwork for the bridge deck, diaphragms, overhang brackets, and protective platforms
(10) Bent Cap Falsework. A lift plan will be required if the contractor want to move the falsework over the tracks.

g. For Undergrade Bridges (Bridges carrying the Railroad) the following submittals in addition to those listed above shall be provided for review and approval:

(1) Shop Drawings
(2) Bearing Shop Drawings and Material Certifications
(3) Concrete Mix Design
(4) Structural Steel, Rebar, and/or Strand Certifications
(5) 28 day Cylinder Test for Concrete Strength
(6) Waterproofing Material Certification
(7) Test Reports for Fracture Critical Members
(8) Foundation Construction Reports

Fabrication may not begin until the Railroad has approved the required shop drawings.

h. The Contractor shall include in all submissions a detailed narrative indicating the progression of work with the anticipated timeframe to complete each task. Work will not be permitted to commence until the Contractor has provided the Railroad with a satisfactory plan that the project will be undertaken without scheduling, performance or safety related issues. Submission shall also provide a listing of the anticipated equipment to be used, the location of all equipment to be used and insure a contingency plan of action is in place should a primary piece of equipment malfunction.

B. Ballast Protection

1. The Contractor shall submit the proposed ballast protection system detailing the specific filter fabric and anchorage system to be used during all construction activities.

2. The ballast protection is to extend 25' beyond the proposed limit of work, be installed at the start of the project and be continuously maintained to prevent all contaminants from entering the ballast section of all tracks for the entire duration of the project.

C. Excavation:

1. The subgrade of an operated track shall be maintained with edge of berm at least 10'-0" from centerline of track and not more than 24-inches below top of rail. Contractor will not be required to make existing section meet this specification if substandard, in which case existing section will be maintained.

2. Additionally, the Railroad will require the installation of an OSHA approved handrail and orange construction safety fencing for all excavations of the Railroad right-of-way.

D. Excavation for Structures and Shoring Protection:

1. The Contractor will be required to take special precaution and care in connection with excavating and shoring pits, and in driving piles or sheeting for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which they carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material.

2. All plans and calculations for shoring shall be prepared, signed, and sealed by a Registered Professional Engineer licensed in the state of the proposed project, in accordance with Norfolk Southern's Overhead Grade Separation Design Criteria, subsection H.1.6.E-Construction Excavation (Refer to Norfolk Southern Public Projects Manual Appendix H). The Registered Professional Engineer will be responsible for the accuracy for all controlling dimensions as well as the selection of soil design values which will accurately reflect the actual field conditions.

3. The Contractor shall provide a detailed installation and removal plan of the shoring components. Any component that will be installed via the use of a crane or any other lifting device shall be subject to the guidelines outlined in section 5.G of these provisions.

4. The Contractor shall be required to survey the track(s) and Railroad embankment and provide a cross section of the proposed excavation in relation to the tracks.

5. Calculations for the proposed shoring should include deflection calculations. The maximum deflection for excavations within 18'-0" of the centerline of the nearest track shall be 3/8". For all other cases, the max deflection shall not exceed ½".

6. Additionally, the Railroad will require the installation of an OSHA approved handrail and orange construction safety fencing for all excavations of the Railroad right-of-way.

7. The front face of shoring located to the closest NS track for all shoring set-ups located in Zone 2 as shown on NS Typical Drawing No. 4 – Shoring Requirements (Appendix I) shall remain in place and be cut off 2'-0" below the final ground elevation. The remaining shoring in Zone 2 and all shoring in Zone 1 may be removed and all voids must be backfilled with flowable fill.

E. Pipe, Culvert, & Tunnel Installations

1. Pipe, Culvert, & Tunnel Installations shall be in accordance with the appropriate Norfolk Southern Design Specification as noted below:

   a. For Open Cut Method refer to Norfolk Southern Public Projects Manual Appendix H.4.6.
   b. For Jack and Bore Method refer to Norfolk Southern Public Projects Manual Appendix H.4.7.
   c. For Tunneling Method refer to Norfolk Southern Public Projects Manual Appendix H.4.8.

2. The installation methods provided are for pipes carrying storm water or open flow run-off. All other closed pipeline systems shall be installed in accordance Norfolk Southern's Pipe and Wire Program and the NSCE-8

F. Demolition Procedures

1. General

   a. Demolition plans are required for all spans over the track(s), for all spans adjacent to the track(s), if located on (or partially on) Railroad right-of-way; and in all situations where cranes will be situated on, over, or adjacent to Railroad right-of-way and within a distance of the boom length plus 15'-0" from the centerline of track.

   b. Railroad tracks and other Railroad property must be protected from damage during the procedure.

   c. A pre-demolition meeting shall be conducted with the Sponsor, the Railroad Engineer or their representative, and the key Contractor's personnel prior to the start of the demolition procedure.

   d. The Railroad Engineer or his designated representative must be present at the site during the entire demolition procedure period.

   e. Existing, obsolete, bridge piers shall be removed to a sufficient depth below grade to enable restoration of the existing/proposed track ditch, but in no case less than 2'-0" below final grade.

2. Submittal Requirements

   a. In addition to the submittal requirements outlined in Section 5.A.2 of these provisions, the Contractor shall submit the following for approval by the Railroad Engineer:

      (1) A plan showing the location of cranes, horizontally and vertically, operating radii, with delivery or disposal locations shown. The location of all tracks and other Railroad facilities as well as all obstructions such as wire lines, poles, adjacent structures, etc. must also be shown.

(2) Rating sheets showing cranes or lifting devices to be adequate for 150% of the actual weight of the pick, including all rigging components. A complete set of crane charts, including crane, counterweight, and boom nomenclature is to be submitted. Safety factors that may have been "built-in" to the crane charts are not to be considered when determining the 150% factor of safety.

(3) Plans and computations showing the weight of the pick must be submitted. Calculations shall be made from plans of the existing structure showing complete and sufficient details with supporting data for the demolition the structure. If plans do not exist, lifting weights must be calculated from field measurements. The field measurements are to be made under the supervision of the Registered Professional Engineer submitting the procedure and calculations.

(4) The Contractor shall provide a sketch of all rigging components from the crane's hook block to the beam. Catalog cuts or information sheets of all rigging components with their lifting capacities shall be provided. All rigging must be adequate for 150% of the actual weight of the pick. Safety factors that may have been "built-in" to the rating charts are not to be considered when determining the 150% factor of safety. All rigging components shall be clearly identified and tagged with their rated lifting capacities. The position of the rigging in the field shall not differ from what is shown on the final plan without prior review from the Sponsor and the Railroad.

(5) A complete demolition procedure, including the order of lifts, time required for each lift, and any repositioning or re-hitching of the crane or cranes.

(6) Design and supporting calculations for the temporary support of components, including but not limited to the stability of the superstructure during the temporary condition, temporary girder tie-downs and falsework.

3. Overhead Demolition Debris Shield

a. The demolition debris shield shall be installed prior to the demolition of the bridge deck or other relevant portions of the superstructure over the track area to catch all falling debris.

b. The demolition debris shield shall provide a minimum vertical clearance as specified in Section 4.A.1 of these provisions or maintain the existing vertical clearance if the existing clearance is less than that specified in Section 4.A.1.

c. The Contractor shall include the demolition debris shield installation/removal means and methods as part of the proposed Demolition procedure submission.

d. The Contractor shall submit the demolition debris shield design and supporting calculations for approval by the Railroad Engineer.

e. The demolition debris shield shall have a minimum design load of 50 pounds per square foot plus the weight of the equipment, debris, personnel, and other loads to be carried.

f. The Contractor shall include the proposed bridge deck removal procedure in its demolition means and methods and shall verify that the size and quantity of the demolition debris generated by the procedure does not exceed the shield design loads.

g. The Contractor shall clean the demolition debris shield daily or more frequently as dictated either by the approved design parameters or as directed by the Railroad Engineer.

4. Vertical Demolition Debris Shield

a. A vertical demolition debris shield may be required for substructure removals in close proximity to the Railroad's track and other facilities, as determined by the Railroad Engineer.

G. Erection & Hoisting Procedures

1. General

a. Erection plans are required for all spans over the track(s), for all spans adjacent to the track(s), if located on (or partially on) Railroad right-of-way; and in all situations where cranes will be situated on, over, or adjacent to Railroad right-of-way and within a distance of the boom length plus 15'-0" from the centerline of track.

b. Railroad tracks and other Railroad property must be protected from damage during the erection procedure.

c. A pre-erection meeting shall be conducted with the Sponsor, the Railroad Engineer or their representative, and the key Contractor's personnel prior to the start of the erection procedure.

d. The Railroad Engineer or his designated representative must be present at the site during the entire erection procedure period.

e. For field splices located over Railroad property, a minimum of 50% of the holes for each connection shall be filled with bolts or pins prior to releasing the crane. A minimum of 50% of the holes filled shall be filled with bolts. All bolts must be appropriately tightened. Any changes to previously approved field splice locations must be submitted to the Railroad for review and approval. Refer to Norfolk Southern's Overhead Grade Separation Design Criteria for additional splice details (Norfolk Southern Public Projects Manual Appendix H.1, Section 4.A.3.).

2. Submittal Requirements

a. In addition the submittal requirements outlined in Section 5.A.2 of these provisions, the Contractor shall submit the following for approval by the Railroad Engineer:

(1) As-built beam seat elevations - All as-built bridge seats and top of rail elevations shall be furnished to the Railroad Engineer for review and verification at least 30 days in advance of the erection, to ensure that minimum vertical clearances as approved in the plans will be achieved.

(2) A plan showing the location of cranes, horizontally and vertically, operating radii, with delivery or staging locations shown. The location of all tracks and other Railroad facilities as well as all obstructions such as wire lines, poles, adjacent structures, etc. must also be shown.

(3) Rating sheets showing cranes or lifting devices to be adequate for 150% of the actual weight of the pick, including all rigging components. A complete set of crane charts, including crane, counterweight, and boom nomenclature is to be submitted. Safety factors that may have been "built-in" to the crane charts are not to be considered when determining the 150% factor of safety.

(4) Plans and computations showing the weight of the pick must be submitted. Calculations shall be made from plans of the proposed structure showing complete and sufficient details with supporting data for the erection of the structure. If plans do not exist, lifting weights must be calculated from field measurements. The field measurements are to be made under the supervision of the Registered Professional Engineer submitting the procedure and calculations.

(5) The Contractor shall provide a sketch of all rigging components from the crane's hook block to the beam. Catalog cuts or information sheets of all rigging components with their lifting capacities shall be provided. All rigging must be adequate for 150% of the actual weight of the pick. Safety factors that may have been "built-in" to the rating charts are not to be considered when determining the 150% factor of safety. All rigging components shall be clearly identified and tagged with their rated lifting capacities. The position of the rigging in the field shall not differ from what is shown on the final plan without prior review from the Sponsor and the Railroad.

(6) A complete erection procedure, including the order of lifts, time required for each lift, and any repositioning or re-hitching of the crane or cranes.

(7) Design and supporting calculations for the temporary support of components, including but not limited to temporary girder tie-downs and falsework.

H. Blasting:

1. The Contractor shall obtain advance approval of the Railroad Engineer and the Sponsor Engineer for use of explosives on or adjacent to Railroad property. The request for permission to use explosives shall include a detailed blasting plan. If permission for use of explosives is granted, the Contractor will be required to comply with the following:

    a. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Contractor and a licensed blaster.

    b. Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way radios.

    c. No blasting shall be done without the presence of the Railroad Engineer or his authorized representative. At least 72 hours advance notice to the person designated in the Railroad's notice of authorization to proceed (see paragraph 2.B) will be required to arrange for the presence of an authorized Railroad representative and such flagging as the Railroad may require.

    d. Have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting at his expense any track misalignment or other damage to Railroad property resulting from the blasting as directed by the Railway's authorized representative. If his actions result in delay of trains, the Contractor shall bear the entire cost thereof.

    e. The blasting Contractor shall have a copy of the approved blasting plan on hand while on the site.

    f. Explosive materials or loaded holes shall not be left unattended at the blast site.

    g. A seismograph shall be placed on the track shoulder adjacent to each blast which will govern the peak particle velocity of <u>two inches per second</u>. Measurement shall also be taken on the ground adjacent to structures as designated by a qualified and independent blasting consultant. The Railroad reserves the option to direct the placement of additional seismographs at structures or other locations of concern, without regard to scaled distance.

    h. After each blast, the blasting Contractor shall provide a copy of their drill log and blast report, which includes number of holes, depth of holes, number of decks, type and pounds of explosives used per deck.

    i. The Railroad may require top of rail elevations and track centers taken before, during and after the blasting and excavation operation to check for any track misalignment resulting from the Contractor's activities.

2. The Railroad representative will:

    a. Determine approximate location of trains and advise the Contractor the appropriate amount of time available for the blasting operation and clean up.

    b. Have the authority to order discontinuance of blasting if, in his opinion, blasting is too hazardous or is not in accord with these special provisions.

3. The Contractor must hire, at no expense to the Railroad, a qualified and independent blasting consultant to oversee the use of explosives. The blasting consultant will:

    a. Review the Contractor's proposed drilling and loading patterns, and with the blasting consultant's personnel and instruments, monitor the blasting operations.

    b. Confirm that the minimum amounts of explosives are used to remove the rock.

    c. Be empowered to intercede if he concludes that the Contractor's blasting operations are endangering the Railway.

    d. Submit a letter acknowledging that he has been engaged to oversee the entire blasting operation and that he approves of the blasting plan.

    e. Furnish copies of all vibration readings to the Railroad representative immediately after each blast. The representative will sign and date the seismograph tapes after each shot to verify the readings are for that specific shot.

    f. Advise the Railroad representative as to the safety of the operation and notify him of any modifications to the blasting operation as the work progresses.

4. The request for permission to use explosives on the Railroad's Right-of-Way shall include a blasting proposal providing the following details:

    a. A drawing which shows the proposed blasting area, location of nearest hole and distance to Railway structures, all with reference to the centerline of track.

    b. Hole diameter.

    c. Hole spacing and pattern.

    d. Maximum depth of hole.

    e. Maximum number of decks per hole.

    f. Maximum pounds of explosives per hole.

    g. Maximum pounds of explosives per delay.

    h. Maximum number of holes per detonation.

i. Type of detonator and explosives to be used. (Electronic detonating devices will not be permitted). Diameter of explosives if different from hole diameter.

j. Approximate dates and time of day when the explosives are to be detonated.

k. Type of flyrock protection.

l. Type and patterns of audible warning and all clear signals to be used before and after each blast.

m. A copy of the blasting license and qualifications of the person directly in charge of the blasting operation, including their name, address and telephone number.

n. A copy of the Authority's permit granting permission to blast on the site.

o. A letter from the blasting consultant acknowledging that he has been engaged to oversee the entire blasting operation and that he approves of the blasting plan.

p. In addition to the insurance requirements outlined in Paragraph 14 of these Provisions, A certificate of insurance from the Contractor's insurer stating the amount of coverage for XCU (Explosive Collapse and Underground Hazard) insurance and that XCU Insurance is in force for this project.

q. A copy of the borings and Geotechnical information or report.

I. Track Monitoring

1. At the direction of the Railroad Engineer, any activity that has the potential to disturb the Railroad track structure may require the Contractor to submit a detailed track monitoring program for approval by the Railroad Engineer.

2. The program shall specify the survey locations, the distance between the location points, and frequency of monitoring before, during, and after construction. Railroad reserves the right to modify the survey locations and monitoring frequency as necessary during the project.

3. The survey data shall be collected in accordance with the approved frequency and immediately furnished to the Railroad Engineer for analysis.

4. If any movement has occurred as determined by the Railroad Engineer, the Railroad will be immediately notified. Railroad, at its sole discretion, shall have the right to immediately require all Contractor operations to be ceased and determine what corrective action is required. Any corrective action required by the Railroad or performed by the Railroad including the monitoring of corrective action of the Contractor will be at project expense.

J. Maintenance of Railroad Facilities:

1. The Contractor will be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from his operations and provide and maintain any erosion control measures as required. The Contractor will promptly

repair eroded areas within Railroad rights-of-way and repair any other damage to the property of the Railroad or its tenants.

2. If, in the course of construction, it may be necessary to block a ditch, pipe or other drainage facility, temporary pipes, ditches or other drainage facilities shall be installed to maintain adequate drainage, as approved by the Railroad Engineer. Upon completion of the work, the temporary facilities shall be removed and the permanent facilities restored.

3. All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

K. Storage of Materials and Equipment:

1. Materials and equipment shall not be stored where they will interfere with Railroad operations, nor on the rights-of-way of the Railroad without first having obtained permission from the Railroad Engineer, and such permission will be with the understanding that the Railroad will not be liable for damage to such material and equipment from any cause and that the Railroad Engineer may move or require the Contractor to move, at the Contractor's expense, such material and equipment.

2. All grading or construction machinery that is left parked near the track unattended by a watchman shall be effectively immobilized so that it cannot be moved by unauthorized persons. The Contractor shall protect, defend, indemnify and save Railroad, and any associated, controlled or affiliated corporation, harmless from and against all losses, costs, expenses, claim or liability for loss or damage to property or the loss of life or personal injury, arising out of or incident to the Contractor's failure to immobilize grading or construction machinery.

L. Cleanup:

1. Upon completion of the work, the Contractor shall remove from within the limits of the Railroad rights-of-way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the Contractor, and leave said rights-of-way in a neat condition satisfactory to the Railroad Engineer or his authorized representative.

6. DAMAGES:

A. The Contractor shall assume all liability for any and all damages to his work, employees, servants, equipment and materials caused by Railroad traffic.

B. Any cost incurred by the Railroad for repairing damages to its property or to property of its tenants, caused by or resulting from the operations of the Contractor, shall be paid directly to the Railroad by the Contractor.

7. FLAGGING SERVICES:

A. Requirements:

1. Flagging services will not be provided until the Contractor's insurance has been reviewed & approved by the Railroad.

2. Under the terms of the agreement between the Sponsor and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect its operations. In general, the requirements of such services will be whenever the Contractor's personnel or equipment are or are likely to be, working on the Railroad's right-of-way, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a Railroad structure or the Railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging.

3. Normally, the Railroad will assign one flagman to a project; but in some cases, more than one may be necessary, such as yard limits where three (3) flagmen may be required. However, if the Contractor works within distances that violate instructions given by the Railroad's authorized representative or performs work that has not been scheduled with the Railroad's authorized representative, a flagman or flagmen may be required full time until the project has been completed.

4. For Projects exceeding 30 days of construction, Contractor shall provide the flagmen a small work area with a desk/counter and chair within the field/site trailer, including the use of bathroom facilities, where the flagman can check in/out with the Project, as well as to the flagman's home terminal. The work area should provide access to two (2) electrical outlets for recharging radio(s), and a laptop computer; and have the ability to print off needed documentation and orders as needed at the field/site trailer. This should aid in maximizing the flagman's time and efficiency on the Project.

B. Scheduling and Notification:

1. The Contractor's work requiring Railroad flagging should be scheduled to limit the presence of a flagman at the site to a maximum of 50 hours per week. The Contractor shall receive Railroad approval of work schedules requiring a flagman's presence in excess of 40 hours per week.

2. Not later than the time that approval is initially requested to begin work on Railroad right-of-way, Contractor shall furnish to the Railroad and the Sponsor a schedule for all work required to complete the portion of the project within Railroad right-of-way and arrange for a job site meeting between the Contractor, the Sponsor, and the Railroad's authorized representative. Flagman or Flagmen may not be provided until the job site meeting has been conducted and the Contractor's work scheduled.

3. The Contractor will be required to give the Railroad representative at least 10 working days of advance written notice of intent to begin work within Railroad right-of-way in accordance with this special provision. Once begun, when such work is then suspended at any time, or for any reason, the Contractor will be required to give the Railroad representative at least 3 working days of advance notice before resuming work on Railroad right-of-way. Such notices shall include sufficient details of the proposed work to enable the Railroad representative to determine if flagging will be required. If such notice is in writing, the Contractor shall furnish the Engineer a copy; if notice is given verbally, it shall be confirmed in writing with copy to the Engineer. If flagging is required, no work shall be undertaken until the flagman, or flagmen are present at the job site. It may take up to 30 days to obtain flagging initially from the Railroad. When flagging begins, the flagman is usually assigned by the Railroad to work at the project site on a continual basis until no longer

needed and cannot be called for on a spot basis. If flagging becomes unnecessary and is suspended, it may take up to 30 days to again obtain from the Railroad. Due to Railroad labor agreements, it is necessary to give 5 working days notice before flagging service may be discontinued and responsibility for payment stopped.

4. If, after the flagman is assigned to the project site, an emergency arises that requires the flagman's presence elsewhere, then the Contractor shall delay work on Railroad right-of-way until such time as the flagman is again available. Any additional costs resulting from such delay shall be borne by the Contractor and not the Sponsor or Railroad.

C. Payment:

1. The Sponsor will be responsible for paying the Railroad directly for any and all costs of flagging which may be required to accomplish the construction.

2. The estimated cost of flagging is the current rate per day based on a 10-hour work day. This cost includes the base pay for the flagman, overhead, and includes a per diem charge for travel expenses, meals and lodging. The charge to the Sponsor by the Railroad will be the actual cost based on the rate of pay for the Railroad's employees who are available for flagging service at the time the service is required.

3. Work by a flagman in excess of 8 hours per day or 40 hours per week, but not more than 12 hours a day will result in overtime pay at 1 and 1/2 times the appropriate rate. Work by a flagman in excess of 12 hours per day will result in overtime at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2 and 1/2 times the normal rate.

4. Railroad work involved in preparing and handling bills will also be charged to the Sponsor. Charges to the Sponsor by the Railroad shall be in accordance with applicable provisions of Subchapter B, Part 140, Subpart I and Subchapter G, Part 646, Subpart B of the Federal-Aid Policy Guide issued by the Federal Highway Administration on December 9, 1991, including all current amendments. Flagging costs are subject to change. The above estimates of flagging costs are provided for information only and are not binding in any way.

D. Verification:

1. Railroad's flagman will electronically enter flagging time via Railroad's electronic billing system. Any complaints concerning flagging must be resolved in a timely manner. If the need for flagging is questioned, please contact the Railroad Engineer. All verbal complaints will be confirmed in writing by the Contractor within 5 working days with a copy to the Sponsor's Engineer. Address all written correspondence electronically to Railroad Engineer.

2. The Railroad flagman assigned to the project will be responsible for notifying the Sponsor Engineer upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services begin and on the last day that he performs such services for each separate period that services are provided. The Sponsor's Engineer will document such notification in the project records. When requested, the Sponsor's Engineer will also sign the flagman's diary showing daily time spent and activity at the project site.

8. HAUL ACROSS RAILROAD TRACK:

   A. Where the plans show or imply that materials of any nature must be hauled across Railroad's track, unless the plans clearly show that the Sponsor has included arrangements for such haul in its agreement with the Railroad, the Contractor will be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad's track. The Contractor or Sponsor will be required to bear all costs incidental to such crossings whether services are performed by his own forces or by Railroad personnel.

   B. No crossing may be established for use of the Contractor for transporting materials or equipment across the tracks of the Railroad unless specific authority for its installation, maintenance, necessary watching and flagging thereof and removal, until a temporary private crossing agreement has been executed between the Contractor and Railroad. The approval process for an agreement normally takes 90 days.

9. WORK FOR THE BENEFIT OF THE CONTRACTOR:

   A. All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans; included in the force account agreement between the Sponsor and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the Sponsor and/or the Railroad.

   B. Should the Contractor desire any changes in addition to the above, then he shall make separate arrangements with the Railroad for same to be accomplished at the Contractor's expense.

10. COOPERATION AND DELAYS:

   A. It shall be the Contractor's responsibility to arrange a schedule with the Railroad for accomplishing stage construction involving work by the Railroad or tenants of the Railroad. In arranging his schedule he shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefore.

   B. No charge or claim of the Contractor against either the Sponsor or the Railroad will be allowed for hindrance or delay on account of railroad traffic; any work done by the Railroad or other delay incident to or necessary for safe maintenance of railroad traffic or for any delays due to compliance with these special provisions.

11. TRAINMAN'S WALKWAYS:

   A. Along the outer side of each exterior track of multiple operated track, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than 10 feet from centerline of track, shall be maintained. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while Railroad's protective service is provided shall be removed before the close of each work day. If there is any excavation near the walkway, a handrail, with 10'-0" minimum clearance from centerline of track, shall be placed and must conform to AREMA and/or FRA standards.

12. GUIDELINES FOR PERSONNEL ON RAILROAD RIGHT-OF-WAY:

   A. The Contractor and/or the Sponsor's personnel authorized to perform work on Railroad's property as specified in Section 2 above are not required to complete Norfolk Southern Roadway

Worker Protection Training; However the Contractor and the Sponsor's personnel must be familiar with Norfolk Southern's standard operating rules and guidelines, should conduct themselves accordingly, and may be removed from the property for failure to follow these guidelines.

B. All persons shall wear hard hats. Appropriate eye and hearing protection must be used. Working in shorts is prohibited. Shirts must cover shoulders, back and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip-on type boots is prohibited. Hard-sole, lace-up footwear, zippered boots or boots cinched up with straps which fit snugly about the ankle are adequate. Wearing of safety boots is strongly recommended. In the vicinity of at-grade crossings, it is strongly recommended that reflective vests be worn.

C. No one is allowed within 25' of the centerline of track without specific authorization from the flagman.

D. All persons working near track while train is passing are to lookout for dragging bands, chains and protruding or shifted cargo.

E. No one is allowed to cross tracks without specific authorization from the flagman.

F. All welders and cutting torches working within 25' of track must stop when train is passing.

G. No steel tape or chain will be allowed to cross or touch rails without permission from the Railroad.

13. GUIDELINES FOR EQUIPMENT ON RAILROAD RIGHT-OF-WAY:

A. No crane or boom equipment will be allowed to set up to work or park within boom distance plus 15' of centerline of track without specific permission from Railroad official and flagman.

B. No crane or boom equipment will be allowed to foul track or lift a load over the track without flag protection and track time.

C. All employees will stay with their machines when crane or boom equipment is pointed toward track.

D. All cranes and boom equipment under load will stop work while train is passing (including pile driving).

E. Swinging loads must be secured to prevent movement while train is passing.

F. No loads will be suspended above a moving train.

G. No equipment will be allowed within 25' of centerline of track without specific authorization of the flagman.

H. Trucks, tractors or any equipment will not touch ballast line without specific permission from Railroad official and flagman. Orange construction fencing may be required as directed.

I. No equipment or load movement within 25' or above a standing train or Railroad equipment without specific authorization of the flagman.

J. All operating equipment within 25' of track must halt operations when a train is passing. All other operating equipment may be halted by the flagman if the flagman views the operation to be dangerous to the passing train.

K. All equipment, loads and cables are prohibited from touching rails.

L. While clearing and grubbing, no vegetation will be removed from Railroad embankment with heavy equipment without specific permission from the Railroad Engineer and flagman.

M. No equipment or materials will be parked or stored on Railroad's property unless specific authorization is granted from the Railroad Engineer.

N. All unattended equipment that is left parked on Railroad property shall be effectively immobilized so that it cannot be moved by unauthorized persons.

O. All cranes and boom equipment will be turned away from track after each work day or whenever unattended by an operator.

P. Prior to performing any crane operations, the Contractor shall establish a single point of contact for the Railroad flagman to remain in communication with at all times. Person must also be in direct contact with the individual(s) directing the crane operation(s).

14. INSURANCE:

A. In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, the Prime Contractor will be required to carry insurance of the following kinds and amounts:

1. a. Commercial General Liability Insurance having a combined single limit of not less than $2,000,000 per occurrence for all loss, damage, cost and expense, including attorneys' fees, arising out of bodily injury liability and property damage liability during the policy period. Said policy shall include explosion, collapse, and underground hazard (XCU) coverage, shall be endorsed to name Railroad specified in item A.2.c. below both as the certificate holder and as an additional insured, and shall include a severability of interests provision.

b. Automobile Liability Insurance with a combined single limit of not less than $1,000,000 each occurrence for injury to or death of persons and damage to or loss or destruction of property. Said policy or policies shall be endorsed to name Railroad specified in item A.2.c. below both as the certificate holder and as an additional insured and shall include a severability of interests provision.

2. Railroad Protective Liability Insurance having a combined single limit of not less than $2,000,000 each occurrence and $6,000,000 in the aggregate applying separately to each annual period. If the project involves track over which passenger trains operate, the insurance limits required are not less than a combined single limit of $5,000,000 each occurrence and $10,000,000 in the aggregate applying separately to each annual period. Said policy shall provide coverage for all loss, damage or expense arising from

bodily injury and property damage liability, and physical damage to property attributed to acts or omissions at the job site.

The standards for the Railroad Protective Liability Insurance are as follows:

a. The insurer must be rated A- or better by A.M. Best Company, Inc. **NOTE: NS does not accept from insurers Chartis (AIG or Affiliated Company including Lexington Insurance Company), Hudson Group or Liberty or Affiliated Company, American Contractors Insurance Company and Erie Insurance Company including Erie Insurance Exchange and Erie Indemnity Company.**

b. The policy must be written using one of the following combinations of Insurance Services Office ("ISO") Railroad Protective Liability Insurance Form Numbers:
   (1) CG 00 35 01 96 and CG 28 31 10 93; or
   (2) CG 00 35 07 98 and CG 28 31 07 98; or
   (3) CG 00 35 10 01; or
   (4) CG 00 35 12 04; or
   (5) CG 00 35 12 07; or
   (6) CG 00 35 04 13.

c. The named insured shall read:

   Norfolk Southern Corporation and its subsidiaries
   Three Commercial Place
   Norfolk, Virginia 23510-2191
   Attn: Risk Manager

   (NOTE: Railroad does not share coverage on RRPL with any other entity on this policy)

d. The description of operations must appear on the Declarations, must match the project description in this agreement, and must include the appropriate Sponsor project and contract identification numbers.

e. The job location must appear on the Declarations and must include the city, state, and appropriate highway name/number. **NOTE: Do not include any references to milepost, valuation station, or mile marker on the insurance policy.**

f. The name and address of the prime Contractor must appear on the Declarations.

g. The name and address of the Sponsor must be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party."

h. Endorsements/forms that rea **required** are:

(1) Physical Damage to Property Amendment
(2) Terrorism Risk Insurance Act (TRIA) coverage must be included

i. Other endorsements/forms that will be accepted are:
(1) Broad Form Nuclear Exclusion – Form IL 00 21
(2) 30-day Advance Notice of Non-renewal or cancellation
(3) Required State Cancellation Endorsement
(4) Quick Reference or Index Form CL/IL 240

j. Endorsements/forms that are NOT acceptable are:
(1) Any Pollution Exclusion Endorsement except CG 28 31
(2) Any Punitive or Exemplary Damages Exclusion
(3) Known injury or Damage Exclusion form CG 00 59
(4) Any Common Policy Conditions form
(5) An Endorsement that limits or excludes Professional Liability coverage
(6) A Non-Cumulation of Liability or Pyramiding of Limits Endorsement
(7) An Endorsement that excludes TRIA coverage
(8) A Sole Agent Endorsement
(9) Any type of deductible endorsement or amendment
(10) Any other endorsement/form not specifically authorized in item no. 2.h above.

B. If any part of the work is sublet, similar insurance, and evidence thereof as specified in A.1 above, shall be provided by or on behalf of the subcontractor to cover its operations on Railroad's right of way.

C. All insurance required under the preceding subsection A shall be underwritten by insurers and be of such form and content, as may be acceptable to the Company. Prior to entry on Railroad right-of-way, the original electronic Railroad Protective Liability Insurance Policy shall be submitted by the Prime Contractor to the Department at the address below for its review and transmittal to the Railroad. In addition, certificates of insurance evidencing the Prime Contractor's and any subcontractors' Commercial General Liability Insurance shall be issued to the Railroad and the Department at the addresses below, and forwarded to the Department for its review and transmittal to the Railroad. The certificates of insurance shall state that the insurance coverage will not be suspended, voided, canceled, or reduced in coverage or limits without (30) days advance written notice to Railroad and the Department. No work will be permitted by Railroad on its right-of-way until it has reviewed and approved the evidence of insurance required herein.

SPONSOR:

RAILROAD:
Risk Management
Norfolk Southern Corporation and its subsidiaries
Three Commercial Place
Norfolk, Virginia 23510-2191
NSRISK3@NSCORP.COM

D. The insurance required herein shall in no way serve to limit the liability of Sponsor or its Contractors under the terms of this agreement.

E. Insurance Submission Procedures

1. Railroad will only accept initial insurance submissions via email to NSRISK3@NSCORP.COM. Railroad will NOT accept initial insurance submissions via hard copies that would be sent either US Mail or Overnight carrier or faxes as only electronic versions only are to be submitted to Railroad. **Please provide point of contact information with the submission including a phone number and email address.**

2. Railroad requires the following two (2) forms of insurance in the initial electronic insurance submission to NSRISK3@NSCORP.COM to be submitted under a cover letter providing details of the project and containing the contact information:

   a. The full original or certified true electronic countersigned copy of the railroad protective liability insurance policy in its entirely inclusive of all declarations, schedule of forms and endorsements along with the policy forms and endorsements.

   b. The Contractor's commercial general, automobile, and workers' compensation liability insurance certificate of liability insurance evidencing a combined single limit of a minimum of $2M per occurrence of general and $1M per occurrence of automobile liability insurance naming Norfolk Southern Corporation and its subsidiaries, Three Commercial Place, Norfolk, VA 23510 as the certificate holder and as an additional insured on both the general and automobile liability insurance policy.

3. It should be noted that the Railroad does not accept notation of Railroad Protective insurance on a certificate of liability insurance form or Binders as Railroad must have the full original or certified true electronic countersigned policy. Further, please note that mere receipt of the policy is not the only issue but review for compliance. Due to the number of projects system-wide, it typically takes a minimum of 30-45 days for the Railroad to review.

15. FAILURE TO COMPLY:

A. In the event the Contractor violates or fails to comply with any of the requirements of these Special Provisions:

1. The Railroad Engineer may require that the Contractor vacate Railroad property.

2. The Sponsor's Engineer may withhold all monies due the Contractor on monthly statements.

B. Any such orders shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Sponsor's Engineer.

16. PAYMENT FOR COST OF COMPLIANCE:

A. No separate payment will be made for any extra cost incurred on account of compliance with these special provisions. All such costs shall be included in prices bid for other items of the work as specified in the payment items.

17. PROJECT INFORMATION
    A. Date: _____
    B. NS File No.: _____
    C. NS Milepost: _____
    D. Sponsor's Project No.: _____