RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

RICHMOND EXPRESSWAY SYSTEM

CONTRACT NO. MR-2017

MISCELLANEOUS REPAIRS

****

PROPOSAL DOCUMENTS
CONTRACT AND CONTRACT BOND
SUPPLEMENTAL SPECIFICATIONS
SPECIAL PROVISIONS
REPAIR PLANS
RECORD PLANS

HNTB Corporation

March, 2017

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

RICHMOND EXPRESSWAY SYSTEM

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INSTRUCTIONS TO BIDDERS

1. FORM OF BID: Submit bid, on forms furnished by the Authority, without alterations in the form. When completing bid, please notice the unit (Lump Sum, Each, Square Foot, etc…) of the individual line item and enter unit and total bid item prices accordingly.

   If applicable, Contractor shall replace any original bid tab sheets with replacement bid tab sheets issued through an Addendum.

   a. Required Forms: The following list of required forms to be included in bid is provided for Contractors reference only:
      i. Bid (see below)
      ii. Non-Collusion Affidavit
      iii. Statement of Contracts Underway
      iv. Joint Venture Statement (if applicable)
      v. Bidder or Subcontractor Shotcrete Experience
      vi. Bidder or Subcontractor Steel Repairs Experience
      vii. Bid Bond
      viii. Receipt of Addenda (if applicable)
      ix. Railroad Agreement (Schedule I)

2. SUBMISSION OF BID: Make sure the Authority receives bid prior to time and date listed on the Invitation to Bid. Bidder is responsible for delivery of the bid at or before the time set for opening. Bids received after the time set will be rejected.

If mailing, please write "Attention: RMTA MR – 2017 Contract Bid Opening" on outside of envelope or on mailing label.

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INVITATION TO BID

The Richmond Metropolitan Transportation Authority (RMTA), 919 East Main Street, Suite 600, Richmond, Virginia 23219 until 10:00 a.m. local time, will receive sealed Proposals for the above project **Thursday, April 20, 2017** at which time and place the bids will be publicly opened and read.

The work under this contract shall be completed no later than December 22, 2017, with the exception of:

- Shotcrete repairs shall be completed no later than November 22, 2017
- Concrete Bridge Deck Sealant shall be completed no later than September 25, 2017.

The principal items of work and approximate quantities are as follows:

Item:	Quantity:	Unit:
Steel Repairs: Boulevard Bridge Lacing Bar Fabrication and Bolts	1	L.S
Steel Repairs: Boulevard Bridge Lacing Bar and Bolt Replacement	45	E.A.
Steel Repairs: Boulevard Bridge Rivet Replacement	50	E.A
Steel Repairs: Bridge 67 Pier 12W, Floorbeam 16	1	L.S
Steel Repairs: Bridge 67 Pier 10W Lateral Gusset Plates	2	L.S
Steel Repairs: Bridge 67 Pier 94 Lower Lateral Gusset Plate	1	L.S
Steel Repairs: Bridge 10S South Girder	1	L.S
Parapet Wall Coating	6,513	S.Y
Shotcrete (Class A), Standard	445	S.F.
Shotcrete (Class A), Elevated	156	S.F.
Shotcrete (Class A), Over Water	767	S.F.
Concrete Bridge Deck Sealant	24,060	S.Y.
Repair Asphalt Concrete Pavement Cracks	20,000	L.F.
Hydraulic Cement Concrete Sidewalk (4")	108	S.Y.
Debris Removal – Powhite Bridge	1	L.S.

A **mandatory** pre-bid meeting will be held at 919 East Main Street, Suite 600, Richmond, Virginia 23219 at 10:00 a.m. local time, on **Thursday March 30, 2017**. A mandatory site visit shall immediately follow the office portion of the pre-bid meeting. Only contractors and qualified subcontractors, who meet the requirements to propose, as stated below, should attend the pre-bid meeting.

Bids for this Contract must be submitted on complete bidding forms bound in the Contract Documents. The successful bidder will be notified in writing.

To submit Proposals for this Contract, contractors or qualified subcontractors shall, on Thursday March 30, 2017 at 10:00 a.m. local time, meet the following requirements:

- Have prior experience in the jacking and blocking of beams and structural steel repairs. Contractor shall be able to provide written documentation demonstrating the successful completion of at least three bridge superstructure repair projects where one or more steel beams were jacked off the bearing and a portion of the steel beam was replaced with new steel by welding.
- Have prior experience in the repair of bridge substructures using Shotcrete and be able to provide written documentation demonstrating the successful placement of at least three bridge substructure repair projects where the cumulative shotcrete square footage applied was a minimum of 10,000 s.f.
- Be prequalified by the Virginia Department of Transportation for bidding on State projects. The Authority reserves the right to request additional experience information for any bidder that has not been assigned the "**Major Structures**" and/or "**Bridge Repair**" work classes by VDOT or for contractors that have a prequalification level of Conditional, Currently Inactive or Probationary.

Note that a bidder must have prior experience and be able to provide written documentation in a minimum of one of the three work experience categories as noted above. A bidder cannot have subcontractors be the documented experience in all categories.

Complete Contract documents will be available on Tuesday, March 21, 2017 after 1:00 p.m. (local time) from www.rmtaonline.org or may be purchased for $60.00 per set from the Richmond Metropolitan Transportation Authority at 919 East Main Street, Suite 600, Richmond, Virginia 23219. The documents may also be examined by any party, without purchase, at the Authority's office during normal business hours after such date. Specifications (Virginia Department of Transportation 2016 Road and Bridge Specifications) and (2011 Virginia Work Area Protection Manual, 2015 latest revision) which form an integral part of this Contract, are available from the Virginia Department of Transportation website free of charge.

Unsubmitted Contract documents need not be returned and no refunds will be made for any documents.

Each Bidder submitting a Proposal must also complete a statement bound with the Proposal forms, in which each Bidder shall give full information relating to the status of their contracts presently underway.

Each Proposal must be accompanied by a Proposal Guarantee consisting of either a certified check in the amount of at least five (5) percent of the Total Bid Price, made payable to the Richmond Metropolitan Transportation Authority, or a Proposal Bond (on the form provided) in the amount of five (5) percent of the same Total Bid Price.

The Authority strongly encourages the submission of bids by contractors whose principal businesses are located in the Richmond Metropolitan Area and further strongly encourage such contractors to utilize the services of local subcontractors and vendors.

The Authority strongly encourages minority owned and women owned businesses to submit proposals for this contract.

The Authority reserves the right to reject any and all Proposals submitted, and to waive informalities in bidding, as it may deem in its best interests.

Project related inquiries must be submitted in writing to Mr. Matt Foster, P.E. at HNTB Corporation at mfoster@hntb.com or Ms. Theresa Simmons, P.E., RMTA Director of Operations at Theresa.Simmons@rmtaonline.org. The deadline to submit inquiries and questions is Thursday, April 13, 2017 at 1 P.M. local time.

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY
Angela L. Gray, CEO
Richmond, Virginia

(Note: Bidders shall not remove this Bidding form from attached documents.)

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

_____

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BID FOR GENERAL CONSTRUCTION CONTRACT

To the Richmond Metropolitan Transportation Authority
919 East Main Street, Suite 600
Richmond, Virginia 23219

Gentlemen:

I/we, the undersigned, declare: that no other person, firm or corporation is interested in this Bid; that I/we have carefully examined the Plans, Standard Specifications, Supplemental Specifications, and all other documents pertaining to this Contract which form a part of this Bid as if set forth at length herein; that I/we understand that the quantities of items shown herein below are approximate only; that I/we have examined the location of the proposed work; that I/we agree to bind myself/ourselves, upon award to me/us by the Richmond Metropolitan Transportation Authority under this Bid, to enter into and execute a Contract, with necessary surety bond, for the project named above; that I/we agree to start work not later than the date stated in the written Notice to Proceed (Sec. 105.01 of the Specifications), to furnish all necessary materials, provide all necessary labor, equipment, tools and plant, pay for all required insurance, bonds, permits, fees and service, and do all required work in strict compliance with the terms of all documents comprising said Contract, and to fully complete the entire project by December 31, 2017 and that I/we agree to accept as full compensation for the satisfactory prosecution of this project the following named unit and lump sum prices for the various scheduled items of work.

RMTA
MR-2017 Bid Tab

(_____) (INSERT BIDDER FIRM NAME HERE)

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT	2016 SPECIFICATION
1	MOBILIZATION	LS	1			513
2	TRUCK MOUNTED ATTENUATOR	HR	840			512
3	PORTABLE CHANGEABLE MESSAGE SIGN	HR	100			512
4	ELECTRONIC ARROW	HR	990			512
5	FLAGGER SERVICE	HR	160			512
6	GROUP 2 CHANNELIZING DEVICE	DAY	4,270			512
7	FENCE (FE-CL)	LF	700			ATTD/507
8	FENCE (FE-CL FABRIC ONLY)	LF	300			ATTD/507
9	ASPHALT CONCRETE PATCH	IN * SY	100			ATTD/211/315
10	REPAIR ASPHALT CONCRETE PAVEMENT CRACKS	LF	20,000			ATTD/210
11	STANDARD 6" CURB CG-2	LF	100			ATTD/502
12	STANDARD 4" CURB CG-3	LF	10			ATTD/502
13	PATCHING TYPE A	SY	20			412
14	PATCHING TYPE B	SY	50			412
15	HYDRAULIC CEMENT CONCRETE SIDEWALK (4 inch)	SY	108			ATTD/404/504
16	CLEARING AND GRUBBING	ACRE	0.30			ATTD/301
17	TREE REMOVAL	EA	2.00			ATTD/301
18	TRIM EXISTING VEGETATION	SF	2,500			ATTD/601
19	SHOTCRETE, TYPE A (STANDARD)	SF	445			ATTD/412
20	SHOTCRETE, TYPE A (ELEVATED)	SF	156			ATTD/412

(_____) (INSERT BIDDER FIRM NAME HERE)

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT	2016 SPECIFICATION
21	SHOTCRETE, TYPE A (OVER WATER)	SF	767			ATTD/412
22	JOINT SEALANT REPAIR	IN*LF	30			427
22	BOULEVARD BRIDGE FABRICATE LACING BARS AND BOLTS	LS	1			PLAN SP-I-1/ATTD
23	BOULEVARD BRIDGE LACING BAR AND BOLT REPLACEMENT (MULTIPLE UNDEFINED LOCATIONS)	EA	45			PLAN SP-I-1/ATTD
24	BOULEVARD BRIDGE RIVET REPLACEMENT (MULTIPLE UNDEFINED LOCATIONS)	EA	50			PLAN SP-I-1/ATTD
25	BRIDGE 10S SOUTH GIRDER HIGH LOAD IMPACT REPAIR	LS	1			PLAN SP-I-1/ATTD
26	BRDIGE 67 PIER 12W FLOORBEAM 16	LS	1			PLAN SP-I-1/ATTD
27	BRIDGE 67 LOWER LATERAL GUSSET PLATES (TOP & BOTTOM) NEAR PIER 10W	LS	1			PLAN SP-I-1/ATTD
28	BRIDGE 67 LOWER LATERAL GUSSET PLATE (TOP ONLY) OPPOSITE END OF LATERAL BRACE THAT CONNECTS TO	LS	1			PLAN SP-I-1/ATTD
29	BRIDGE 67 FLOORBEAM 16 REPAIR IN UNIT 13 BETWEEN PIER 96 AND PIER 12W	LS	1			PLAN SP-I-1/ATTD
30	CONCRETE BRIDGE DECK SEALANT	SY	24,060			PLAN SP-O-1/ATTD
31	MISCELLANEOUS COATINGS	SF	100			ATTD/411
32	PAVEMENT MESSAGE MARK. "E-ZPass"	EA	6			ATTD/704
33	CRUSHER RUN AGGREGATE NO. 25 OR 26	TON	10			ATTD/205
34	COARSE AGGREGATE NO.57	TON	10			ATTD/203
35	AGGREGATE MATERIAL NO.1	TON	10			ATTD/203
36	CLEAN MANHOLE	EA	1			ATTD
37	REPAIR EXISTING DROP INLET OR MANHOLE TOP	EA	2			302/510/ATTD
38	PARAPET WALL COATING	SY	6,513			ATTD/SP-S
39	CONCRETE BARRIER DELINEATORS	EA	232			ATTD/702
40	ACQUISITION AND DELIVERY OF TRACTOR CAB	LS	1			ATTD/SP-V

RMTA
MR-2017 Bid Tab

(_____) (INSERT BIDDER FIRM NAME HERE)

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT	2016 SPECIFICATION
41	ACQUISITION AND DELIVERY OF LAWN MOWER	LS	1			ATTD/SP-V
42	DEBRIS REMOVAL - POWHITE BRIDGE B8	LS	1			ATTD/SP-U
43	DEBRIS REMOVAL - BOULEVARD BRIDGE	LS	1			ATTD/SP-U
44	FINE AGGREGATE A - SAND	TON	10			202
				Total		

(SIGN HERE) (INSERT HERE)

Signature of Owner, Partner, or Corporate Officer: **Title:**

The quantities shown in the above schedule of items are considered to be approximate only and are given as the basis for comparison of bids. The Authority may increase or decrease the amount of any item or portion of the work as may be deemed necessary or expedient. The Authority reserves the right to delete, in whole or in part, without prejudice prior to the award of the Contract, any items listed in the Bid. It is understood that payment for unit price items will be made for the actual quantities of such work satisfactorily completed, rather than the estimated quantities given hereinabove, An increase or decrease in the quantity for any unit price item will not be regarded as sufficient ground for an increase or decrease in the unit price, nor in the time allowed for the completion of the work, except as provided for in the Specifications.

The cost of any work performed, materials furnished, services provided or expenses incurred, whether or not specifically delineated in the Contract document but which are incidental to the scope, intent and completion of this Contract, have been included in the price bid for the various items scheduled hereinabove.

Accompanying this Bid is a Bid Guarantee (Sec. 102.07 of the Specifications) consisting of either a certified check in the amount of at least (5) percent of the Total Bid Price for this Contract or a Bid Bond (Elsewhere herein) in the amount of (5) percent of the same Total Bid Price. It is hereby understood and agreed that said check or bond is to be forfeited as liquidated damages in the event that, on the basis of this Bid, the Authority should award this Contract to me/us and that I/we should fail to execute and deliver said Contract and the prescribed Contract Bond, together with the required progress schedule, proof of proper insurance coverage and other necessary documents, all within the prescribed time (Sec. 103.07 of the Specifications); otherwise, said check or bond is to be returned to the undersigned.

Business Name of Bidder _____

Type of Organization Individual ☐
Partnership ☐
Corporation ☐

Virginia Contractor Registration No. _____

Address of Bidder: _____

_____

Signature of Owner, Partner or Corp. Officer: _____

Title: _____

Date: _____

Witness or Attest _____ (Affix Corporate Seal Here)

NOTE: ONLY A PREQUALIFIED BIDDER MAY USE THIS BIDDING FORM. BIDDING FORMS ARE NOT TRANSFERABLE.

RICHMOND EXPRESSWAY SYSTEM
Scale:
0 1000 2000 3000ft.
48 - Bridge Number
RMTA Facilities Shown in Red
RMTA
RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY
RICHMOND
CITY OWNED GRAVEL LOT
APPROXIMATELY 10,500 S.F. RMTA OWNED STAGING AREA
RMTA OWNED ABANDONED RAMP
RMTA OWNED STAGING AREA
Section One
Section Two Connection To I-195
Section Three
Section Four Downtown Expressway
Connection to Downtown Expressway
Downtown Expressway State Rte. 195
Powhite Parkway State Rte 76
Powhite Parkway Extension (VDOT Toll Road)
CHIPPENHAM PARKWAY INTERCHANGE
FOREST HILL AVE. INTERCHANGE
STADIUM INTERCHANGE
BOULEVARD INTERCHANGE
DOWNTOWN I-95 INTERCHANGE
BRYAN PARK INTERCHANGE
POWHITE BRIDGE OVER THE JAMES RIVER
BOULEVARD BRIDGE 7500# Limit
JAMES RIVER BRIDGE
MAYOS BRIDGE
MANCHESTER BRIDGE
ROBERT E. LEE BRIDGE
HUGUENOT BRIDGE
Toll Plaza (SB)
Toll Plaza (NB)
Toll Plaza
Toll Booths
MAIN ST. STATION
JAMES
Williams Island
UNIVERSITY OF RICHMOND
JOSEPH BRYAN PARK
WILLIAM BYRD PARK
MAYMONT PARK
CITY STADIUM
Water Works
Virginia Museum Of Fine Arts
Science Museum Of Virginia
Virginia Commonwealth University
VIRGINIA UNION UNIVERSITY
Visitor Information Center
The Diamond
Public Library
COLISEUM
City Hall
STATE CAPITOL
Med. Col. Of Va. (VCU)
Chamber of Commerce
Shockoe Slip Historic District
State Penetentiary
HOLLYWOOD CEMETERY
MT. CALVARY CEMETERY
RIVERVIEW CEMETERY
FOREST HILL PARK
Chimborazo Park
Monroe Park
The Mosque
WILLOW OAKS COUNTRY CLUB
LABURNUM AVE.
WESTWOOD AVE.
BROOKLAND PARK BLVD.
OVERBROOK RD.
BROAD ST.
MONUMENT AVE.
PATTERSON AVE.
GROVE AVE.
CARY STREET ROAD
RIVERSIDE DR.
HUGUENOT ROAD
FOREST HILL AVE.
DOVER RD.
LIBBIE AVE.
THREE CHOPT RD.
COMMONWEALTH AVE.
MALVERN AVE.
HAMILTON ST.
KENT RD.
THOMPSON ST.
NANSEMOND ST.
SHEPPARD ST.
THE BOULEVARD
ROBINSON ST.
MEADOW ST.
ALLEN AVE.
IDLEWOOD AVE.
MAPLEWOOD AVE.
GRANT RD.
DOUGLASDALE RD.
PARKWOOD AVE.
FLOYD AVE.
MAIN ST.
CARY ST.
ELWOOD AVE.
GRAYLAND AVE.
LAKEVIEW AVE.
RANDOLPH ST.
HARRISON ST.
CHERRY ST.
LAUREL ST.
BELVIDERE
FRANKLIN ST.
ADAMS ST.
CANAL ST.
BYRD ST.
COLORADO AVE.
HERMITAGE RD.
PETERSBURG ST.
TURNPIKE
BROOK RD.
CHAMBERLAYNE AVE.
NORTH AVE.
MECHANICSVILLE
FAIRFIELD AVE.
MOSBY ST.
NINE MILE RD.
CARRINGTON ST.
MARSHALL ST.
BROAD ST.
CLAY ST.
25TH ST.
17th ST.
18th ST.
SEABOARD COAST LINE
CSX RAILWAY
NORFOLK SOUTHERN (SOUTHERN RAILWAY)
SOUTHERN RAILWAY
(C. & O. RY.)
R. F. & P. R.R.
SEABOARD COAST LINE CSX RAILWAY
BLILELY RD.
JAHNKE RD.
WESTOVER
BLVD.
SEMMES AVE.
HULL ST.
COMMERCE RD.
MAURY ST.
CHIPPENHAM
PARKWAY
I-195

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

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NON-COLLUSION AFFIDAVIT

STATE OF _____)
_____) ss.
COUNTY OF _____)

I, _____, of the City of _____, County of _____ and State of _____, being of full age and duly sworn according to law on my oath depose and say:

That I am _____(Title) of _____, the Bidder making the Bid submitted to the Richmond Metropolitan Transportation Authority, on the _____ day of _____, 20___, for Contract No. MR -2017 in connection with the Richmond Expressway System; that I executed the said Bid with full authority to do so;

The said Bidder has not, directly or indirectly, entered into any combination or arrangement with any person, firm or corporation or entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding or which would increase the cost of construction or maintenance in connection with the said Contract; that no person or selling agency has been employed or retained to solicit or secure the said Contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide full-time employees;

And that said Bidder is or has been a member of the following highway contractors' association during the preceding twelve months:

Name of Association	Location of Principal Office
_____	_____
_____	_____
_____	_____

I further warrant that all statements contained in said Bid and in this Affidavit are true and correct and made with full knowledge that the said Authority relies upon the truth of the statements contained in said Bid and in this Affidavit in awarding the said Contract.

Sworn to and subscribed
before me this_____
day of _____,
20___.

By:_____(L.S.)
Person Signing Bid

Print Name:_____

_____
Notary Public

My commission expires:

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

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STATEMENT OF CONTRACTS UNDERWAY

The following is a tabulation of all contracts in which I/we am/are engaged as of the date given below, whether as a prime contractor or as a subcontractor. This tabulation includes not only contracts which are under construction, but also those awarded to me/us but not begun, and those on which I/we am/are the lowest bidder awaiting formal award.

Contract Designation	City and State	Owner	Estimated Value of Work Remaining to be Completed	Estimated Completion Date

Total: $_____

NOTE: Contracts in which the remaining work in each amounts to less than $25,000 may be combined into one entry under the fourth column and designated as "Miscellaneous" in the first column.

If more space is needed, attach additional sheet(s).

The undersigned guarantees the accuracy and completeness of all the information given above.

Business Name of Bidder: _____

Address of Bidder: _____

_____

Signature of Owner,
Partner or Corp. Officer: _____

Title: _____

Date: _____

Witness or Attest:

_____

(Affix Corporate Seal Here)

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

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RICHMOND EXPRESSWAY SYSTEM

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JOINT VENTURE STATEMENT

STATE OF _____)
_____) ss.
COUNTY OF _____)

We, the undersigned, being duly sworn according to law, upon our respective oaths depose and say that:

1. The following named contractors have entered into a Joint Venture for the purpose of carrying out all the provisions of Contract No. MR-2017 for the above project:

(a)_____ ☐ An Individual ☐ A Partnership ☐ A Corporation

(b)_____ ☐ An Individual ☐ A Partnership ☐ A Corporation

(c)_____ ☐ An Individual ☐ A Partnership ☐ A Corporation

2. The contractors, under whose names we have affixed our respective signatures, have duly authorized and empowered us to execute this Joint Venture Statement in the name of and on behalf of such contractors for the purpose herein above stated.

3. Under the provisions of such Joint Venture, the assets of each of the contractors named in Paragraph 1 hereof, and in case any contractor so named above is a partnership, the assets of the individual members of such partnership, will be available for the performance of such Joint Venture and liable therefore and for all obligations incurred in connection therewith.

4. The assets and liabilities of the named contractors for whom we respectively execute this Joint Venture Statement are set forth in the statements given to the Virginia Department of Transportation in our prequalification questionnaire(s).

5. This Joint Venture Statement is executed so that the named contractors, as one organization, may, under such Joint Venture, bid upon said Contract, and be awarded the Contract if they should become the successful bidder therefore. Any bid, bond and agreement relating to said Contract shall be executed by any of the undersigned, and when so executed shall bind this Joint Venture and each and every contractor named herein, severally and jointly. Simultaneously with the execution of the Contract, the contractors entering into this Joint Venture shall designate and appoint a Project Supervisor to act as their true and lawful agent with full power and authority to do and perform any and all acts or things necessary to carry out the work set forth in said Contract.

6. We bind the contractors for whom we respectively execute this Joint Venture Statement in firm agreement with the Richmond Metropolitan Transportation Authority that each of the representations herein set forth is true.

Subscribed and sworn to before me, (a)_____
this _____day of Name of Contractor

_____, 20___.

_____

By_____(L.S.)
Notary Public Print Name:

My commission expires_____ Title:
_____ Va. Contractor Reg. No. _____

****

****

Subscribed and sworn to before me,
this _____day of

_____, 20___.

_____
Notary Public

My commission expires_____

(b)_____
Name of Contractor

By_____(L.S.)
Print Name:

Title: _____

Va. Contractor Reg. No. _____

****

Subscribed and sworn to before me,
this _____day of

_____, 20___.

_____
Notary Public

My commission expires_____

(c)_____
Name of Contractor

By_____(L.S.)
Print Name:

Title: _____

Va. Contractor Reg. No. _____

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

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SHOTCRETE EXPERIENCE – BIDDER/SUBCONTRACTOR

In addition to the bidding requirements stated elsewhere in these documents, prospective bidders or their subcontractor must have successfully completed at least three bridge substructure repair projects where the cumulative shotcrete square footage applied is a minimum of 10,000 s.f. This form is provided to bidders for them to demonstrate that experience, and must be completed and submitted by all bidders, bound in this proposal. Note that a bidder must be experienced, and complete the experience forms, in either shotcrete repairs, steel repairs, or epoxy injection of cracks in submerged concrete piers, or all forms. A bidder cannot have a subcontractor be the documented experience in all categories.

If the bidder is not anticipating self-performing the scope of work associated with the experience type listed herein, please list the name of the qualified subcontractor below:

Subcontractor (If applicable) _____
Company Name

****

BRIDGE SUBSTRUCTURE SHOTCRETE REPAIR PROJECT NO. 1

Job Location(s)/Description(s): _____

Total Shotcrete Placement Square Footage: _____

Owner/Contact Information: _____

Owner/Contact Phone Number: _____

Approximate Date(s) of Project: _____

****

BRIDGE SUBSTRUCTURE SHOTCRETE REPAIR PROJECT NO. 2

Job Location(s)/Description(s): _____

Total Shotcrete Placement Square Footage: _____

Owner/Contact Information: _____

Owner/Contact Phone Number: _____

Approximate Date(s) of Project: _____

****

BRIDGE SUBSTRUCTURE SHOTCRETE REPAIR PROJECT NO. 3

Job Location(s)/Description(s): _____

Total Shotcrete Placement Square Footage: _____

Owner/Contact Information: _____

Owner/Contact Phone Number: _____

Approximate Date(s) of Project: _____

****

BRIDGE SUBSTRUCTURE SHOTCRETE REPAIR PROJECT NO. 4

Job Location(s)/Description(s): _____

Total Shotcrete Placement Square Footage: _____

Owner/Contact Information: _____

Owner/Contact Phone Number: _____

Approximate Date(s) of Project: _____

****

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

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STEEL SUPERSTRUCTURE REPAIR EXPERIENCE - BIDDER/SUBCONTRACTOR

In addition to the bidding requirements stated elsewhere in these documents, prospective bidders or their subcontractor must have successfully completed at least three bridge superstructure repair projects where one or more steel beams were jacked off the bearing and a portion of the steel beam was replaced with new steel by welding. This form is provided to bidders for them to demonstrate that experience, and must be completed and submitted by all bidders, bound in this proposal. Note that a bidder must be experienced, and complete the experience forms, in either shotcrete repairs, steel repairs, or epoxy injection of cracks in submerged concrete piers, or all forms. A bidder cannot have a subcontractor be the documented experience in all categories.

If the bidder is not anticipating self-performing the scope of work associated with the experience type listed herein, please list the name of the qualified subcontractor below:

Subcontractor (If applicable) _____
Company Name

****

STEEL SUPERSTRUCTURE REPAIR PROJECT NO. 1

Job Location(s)/Description(s): _____

No. of Steel Beams Jacked and Repaired: _____

Owner/Contact Information: _____

Owner/Contact Phone Number: _____

Approximate Date(s) of Project: _____

****

STEEL SUPERSTRUCTURE REPAIR PROJECT NO. 2

Job Location(s)/Description(s): _____

No. of Steel Beams Jacked and Repaired:_____

Owner/Contact Information: _____

Owner/Contact Phone Number: _____

Approximate Date(s) of Project: _____

****

STEEL SUPERSTRUCTURE REPAIR PROJECT NO. 3

Job Location(s)/Description(s): _____

No. of Steel Beams Jacked and Repaired:_____

Owner/Contact Information: _____

Owner/Contact Phone Number: _____

Approximate Date(s) of Project: _____

****

STEEL SUPERSTRUCTURE REPAIR PROJECT NO. 4

Job Location(s)/Description(s): _____

No. of Steel Beams Jacked and Repaired:_____

Owner/Contact Information: _____

Owner/Contact Phone Number: _____

Approximate Date(s) of Project: _____

****

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

_____

RICHMOND EXPRESSWAY SYSTEM

CONTRACT NO. MR-2017

MISCELLANEOUS REPAIRS

****

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that_____ _____, as Principal/Contractor, and _____, as Surety, legally authorized to do business in the Commonwealth of Virginia, are held and firmly bounded unto the Richmond Metropolitan Transportation Authority, as Authority, in the amount of FIVE (5) PERCENT OF THE DOLLAR VALUE OF THE TOTAL AMOUNT WRITTEN IN THE BID, on which the Contract is awarded lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally and firmly by these presents:

WHEREAS, the Contractor is herewith submitting its Bid for Contract No. MR-2017 entitled Miscellaneous Repairs, in connection with the Richmond Expressway System; and

NOW, THEREFORE, the condition of this obligation is such, that if the Contractor shall be awarded the Contract upon said Bid and shall, within fifteen (15) calendar days after the date of written notice of such award, enter into and deliver a Contract and the prescribed Contract Bond for the faithful performance of the Contract, together with the required proof of proper insurance coverage and other necessary documents, then this obligation shall be null and void; otherwise, to remain in full force and effect, and the Contractor and Surety will pay unto the Authority the difference in money between the amount of the Total Amount written in the Bid of said Contractor and the amount for which the Authority may legally contract with another party to perform the said work, if the latter amount be in excess of the former; but in no event shall the Surety's liability exceed the penal sum hereof.

SIGNED AND SEALED this _____day of _____. 20____.

PRINCIPAL/CONTRACTOR

_____

Business Name

_____

Address

Witness or Attest:

_____

_____ By:_____(L.S.)

Title:

(Affix Corporate Seal Here)

SURETY:

_____

Business Name

_____

Address

Witness or Attest:

_____

_____ By:_____(L.S.)

Title:

(Attach evidence of Power of Attorney)

(Affix Corporate Seal Here)

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

RICHMOND EXPRESSWAY SYSTEM

CONTRACT NO. MR-2017

MISCELLANEOUS REPAIRS

****

CONTRACT AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 20 ____, between the Richmond Metropolitan Transportation Authority, 919 East Main Street, Suite 600, Richmond, Virginia, 23219, hereinafter called the Authority and _____, or his, its or their successors, executors, administrators and assigns, hereinafter called the Contractor.

WITNESSETH, that the Contractor agrees with the Authority for the consideration herein mentioned, and at his, its or their own proper cost and expense, to do all the work and furnish all the materials, equipment, teams and labor necessary to prosecute and complete and to extinguish all liens therefore, Contract No. MR - 2017, entitled Miscellaneous Repairs, in the manner and to the full extent as set forth in the Special Provisions, Plans, Supplemental Specifications, 2016 Road and Bridge Specifications of the Virginia Department of Transportation, Bid (for the basis of award stated herein below) and other documents related to said Contract which are on file at the office of the Richmond Metropolitan Transportation Authority and which are hereby adopted and made part of this Agreement as completely as if incorporated herein, and to the satisfaction of the Richmond Metropolitan Transportation Authority or its duly authorized representative who shall have at all times full opportunity to inspect the materials to be furnished and the work to be done under this Agreement. In the event of a conflict among the Contract Documents, the Contract Documents shall control one over another in the following descending order of precedence: Special Provisions, Plans, Supplemental Specifications, 2016 Road and Bridge Specifications of the Virginia Department of Transportation, Bid and other documents related to said Contract.

This Contract is awarded on the basis of the Total Bid Price (based on Bid quantities)

of_____dollars

and _____Cents ($_____).

In consideration of the foregoing premise, the Authority agrees to pay the Contractor for all items of work performed and materials furnished at the unit and lump sum prices bid therefore in the Bid submitted for this Contract, subject to any percentage reductions in the total Contract amount that may be named in the Bid corresponding to the basis of award stated in the above paragraph, and subject to the conditions set forth in the Specifications.

The Contractor agrees as follows:

Indemnification: The Contractor shall indemnify and hold harmless Richmond Metropolitan Transportation Authority, and all officers, directors and employees of the named entity, (individually and collectively), from any and all liability, loss, damage, expense, cause of action, suits, claims or judgments arising from injury to person or property resulting from activity arising out of this contract; and shall, at its own cost and expense, defend any and all suits which may be brought against such parties, either alone or in conjunction with others upon any such liability or claim or claims and shall satisfy, pay and discharge any and all judgments and fines that may be recovered against such parties in any such action or actions, provided, such indemnity shall not extend to the negligence of such parties and, provided, further, that such parties shall give the Richmond Metropolitan Transportation Authority written notice of any such claim or demand.

Cancellation of Contract: The Authority reserves the right to cancel and terminate any resulting contract, in part or in whole, without penalty, upon 60 days written notice. Any contract cancellation notice shall not relieve the contractor of the obligation to deliver and/or complete all work tasks in progress prior to the effective date of cancellation.

Term of Contract: Sealed proposals for the above project are due Thursday April 20, 2017, at 10:00 a.m. at which time and place the bids will be publicly opened and read. The work under this contract shall be completed no later than December 22, 2017, with the exceptions of:

- All Shotcrete repairs that shall be completed no later than November 22, 2017
- Concrete Bridge Deck Sealant shall be completed no later than September 25, 2017.

Scope of Work: A complete list of all bid items and estimated quantities is included beginning on sheet P-2 in BID FOR GENERAL CONSTRUCTION CONTRACT.

Anti-Discrimination: By submitting their (bids/proposals), (bidders/offerors) certify to the Commonwealth 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 and §2.2-4311 of the *Virginia Public Procurement Act.* If the award is made to a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the contract on the basis of the recipient's religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. (*Code of Virginia, §* 2.2-4343.1 E).

During the performance of this Contract, the Contractor agrees as follows:

a. I/WE will not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin, except where religion, sex or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor.

b. I/WE agree to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

c. I/WE in any solicitations or advertising for employees placed by or on behalf of itself, will state that it is an equal opportunity employer.

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

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

To the extent that the Contractor enters into any subcontract or purchase order over Ten Thousand Dollars ($10,000.00), the provisions of (a), (b) (c) (d) and (e) above shall be binding on each subcontractor or vendor.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement the day and year written above.

RICHMOND METROPOLITAN
TRANSPORTATION AUTHORITY

By:_____
Angela L. Gray, CEO

Sworn to and Subscribed
before me this_____
day of _____, 20 _____.

(Authority's Seal)

_____
Notary Public
.My commission expires:
_____

CONTRACTOR:

_____
Business Name

_____
Address

_____

by:_____(L.S.)
Title

(Affix Corporate Seal Here)

Sworn to and subscribed
before me this _____

day of_____,20_____.

_____
Notary Public

My commission expires: _____

EVIDENCE OF CORPORATE AUTHORITY

I, _____, hereby certify that I am Secretary of _____, a Corporation existing under the laws of the State of _____, and that the following resolution was adopted at a meeting of the Board of Directors of the said Corporation duly called and held on the _____day of _____, 20____, and that the same remains in full force and effect:

(Here insert resolution)

IN WITNESS WHEREOF, I have hereto appended my signature and the seal of the said Corporation on this the _____day of _____, 20_____.

_____
Secretary

SEAL

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

RICHMOND EXPRESSWAY SYSTEM

CONTRACT NO. MR-2017

MISCELLANEOUS REPAIRS

****

CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS, that_____ _____, as Principal/Contractor, and _____, as Surety, legally authorized to do business in the Commonwealth of Virginia, are held and firmly bounded unto the Richmond Metropolitan Transportation Authority (Authority), in the amount of _____Dollars and _____Cents ($_____), lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally and firmly by these presents:

WHEREAS, the Contractor has entered into a Contract with the Authority for the faithful prosecution and completion of a project designated as Contract No. MR-2017, entitled Miscellaneous Repairs, in connection with the Richmond Expressway System; and

WHEREAS, it was one of the conditions of the Contract award by the Authority pursuant to which said Contract was entered into, that these presents shall be executed;

NOW, THEREFORE, the condition of this obligation is such, that if the Contractor shall faithfully prosecute and complete the entire work prescribed for this project in full compliance with the terms and conditions of said Contract, including the Plans, Standard Specifications, Supplemental Specifications, Bid and all other documents pertaining to this Contract, and such alterations as may be made in said Plans and Specifications as therein provided for, shall indemnify and save harmless the Authority against or from all costs, expenses; damages injury or loss to which the Authority may be subjected by reason of any wrongdoing, misconduct, want of care or skill, negligence or default, including patent infringement, on the part of the Contractor, his agents or employees, in the execution or performance of said Contract, including errors in drawings furnished by the Contractor, and shall promptly pay all just claims for damages, for injury to property, and for labor, materials, equipment rentals, services and other charges incurred by the

Contractor in or about the work contracted for, and extinguish all liens therefore, then this obligation shall be null and void; otherwise, to remain in full force and effect.

SIGNED AND SEALED THIS _____day of _____, 20____.

PRINCIPAL/CONTRACTOR:

_____

Business Name

_____

Address

Witness or Attest:

_____

By:_____(L.S.)

Title:

(Affix Corporate Seal Here)

SURETY:

_____

Business Name

_____

Address

_____

Witness or Attest:

_____

By:_____(L.S.)

Title:

(Attach evidence of Power of Attorney)

Countersigned by
Resident Virginia Agent:

_____

(Affix Corporate Seal Here)

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

_____

RICHMOND EXPRESSWAY SYSTEM

CONTRACT NO. MR-2017

MISCELLANEOUS REPAIRS

****

FINAL RELEASE OF LIABILITY

I/We, _____, hereby certify that all bills, charges and salaries for labor, services, materials and rental of equipment, arising out of the prosecution of the work under Contract/Project No. MR-2017 have been paid, or satisfactory arrangements for payment have been made. I/We further certify that all other just demands and liens relating to this project have been fully satisfied or provided for. I/We hereby release the Richmond Metropolitan Transportation Authority, its Engineers and representatives from all claims demands and liability of whatsoever nature arising from anything done or furnished under this contract except to the extent only as to the following matters for which unresolved claims have been submitted by the Contractor in accordance with Section 105.19 of the Supplemental Specifications of the Contract:

SIGNED AND SEALED THIS _____ day of _____, 20____.

_____
Business Name

_____
Address

_____

By: _____(L.S.)

Title: _____

(Affix Corporate Seal Here)

STATE OF VIRGINIA AT LARGE: }
}
CITY/COUNTY OF } to-wit:

The foregoing instrument was acknowledged before me this _____day of _____, 20 , by _____, _____of

_____[name] _____[title]

_____,

_____[business name]

a _____corporation/partnership, on behalf of said corporation/partnership,

_____[state]

_____
Notary Public

My Commission expires:_____.

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

RICHMOND EXPRESSWAY SYSTEM

CONTRACT NO. MR-2017

MISCELLANEOUS REPAIRS

****

SWaM Participation

The Authority strongly encourages the submission of bids by qualified contractors whose principal businesses are located in the Richmond Metropolitan Area and further encourage such contractors to utilize the services of local subcontractors and vendors.

In addition the Authority strongly encourages the submission of bids by qualified contractors certified as Small, Women, and Minority Owned (SWaM) businesses and/or Disadvantaged Business Enterprises (DBE).

Furthermore, the Authority encourages the use of certified Small, Women, and Minority Owned (SWaM) businesses and Disadvantaged Business Enterprises (DBE) as subcontractors or vendors to the fullest extent reasonably possible.

Certification:

The Virginia Department of Small Business and Supplier Diversity is responsible for the certification of eligible small, women, and minority-owned businesses to participate in the SWaM Procurement Initiative. They also certify Disadvantaged Business Enterprises (DBEs) for participation under the Virginia Unified Certification Program (as part of the federal DBE Program). Service Disabled Veterans are also able to obtain SWaM certification upon receipt of their certification by the Department of Veterans Services and by meeting the eligibility requirements of the SWaM Program.
http://www.dmbe.virginia.gov/SWaMSearchSub.html

SWaM Category Type:
(As certified by the Virginia Department of Small Business and Supplier Diversity)

Minority Owned (M)
Small Business (S)
Women Owned (W)
Minority Owned with Small Business Certification (MS)
Women Owned with Small Business Certification (WS)

Other SWaM, DBE, WBE and MBE Programs:

Any contractors, subcontractors or vendors whose principal businesses are located outside the Commonwealth of Virginia must submit information on any business that is qualified as a Small, Women-Owned, Minority Owned and/or Disadvantaged Business Enterprises (DBE) by their home state or any federal program .

SwaM Summary:

As a part of the project closeout process and a prerequisite to final payment, the prime contractor shall submit fully executed pages DBE-3 and DBE-4, along with any additional sheets as needed, to document the actual amounts paid to each SWaM and/or DBE businesses that provided service or products during this execution of the contract.

****

Firm Name: _____

Firm Address: _____

Owner/Contact Name: _____

Owner/Contact Phone Number: _____

SWaM Category Type: _____ SWaM Certification Number: _____

Amount Paid: $_____

****

Firm Name: _____

Firm Address: _____

Owner/Contact Name: _____

Owner/Contact Phone Number: _____

SWaM Category Type: _____ SWaM Certification Number: _____

Amount Paid: $_____

****

Firm Name: _____

Firm Address: _____

Owner/Contact Name: _____

Owner/Contact Phone Number: _____

SWaM Category Type: _____ SWaM Certification Number: _____

Amount Paid: $_____

Contractor shall attach additional sheets if needed.

SIGNED AND SEALED THIS _____ day of _____, 20____.

_____
Business Name

_____
Address

_____

By: _____(L.S.)

Title: _____

STATE OF VIRGINIA AT LARGE: }
}
CITY/COUNTY OF } to-wit:

The foregoing instrument was acknowledged before me this _____day of _____, 20 , by _____, _____of _____[name] _____[title]

_____,
_____[business name]

a _____ corporation/partnership, on behalf of said Corporation/partnership, _____[state]

_____
Notary Public

My Commission expires:_____.

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

_____

RICHMOND EXPRESSWAY SYSTEM

CONTRACT NO. MR-2017

MISCELLANEOUS REPAIRS

****

RECEIPT OF ADDENDA

I/We hereby acknowledge receipt of the following addenda and have made the necessary revisions to the Contractor's Proposal, plans, and specifications, etc., and agree that these addenda are included in the Contractor's Proposal.

Addenda #	Signature	Date
1.		
2.		
3.		
4.		
5.		
6.		

I understand that failure to confirm receipt of addenda may cause the bid to be irregular.

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY
SUPPLEMENTAL SPECIFICATIONS

To

VIRGINIA DEPARTMENT OF TRANSPORTATION
2016 ROAD AND BRIDGE SPECIFICATIONS

FOR
RICHMOND EXPRESSWAY SYSTEM

CONTRACT NO. MR-2017
MISCELLANEOUS REPAIRS

INDEX

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

****

SUPPLEMENTAL SPECIFICATIONS

PREFACE:

The 2016 Road and Bridge Specifications of the Virginia Department of Transportation, available from the Virginia Department of Transportation, as amended and augmented by the Supplemental Specifications following, shall govern the construction of this Project and the performance of the Contract. These specifications are hereby made a part of the Contract as fully and with the same effect as if set forth at length herein.

Attention is directed to the fact that any other documents printed by the Virginia Department of Transportation modifying or supplementing said 2016 Road and Bridge Specifications, such as Standard Supplemental Specifications, Special Provisions (by the Department), Notice to Bidders, etc., do not form a part of this Contract nor govern its performance, unless specifically so stated in the Supplemental Specifications herein contained. The 2008 edition of the VDOT "Road and Bridge Standards" are hereby made a part of this contract. The Virginia Erosion and Sediment Control Handbook, Third Edition 1992 Standards and Specifications are hereby made a part of this Contract.

References to “Proposal” have been changed to “Bid” in the Authority’s documents for this contract, including many standard VDOT terms such as “Examination of Site of Work and Bid [Proposal]”. This shall be accounted for when working contract documents prepared by the Authority with those standards prepared by VDOT.

References made to specific section numbers in these Supplemental Specifications, or in any of the various documents which constitute the complete Contract Documents, shall, unless otherwise denoted, be construed as referenced to the corresponding section of the 2016 Road and Bridge Specifications issued by the Virginia Department of Transportation.

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

SUPPLEMENTAL SPECIFICATIONS

TO

VIRGINIA DEPARTMENT OF TRANSPORTATION
2016 ROAD AND BRIDGE SPECIFICATIONS

The following provisions represent modifications to the corresponding sections of the Virginia Department of Transportation Specifications, described above, and relate exclusively to the Richmond Metropolitan Transportation Authority Contracts. In case of conflicting requirements between the Virginia Department of Transportation Specifications and these Supplemental Specifications, the Supplemental Specifications shall govern. Any applicable provision in the Virginia Department of Transportation Specifications not amended by and not in conflict with any Supplemental Specifications or Special Provisions shall be in full effect.

All modifications contained herein are additions to the provisions of the designated sections of the Virginia Department of Transportation Specifications unless the text specifically identifies a requirement to be an amendment to, deletion of or substitution for a provision in the Virginia Department of Transportation Specifications.

SECTION 101 - DEFINITION OF ABBREVIATIONS, ACRONYMS AND TERMS

101.02 Terms

The following new definitions are added to this section:

ADDENDUM - - A written, fax or e-mail revision or addition to any of the Contract Documents, transmitted in advance of the opening of Bids to all parties who have been recorded by the Authority as having secured full sets of Contract Documents directly from the Authority or their designee.

AUTHORITY - - The Richmond Metropolitan Transportation Authority, a political subdivision and public body corporate and politic of the Commonwealth of Virginia, organized and existing under Virginia Code §§ 33.2-2900 et seq. The Authority's principal office is presently located at 919 East Main Street, Suite 600, Richmond, Virginia, 23219.

AFFILIATE - - Any business entity which is closely associated to another business entity so that one has the power to control the other either directly or indirectly; or, where one business entity systematically shares resources, officers and/or other management with another business entity to the extent that a business relationship legally exists or is publicly perceived to exist; or, when a third party has the power to control both; or, where one business entity has been so closely allied with another through an established course of dealings, including but not limited to the lending of financial wherewithal or engaging in joint ventures, so as to cause a public perception that the two firms are one entity.

AVERAGE ANTICIPATED OPERATING SPEED - - The posted speed of the work zone plus 5 miles per hour as defined in Appendix A of the Virginia Work Area Protection Manual.

MOT - - Maintenance of Traffic

BID BOND - - One of the two permissible means of security offered as the Bid Guaranty, in the form of a surety bond executed by the Bidder and the Contractor's Surety, guaranteeing that if the Authority should award the Contract to the Contractor, the Bidder will execute and deliver the Contract Agreement and Contract Bond, together with other required documents, all within the prescribed time.

STANDARD DRAWINGS - - Whenever the Plans and/or Specifications refer to "Standards" or "Standard Drawings" such reference shall be construed to mean the set of drawings issued by the Location and Design Division, Virginia Department of Transportation, 2016, and entitled "Road and Bridge Standards", Volumes I and II. Only those standards or standard drawings specifically referred to by number on the Plans or in the various Contract Documents are applicable to work on this Contract.

FULL COMPLETION OF ALL WORK (OR TO FULLY COMPLETE ALL WORK) - - The completion of all work specified under this Contract as evidenced by the formal acceptance thereof by the Authority.

WORK AREA PROTECTION MANUAL - - The 2011 Virginia Work Area Protection Manual including Revision 1 (4/2015), and all subsequent revisions.

Whenever in the various Contract Documents the term, "Commission" or "State" appears it shall be replaced by the term, "Richmond Metropolitan Transportation Authority." Similarly, the term, "Commissioner" shall be replaced by the term, "CEO of the Richmond Metropolitan Transportation Authority," and the term, "Deputy Commissioner" replaced by the term, "Director of Operations of the Richmond Metropolitan Transportation Authority."

Whenever in the Virginia Department of Transportation Specifications and Standard Drawings the term, "Department" or "Virginia Department of Transportation" appears, it shall be replaced by the term, "Richmond Metropolitan Transportation Authority, (Authority)" except in references to said Virginia Department of Transportation as being the author of certain Specifications and Standard Drawings, and in reference to said Department as the agency prequalifying prospective Bidders.

Whenever in the Virginia Department of Transportation Specifications and Standard Drawings the term, "District Engineer" appears, it shall be replaced by the term, "Engineer."

The definitions for the following terms as they appear in this section are deleted and the following definitions substituted therefore:

CONTRACT TIME - - Each calendar date indicated in the Specifications or Special Provisions as the time allowed for the completion of any designated portion or for all of the work under the Contract, including any extensions thereto that may subsequently be authorized.

ENGINEER - - The authorized representative(s) of the firm of the General Consultant, HNTB Corporation, who have been duly appointed by the Authority to prepare Plans and Specifications for the Contract and to monitor the construction work performed in connection therewith.

The headquarters office of HNTB Corporation for this project is located at 2900 S. Quincy St, Suite 600, Arlington, Virginia 22206, telephone (703) 824-5100.

SPECIFICATIONS (SPEC) - - The general term comprising all the directions, provisions and requirements contained in the Virginia Department of Transportation, 2016 Road and Bridge Specifications, the Authority's Supplemental Specifications and Special Provisions, and in any Addenda and Change Orders or Supplemental Agreements that may be issued, all of which are necessary for the proper performance of the Contract.

SECTION 102 - BIDDING REQUIREMENTS AND CONDITIONS

102.01 Prequalification of Bidders

This Section is amended to add the following:

Only contractors who have been prequalified by the Virginia Department of Transportation for bidding on State projects will be permitted to submit Bids for Contracts for Construction of this Project. The foregoing notwithstanding, the Authority reserves the right to reject the bid of any bidder because of reason of unsatisfactory performance or progress on other or prior Authority contracts, as determined by the Authority in its sole discretion.

Contractor shall also see Prequalification requirements in the "Invitation to Bid" (Sheet IB-II of the Contract Documents). If a Subcontractor is listed in one of the experience forms, that Subcontractor or a different Subcontractor which meets the experience requirements must complete at least 90% of the work in that category.

In order to bid on this project, prospective Bidders must meet the Prequalification requirements at the time specified in the "Invitation to Bid". The Authority cannot be held liable in the event a party is unable to submit a valid bid due to a delay in the prequalification procedure. Securing prequalification and the timing thereof, shall at all times be the sole responsibility of the Contractor.

If a group of contractors should desire to submit a single bid for a contract or group of contracts, acting under the terms of a joint venture, each such contractor must be prequalified in the proper classification of work and must be registered with the Virginia Department of Transportation. The sum of the maximum pre-qualified classification capacity of the contractors comprising the joint venture must be greater than the estimated dollar value of the contract or group of contracts comprising the bid.

102.02 Content of Proposal

This section is amended as follows:

The following documents are bound with and are also a part of the Bid Form:

Bid
Non-Collusion Affidavit
Statement of Contracts Underway
Joint Venture Statement
Bid Bond
Receipt of Addenda (if applicable)

102.04 Examination of Site of Work and Proposal

The Section is amended to add the following:

In addition to the mandatory site visit, the Bidders are allowed to visit the Project site to form their own conclusions regarding access requirements, effort required to perform the tasks and other information needed to prepare their bid. Prior to visiting the site, a Bidder shall notify the Authority and Glen Parker at 804-938-3963 to coordinate the time and date of the Bidder's visit.

Any Addenda that may be issued will be posted on the RMTA website. http://www.rmaonline.org/ All bidders are required to download any and all addenda from the website. The Authority shall not be responsible for individually delivering addenda to all proposers.

102.05 Preparation of Bid

Sub-Section (a) is amended to add the following:

No electronic bids shall be accepted. All bids shall be submitted on forms furnished by the Authority.

As part of the execution of the Bid, each Bidder shall execute the Statement of Contracts Underway, and the Non-Collusion Affidavit and, in the case of Joint Venture Bidders, the Joint Venture Statement.

The Statement of Contracts Underway shall list the stipulated status information of all other work in which the Bidder is presently engaged, whether as a prime contractor or a subcontractor. Such listings shall include not only contracts which are under construction, but also those awarded to the Contractor but not begun and those on which the contractor is the lowest bidder awaiting formal award. In the case of Joint Venture Bidders, each party involved shall complete, execute and submit a separate Statement of Contracts Underway, as well as the Bidder's portion of the Joint Venture Statement. Additional Statements of Contracts Underway forms are available at the office of the General Manager of the Authority.

The Non-Collusion Affidavit must be executed by the person signing the Bid. In the case of Joint Venture Bidders, only the person signing the Bid on behalf of the Contractors involved need execute the Non-Collusion Affidavit.

The Richmond Metropolitan Transportation Authority may elect to receive bids on more than one construction contract on the same date. When this event occurs, the Authority will award the various contracts after all of the bids for the various contracts are received and analyzed.

Sub-Section (f) is amended as follows:

In the event of a joint venture of a group of Contractors submitting a single Bid, the Bid shall be signed by an individual owner, partner or officer of any one of the Contractors bound in the joint venture, and the official business address of the joint venture shall be given. In addition, a Joint Venture Statement must be executed by all Contractors involved.

102.06 Irregular Bids

This section is amended as follows:

The following section is deleted:
Section (m)

The following is added:

(p). If the bidder fails to submit the executed Statement of Contracts Underway; in the case of Joint Venture Bidders, failure to submit an executed Statement of Contracts Underway for each Contractor in the joint venture and the Joint Venture Statement.

(q). If the signed bid form is received from a party who was not represented, and recorded by the Authority as attending both the mandatory pre-bid meeting and site visit.

(r). If the bidder is not pre-qualified by the Virginia Department of Transportation at the time of the mandatory pre-bid meeting.

(s). If the bidder fails to attach proof of their SSPC QP-1 and QP-2 certification. The certification and resume of a Contractor employed Certified Industrial Hygienist (CIH) may be attached in lieu of the QP-2 certification.

(t). If the bidder fails to properly acknowledge receipt of addenda/addendum in the Receipt of Addenda form.

(u). Alterations to the Bid Tab

102.07 Proposal Guaranty (Bid Bond)

Add the following:

If a certified check is submitted as the Bid Guaranty, the check is to be made payable to the Richmond Metropolitan Transportation Authority, and the project name and Contract number shall also appear on the face of the check, as well as the business name of the bidder.

A bid bond will be accepted only if executed on a form which contains the exact wording as the Bid Bond included in these contract documents form. Any bid accompanied by a bond having wording which differs in any respect from the Bid Bond form may be rejected.

102.09 Submission of Bid

This section of the Specifications is completely replaced by the following:

Bids will be accepted at the Authority's office at 919 East Main Street, Suite 600, Richmond, Virginia until scheduled bid opening time and shall be submitted in a sealed envelope. Bids shall be filed prior to the time specified in the Invitation to Bid. Bids received after that time will be returned to the bidder unopened. The bid date may be deferred by the Authority, in which case the bidders will be notified.

102.12 Public Opening of Bids

This section of the Specifications is completely replaced by the following:

Bids will be opened and read publicly at the time and place specified in the Invitation to Bid. Interested parties are invited to be present.

SECTION 103 - AWARD AND EXECUTION OF CONTRACTS

103.01 Consideration of Bids

Add the following:

In reviewing bids received, the Authority will give full consideration to a Bidder's capacity for undertaking and handling the work included in the bid. The difference in amounts between the maximum capacity stated in the prequalification certification for this classification of work, and the total estimated value of work remaining to be completed by the Bidder's organization as given in the Bidder's Statement of Contract Underway, shall constitute the Bidder's net capacity for handling additional work. Such net capacity will be considered by the Authority in determining the successful Bidders for Contracts on this Project.

103.02 Award of Contract

This section of the Specifications is completely replaced by the following:

The Authority will award a contract within sixty (60) calendar days of the bid opening for said Contract. If a Contract is not awarded within this time period, the Bidder shall have the right to withdraw the Bidder's Bid for the Contract without penalty or prejudice, unless the award date is extended by mutual consent.

The Authority agrees that Award of Contract, if made, will be determined without discrimination on the ground of race, creed, color, sex or national origin.

Basis for Contract Award: The Contract, if awarded, will be awarded to the lowest responsive and responsible bidder, if any, provided the bid is reasonable and it is in the best interest of the Authority to accept it and subject to the Authority's right to reject any and all bids and to waive informality in the bids and in the bidding. Determination of the lowest responsive bidder, if any, will be based on the Total Bid Amount entered on the Bid Tab Form including any properly submitted bid modifications taken in sequence as the Authority in its discretion chooses to Award. **Where the sum of the values entered in the multiple parts do not agree with the Total Bid Amount, the Total Bid Amount entered on the Bid Tab Form, including** any **properly submitted bid modifications, shall take precedence.**

In the event that the Total Bid Amount from the lowest responsible bidder exceeds available funds, the Authority may negotiate the Total Bid Amount with the apparent low bidder to obtain a contract price within available funds, pursuant to §2.24318 of the Code of Virginia, as amended, and Section 12(c) herein.

Informalities: The Authority reserves the right to waive any informality in the bids when such waiver is in the interest of the Authority.

Negotiation with Lowest Responsible Bidder: If award of a contract to the lowest responsive and responsible bidder is precluded because of limitations on available funds, under the provisions of §2.2-4318 of the Code of Virginia (the Public Procurement Act), the Authority reserves the right to negotiate the Total Bid Amount with the lowest responsive, responsible bidder to obtain a contract price within the available funds. This may involve changes in either the features or scope of the work included in the Contract Documents. Such negotiations with the apparent low bidder may include reducing the quantity, quality, unit prices, or other cost saving mechanisms involving items in the Total Bid Amount. The Authority shall notify the lowest responsive and responsible bidder that such a situation exists and the Authority and bidder shall then conduct their negotiations in person, by mail, by telephone or by any means they find convenient. If an acceptable contract can be negotiated, the changes to the Invitation to Bid documents agreed upon in the negotiations shall be summarized in a "Post Bid Modification" and included in the contract. If an acceptable contract cannot be negotiated, the Authority reserves the right to terminate negotiations and begin negotiations with the second lowest responsive and responsible bidder or terminate negotiations with all bidders and reject all bids.

Notice of Award: The Notice of Award, the Notice of Intent to Award, or the Notice of Decision to Award will be posted at the Authority's Construction Engineering Inspection Office.

103.06 Contract Documents

Subsection (d) of this section of the Specifications is amended to include:

- All insurance certificates as required in Sec. 103.06 (d), as prescribed in Sec. 107 and as may be required in other sections.

Subsection (e) of this subsection of the Specifications is amended to include the following:

The Contractor shall submit a progress schedule using the Critical Path Method (CPM) format. As a minimum, the schedule shall include:

- The duration of activities.
- The interrelationship of critical activities.
- Maintenance of traffic changes.
- Any temporary work necessary to complete project.
- An easily distinguishable critical path.
- Final completion by the date specified.

SECTION 104 - SCOPE OF WORK

104.02 Changes in Quantities or Alterations in the Work

Subsection (b) of this section of the Specifications is amended to include:

1. Major Items: There are no major items under this contract.

2. Minor Items: All items under this Contract are considered minor items. No adjustment of contract unit prices will be made for overruns or underruns of the original contract quantities, regardless of the extent of such overruns or underruns.

SECTION 105 - CONTROL OF WORK

105.01 Notice to Proceed

Add the following:

Notice to Proceed will be issued within seven (7) calendar days after the execution of the Contract by the Authority.

Contractor shall submit CPM schedule as detailed in Section 103.06 within fourteen (14) days of issuance of Notice to Proceed by the Authority.

105.06 Subcontracting

Add the following:

Except as noted below, the consent to sublet any part of the work, or obtain supplies, shall not be construed to be an approval of the said subcontract, supply contract or any of its terms, but shall operate only as an approval of the making of a subcontract or supply contract between the Contractor and Subcontractor or Supplier. The Subcontractor agrees, as a condition of entering into a subcontract on the project, that the Contractor shall make no claim whatsoever against the Authority, the Engineer, or any of their officers, servants, agents or employees for any work performed or thing done by reason of said subcontract, or for any other cause whatsoever that may arise by reason of the relationship created between the Contractor and Subcontractor unless the proposed Subcontractor furnishes a statement to the effect that said Subcontractor is acquainted with all provisions of the Contract and agrees thereto.

In the case of extra work to be performed on a force-account basis, if any portion of such work is proposed to be sublet on the basis of negotiated unit and/or lump-sum prices instead of on a force-account basis, then such negotiated unit and/or lump-sum prices shall first meet with the approval of the Engineer before consent will be given to sublet the work.

Sublet work shall not begin until approval thereof has been secured from the Engineer. It is understood, however, that any consent by the Engineer for the subletting of any of the work under the Contract in no way relieves the Contractor from the Contractor's full obligations under the Contract. The Contractor shall be responsible for all acts of omissions of any Subcontractor or Supplier.

105.13 State Force Construction Surveying

This Section is deleted in its entirety. All construction surveying shall be the responsibility of the Contractor.

105.15 Removing and Disposing of Structures and Obstructions

This section is amended as follows:

All materials removed by the Contractor as specified therein, shall become the property of the Contractor, except as may be otherwise specifically required, and shall be legally disposed of by the Contractor off of RMTA property.

105.19 Submission and Disposition of Claims

This section of the Specifications is completely replaced by the following:

(a) Alleged Damages and Exceptions. Early or prior knowledge by the Authority of an existing or impending claim for damages might alter the plans, scheduling and other actions of the Authority or result in mitigation or elimination of the effect of the act objected to by the Contractor. Therefore, a written statement describing (1) the act of omission or commission by the Authority or its agents that allegedly caused or will likely cause damage to the Contractor and (2) the nature of the claimed damage must be submitted to the Engineer at the time of occurrence or beginning of the work upon which the claim and subsequent action is based. If such damage is reasonable likely to result from the Contractor's acting upon an order emanating from the Engineer, the Contractor shall take written exception, delivered to the Authority, to such order immediately. Submission of such written statement or exception, as specified, shall be mandatory. Failure to submit such written statement or exception shall be a conclusive waiver of such damages or exception by the Contractor. Mere oral notice or statement will not be sufficient, nor will notice or statement after the event.

(b) Additional Compensation. At the time of occurrence or prior to beginning the work the Contractor shall furnish the Engineer, in writing, an itemized list of materials, equipment, and labor for which additional compensation will be claimed. 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 conclusive waiver of a claim for such extra compensation except to the extent that it is substantiated by the Authority's records. The filing of such notice by the Contractor and the keeping of cost records by the Engineer shall in no way establish the validity of a claim. Failure to submit such written itemized list shall be a conclusive waiver of such claim for additional compensation. Mere oral notice or statement will not be sufficient, nor will notice or statement after the fact.

(c) Verification. If the Contractor's claim contains data furnished by the Contractor that cannot be verified by the Authority's records, the data shall be subject to complete audit by the Authority or its authorized representative if they are to be used as a basis for claim settlement.

(d) Claims Procedure. Upon completion of the Contract, the Contractor may, within 60 calendar days from expiration of the period for review of the Final Estimate by the Contractor as provided in Section 109.10, submit to the Authority a written claim (original plus three legible copies) for such amount as the Contractor deems it is entitled to under the said contract setting forth the facts upon which said claim is based and including all pertinent data and correspondence which may substantiate the claim, provided that written notice of intention to file such claim shall have been given to the Authority at the time of occurrence or beginning of the work upon which claim and subsequent action is based. Failure of the Contractor to furnish any of the items required by Section 109.10 as prerequisite to the issuance of final payment shall not extend the time

period in which the Contractor may submit a claim under this or any other section of the Contract. If the claim is not disposed of by agreement, then within 90 calendar days from receipt of said claim, the Authority will make an investigation and notify the Contractor by registered or certified mail, return receipt requested, of its decision; however, the Authority and Contractor may, by mutual agreement, extend such 90 calendar day period for another 30 calendar days. The decision of the CEO of the Authority shall be final, and failure of the Contractor to comply with the provisions of this section shall constitute a conclusive waiver of any such claim hereunder.

SECTION 106 - CONTROL OF MATERIAL

106.01 Source of Supply and Quality Requirements

This section is amended to add the following:

The Contractor shall not use in preparation of the bid nor on construction of this project any supplier or material person, hereinafter referred to simply as supplier, debarred by the Virginia Department of Transportation as of the date of advertisement.

It shall be the responsibility of the Bidder to determine from the Department's listings which suppliers are debarred as of the date of advertisement of this project. Such listings will be posted in the office of the Contract Engineer, 1401 E. Broad Street, Richmond, Virginia and in each District Office.

The Engineer will not approve for use any material furnished by a supplier debarred by the Department.

If subsequent to award of this contract, a previously debarred supplier is reinstated to eligibility, the Engineer may approve the use of that supplier on this project when requested by the Contractor and after consideration of all relevant factors.

106.02 Material Delivery

This section is amended as follows:

Contractor's invoices for materials delivered to the site shall show actual prices for such materials.

106.04 Disposal Areas.

The entire third paragraph under section (a) of the Specification is deleted.

SECTION 107 – LEGAL RESPONSIBILITIES

107.12 Responsibility for Damage Claims

Delete the first line of paragraph (a) and substitute:

"The Contractor shall indemnify and save harmless the Authority, the Engineer and its…"

Add the following statement to the end of paragraph (b):

". . . the contract provided, however, that the Authority and, where applicable, the Engineer are intended beneficiaries of this Contract and shall have standing to enforce the provisions of this Contract including the right to indemnification and the right to ascertain claims for damages.

Add the following after the last paragraph of this section:

In connection with the indemnification assumed by the Contractor by virtue of this section, but without limitation or release of the Contractor's responsibility for such indemnification or any other liability hereunder, the Contractor shall provide the following types and minimum amounts of insurance coverage for this project:

(a) Contractor's Comprehensive General Bodily Injury and Property Damage Liability Insurance, including Contractor's Protective Liability Insurance and Contractual Liability Insurance:

(1) One (1) person in any one (1) occurrence, amount One Million Dollars ($1,000,000).

(2) Two (2) or more persons in any one (1) occurrence, amount One Million Dollars ($1,000,000).

(3) Property Damage in any one (1) occurrence, amount One Million Dollars ($1,000,000), with aggregate property damage policy limit of One Million Dollars ($1,000,000).

The portion of the policy dealing with property damage liability shall contain a provision of endorsement providing insurance protection against property damage,

including loss of use, caused by explosion and/or collapse, and against damage to existing underground and overhead pipes, cables, ducts and other such facilities, whether or not such facilities appear on available plans and whether or not accurately located on such plans.

The Contractual Liability Insurance policy shall contain an endorsement attesting to the Contractor's responsibilities for indemnification set forth in this section. Insurance certificates shall specifically indicate the inclusion of such an endorsement with particular reference to the Contract number and to "Compliance with Sec. 107.13 of the Specifications."

(b) Comprehensive Automobile and Truck Liability Insurance including coverage for Contractor's automotive equipment (and including non-owned and hired vehicles):

(1) One (1) person in any (1) occurrence, amount One Million Dollars ($1,000,000).

(2) Two (2) or more persons in any one (1) occurrence, amount One Million Dollars ($1,000,000).

(3) Property damage in any one (1) occurrence, amount One Million Dollars ($1,000,000).

(c) Workmen's Compensation Insurance - Statutory. Employer's Liability Insurance in the amount of Five-Hundred Thousand Dollars ($500,000).

If any part of the work is sublet, similar insurance shall be obtained by or on behalf of the Subcontractor to cover the Subcontractor’s operation.

The insurance specified shall be with an insurance company acceptable to the parties hereto and licensed to do business in the State of Virginia. All insurance must be obtained before any work is commenced and kept in effect until its completion.

In compliance with Sec. 103.06, satisfactory evidence, in triplicate, of all required insurance coverage, including special endorsements, shall be forwarded to the Authority for approval within fourteen (14) Calendar Days after the date of written notice of Award of Contract. All insurance coverage must be approved by the Authority before the Contract will be executed by the Authority.

The Authority's approval of insurance furnished by the Contractor, or its failure to disapprove such insurance shall not relieve the Contractor of full responsibility for liability, damages and accidents as set forth elsewhere herein.

All policies required above shall include an endorsement requiring thirty (30) calendar days prior written notice to the Authority before any change or cancellation is made effective.

All policies required shall be maintained until completion and acceptance of all work under this Contract.

No separate payment will be made for the cost of the insurance herein specified but the Contractor shall include the cost of such insurance in the prices bid for the various items scheduled in the Bid.

107.19 Railway - Highway Provisions

This section is amended as follows:

Norfolk Southern Corporation

When performing work on, over or adjacent to Norfolk Southern Corporation. (NS Corp.) right-of-way or operations, the Contractor must abide by the current NS Corp. Special Provisions, Construction Submission Criteria, Construction Requirements, and Insurance Requirements.

All construction related correspondence and submittals will be directed to NS Corp. with a copy to HNTB acting as Engineer on behalf of the Richmond Metropolitan Transportation Authority. The Contractor will have the sole responsibility and authority for submitting and coordinating all reviews with NS Corp.

The Contractor shall submit complete Construction Submission packages for all areas that may require a construction agreement within 15 calendar days of Notice to Proceed.
The Contractor shall address any comments and submit revised Construction Submission packages for all areas that may require a construction agreement within 30 calendar days of Notice to Proceed.

If any submissions are returned not approved by NS Corp. the Contractor shall have 7 calendar days after receipt of comments to address any comments and submit revised Construction Submission package(s).

Failure of the Contractor to meet the time schedules listed above in Section 107.19 shall be considered a Failure to Complete on Time subject to the Liquidated Damages as described in Section 108.06. All construction related correspondence shall be considered "submitted" on the date that it is sent to NS Corp.

Contractor shall coordinate all work activities in the areas described below with the Richmond Metropolitan Transportation Authority or its authorized representative.

Bridge:	Location	Repairs:	Railroad Owner:
65	Pier 9	Shotcrete	NS Corp.

The cost right of entry permits, and for flagger or watchperson services near NS Corp. tracks for work performed under this Miscellaneous Repairs – 2017 Contract will be paid by the Contractor.

SECTION 108 - PROSECUTION AND PROGRESS OF WORK

108.04 Determination and Extension of Completion Date

In the second paragraph of this section, substitute the number "75" for the number "60" wherever it appears.

108.06 Failure to Complete on Time

Sub-section (B) is completely replaced by the following:

CONTRACTOR WAIVES ANY DEFENSE AS TO THE VALIDITY OF ANY LIQUIDATED DAMAGES STATED IN THIS CONTRACT ON THE GROUNDS THAT SUCH LIQUIDATED DAMAGES ARE VOID AS PENALTIES OR ARE NOT REASONABLY RELATED TO ACTUAL DAMAGES.

SECTION 109 - MEASUREMENT AND PAYMENT

109.06 Common Carrier Rates.

This Section of the Specifications is deleted in its entirety.

109.08 Partial Payments

This section is completely replaced by the following:

Partial payments will be made once each month covering work performed and materials complete-in-place in accordance with the contract and for materials delivered in accordance with Sec. 109.09 on and between the 5th day of a month and the 4th day of the succeeding month as the work progresses. Partial payments will be made on the value of work performed based on approximate estimates prepared by the Engineer, provided, however, that no estimate shall be certified or payment made where the net amount receivable by the Contractor is less than Five-hundred Dollars ($500.00). The value of work done on items measured on a unit basis will be determined on a pro rata basis. If the Engineer determines that the Contractor has been overpaid, all further partial payments may be credited against such overpayment.

The Engineer will review the partial payment estimate with the Contractor's representative prior to each partial payment.

From the total of the amounts so determined will be deducted an amount equivalent to five (5) percent of the whole, which will be retained by the Authority until completion of the entire Contract in an acceptable manner and the balance, less all previous payments, shall be certified for payment.

Total Contract value shall be considered to mean the original amount of the Contract, except when the Contract is increased or decreased by a supplemental agreement in which case the adjusted total shall be used.

The Authority reserves the right to withhold the payment of any partial or final estimate voucher or any sum or sums thereof from such vouchers in the event of the failure of the Contractor to promptly make payment to all persons supplying equipment, tools or materials, or for any labor used by the Contractor in the prosecution of the work provided for in the Contract, and for any other cause as determined by the Authority in its sole discretion, including overpayment on previous partial payments.

109.10 Final Payment

This section of the Specifications is completely replaced by the following:

After final inspection and final acceptance of the project has been made by the Engineer, as provided in Sec. 108.09, the Engineer will prepare the final estimate of item quantities and amounts for the completed work. The Contractor will be afforded a period of fifteen (15) calendar days from the date of the final estimate to review the final estimate at the Authority's office.

As a prerequisite to the issuance of final payment, the Contractor will be required to furnish the following items to the Engineer:

(a) An executed SWaM Participation form (on the Authority's standard form) attesting to actual amounts fully paid to each Small, Women, and Minority Owned (SWaM) businesses and/or Disadvantaged Business Enterprises (DBE).

(b) An executed Final Release of Liability (on the Authority's standard form) attesting to the fact that all bills, charges and salaries for labor, services, materials and rental of equipment, arising out of the prosecution of work under this Contract have been fully paid or arrangements satisfactory to the Engineer therefore have been made and all other just demands and liens relating to this project fully satisfied or arrangements to the Engineer therefore have been made, and releasing the Authority and their representatives from all claims, demands and liability of whatsoever nature from anything done or furnished under this Contract, except to the extent only as to such matters for which unresolved claims have been submitted by the Contractor in accordance with Section 105.19 hereof;

(c) Sworn statements of any property owners or other parties who may have had any claims against the Contractor or liens against the project, evidencing that all their claims and liens are fully satisfied or provided for and the Contractor and Authority are released there from;

(d) Any other documents, invoices, releases or objects which the Engineer may request in finalizing the Contract.

After the above items have been forwarded to the Engineer, and the final estimate and certificate for final payment sent to the Authority with the Engineer's recommendation for acceptance, the Contractor will be paid the total Contract amount less the amounts of all previous partial payments and less any imposed liquidated damages. This net amount will be subject to any increase or decrease resulting from corrections to any errors in previous partial payments that may be detected at this time and to deductions for unacceptable work not corrected by the Contractor as required hereunder.

This final payment will become due and payable to the Contractor within ninety (90) calendar days after the date when all the above listed documents and tracings have been received by the Engineer and acknowledged in writing by the Contractor. The Contractor will be entitled to interest on the final payment amount at the rate of four (4) percent per annum for the length of time beyond said 90 calendar days period that the final payment should remain unpaid.

SECTION 411—PROTECTIVE COATING OF METAL IN STRUCTURES

411.01 Description

This section is amended to include the following:

Regulatory Agencies

The Contractor shall perform all work in accordance with accepted construction standards and in compliance with Steel Structures Painting Council (SSPC), Occupational Safety and Health Act (OSHA), United States Coast Guard (USCG), United States Environmental Protection Agency (EPA), Virginia Air Pollution Control Board (VAPCB), Virginia Department of Environmental Quality (VDEQ) and other regulatory agencies' rules, regulations, standards and guidelines currently in effect.

Superintendent

The Contractor shall furnish a competent superintendent who is thoroughly familiar with the above regulations, the specified requirements and the methods needed for proper performance of the work. The superintendent's experience record shall be submitted to the Authority for review and approval. The superintendent shall plan, direct, coordinate, and supervise all of the work.

Quality Control

The Contractor shall be responsible for quality control on this project. The Contractor's site supervisor shall be equipped with thermometers, relative humidity gauges, wet and dry film thickness gauges and shall monitor all of the cleaning and painting operations. The Engineer will monitor work daily.

Classification

All surfaces shall be classified as Type B, unless otherwise noted.

Schedule

Contractor shall coordinate Coatings work schedules and Maintenance of Traffic patterns with adjacent contractors on site for other Authority contracts.

411.02 Materials

This section is amended to include the following:

Soluble Salt Remover: If chloride level is found to be above the threshold level (as described in Section 411.04), the contractor shall add a commercial soluble salt remover to the Method 7 preparation (pressure wash) as described in Section 411.04. In the first 50 sq ft, the contractor shall test the worst deteriorated areas to determine the required rate of application, nozzle pressure, nozzle distance from surface, and dilution ration of mixture to achieve the desired level of cleanliness. Testing shall be the CHLOR*TEST method.

The Soluble Salt Remover shall be CHLOR*RID or Engineer approved equal. CHLOR*RID is manufactured by CHLOR RID International, Inc. of Chandler, AZ, PH: 800-422-3217. The material shall meet or exceed the following specifications:

- Material shall contain zero VOC's.
- Material shall have a minimum shelf life of 24 months.
- Material shall be suitable for hand washing spot areas and for application by pressure washer at any pressure.
- Material shall be biodegradable.

The Soluble Salt Remover shall be used in accordance with all manufacturer's recommendations, specifications and directions.

411.04 General Surface Preparation and Application Standards

This section is amended to include the following:

All wash water shall be filtered with a 40 or finer mesh material to catch particles of paint and debris.

The Engineer or Engineer's representative will test the existing coatings for chloride contamination by the CHLOR*TEST (chloride test kit) method. Testing shall be completed at a minimum of one location per pier and one location per span. The maximum allowable level of chloride contamination shall be 5 micrograms/cm2. When the chloride test results indicate a chloride level of 5 micrograms/cm2 or greater, a soluble salt remover shall be added to the wash water as specified in Section 411.02. CHLOR*TEST results will be made available to the contractor.

If the Engineer allows the Contractor to complete the CHLOR*TEST, the Engineer shall approve and document each test.

If the contractor prefers to forego Engineer's testing of contaminated areas, Contractor shall have the option to include CHLOR*RID in all Method 7 wash water.

Cleaned steel surfaces shall be tested for soluble salt levels after all preparation and cleaning methods are completed but prior to the start of any coating activities. The maximum level of soluble salt shall be 5 micrograms/cm2. If test results show a higher level of soluble salt, Contractor shall re-wash surface with CHLOR*RID until soluble salt contamination level is less than 5 micrograms/cm2.

See Special Provisions for further details on structures and surfaces to be coated.

411.04(B) General Surface Preparation and Application Standards – Physical Application

This section is amended to include the following:

All coating color formula, except for Bridges 61 and 62 shall be RMTA Green, which is Federal Standard I.D. #595-24227, or as otherwise directed by the Engineer. Contractor shall submit a color sample for review and approval by the Engineer.

All abrasive blast cleaned surfaces shall receive the following three-coat zinc, epoxy and urethane system or engineer approved equal:

- AMERCOAT 68HS – Zinc Rich Epoxy Primer 2-5 mils D.F.T.
- AMERCOAT 399 – Fast Dry, High Solids Epoxy 4-8 mils D.F.T.
- AMERCOAT 450H – Gloss Acrylic Aliphatic Polyurethane 2-3 D.F.T.

All high-pressure water cleaned and power tool cleaned surfaces shall receive the following three coat sealer, epoxy and urethane system or engineer approved equal:

- AMERLOCK Sealer Primer 1-2 mils D.F.T.
- AMERCOAT 399 Epoxy 4-8 mils D.F.T.
- AMERCOAT 450H Acrylic Aliphatic Polyurethane 2-3 mils D.F.T.

411.11 Measurement and Payment

This section is amended to include the following:

Measurement and payment for "Zone Coating", "Environmental Protection" and "Disposal of Material" shall be paid per individual structure on a lump sum basis per activity and per structure location. Surface preparation effort shall be included in the lump sum price bid for Zone Coating. Structure surfaces to be coated shall be as defined in the Special Provisions.

SECTION 512 - MAINTAINING TRAFFIC

512.01 Description

The following is added to this section:

The Contractor shall schedule the Contractor's operations in a manner as to not adversely affect traffic conditions. At all locations, the Contractor shall schedule the Contractor's operations in such a manner that all available traffic lanes are open to traffic on Commonwealth of Virginia holidays, the day preceding holidays and the day after holidays. If a holiday falls on a Saturday, Monday shall be considered the preceding day. If a holiday falls on a Sunday, Monday shall be considered the day after. Ramp traffic (unless otherwise noted) shall be maintained at all times.

The Engineer reserves the right to require the Contractor to provide a proposed maintenance of traffic plan for all lane closures 7 calendar days prior to closure. The Engineer shall coordinate the maintenance of traffic plan with the RMTA and provide any changes and additions required prior to the lane closure. In the event that a detour route is detailed in the contract drawings, the Contractor shall be required to provide a traffic plan for installing and removing the proposed detour route.

The Contractor shall not utilize shoulders, median or similar areas for storage of equipment or material including vehicles used by Contractor's personnel to access the site. Any stored equipment shall be placed behind guardrail or concrete barriers.

The Contractor shall provide continuous monitoring of traffic control devices as part of the effort required to maintain them. Additionally, the Contractor shall possess a minimum of one spare operable electronic arrow on site only when directed by the Engineer.

When night work is in progress, the Contractor shall provide sufficient lighting of the work site(s) to enable the satisfactory completion of the work. Lighting shall be arranged so as not to interfere with or impede traffic approaching the worksite(s). Payment for lighting of the work site shall be covered in other pay items and will not be measured for payment.

512.03 Procedures

Add the following:

See Maintenance of Traffic Special Provision for specific bridge and lane closure restrictions, assessment of damages due to MOT violations and certified personnel requirements.

All maintenance of traffic operations shall be conducted in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), the Virginia Work Area Protection Manual, and subject to the approval of the Engineer, VDOT, City of Richmond, and the RMTA. The Contractor's signing and MOT shall consider the efforts of adjacent contractors, motorists and pedestrian traffic.

The Contractor shall submit a plan sequenced with a plan of operations, for maintenance of traffic and detours to the Engineer for review and approval prior to commencement of work in a specific area. The plan shall be in accordance with the Virginia Work Area Protection Manual and the MUTCD. Plan shall be submitted at least 7 days prior to proposed work start date. If and when the Engineer provides sequence of construction plans and estimated quantities for maintenance of traffic items, the plans and items are for estimating purposes only.

512.04 Measurement and Payment

This section is replaced with the following:

Any maintenance of traffic required for coating locations paid under the "Miscellaneous Coating" bid item or for Various Bridges shall be paid for under the following items:

Flagger Service will be measured in hours as authorized or approved by the Engineer except when used for the Contractor's convenience, such as for ingress and egress for moving construction equipment or materials. In such cases, payment will not be made for flagger service. Flagger service will be paid for at the contract unit price per hour. This price shall include paddles, safety equipment, and portable traffic control signals.

Electronic Arrows will be measured in hours of actual use as required by the Engineer. Electronic arrows will be paid for at the contract unit price per hour. This price shall include arrow panels, fuel, maintenance, and a truck or trailer having flashing amber warning lights. The RMTA reserves the right to substitute their Electronic Arrow in lieu of Contractor's at the RMTA's direction. RMTA Electronic Arrow shall be operated by RMTA staff only. Contractor shall not submit or be paid for Electronic Arrow hourly pay units for when the RMTA's Electronic Arrow is in service.

Group 2 Channelizing Devices, as required by the Engineer, will be measured in days and will be paid for at the contract unit price per day. This price shall include maintaining devices, removing devices when no longer required, and signs. When Group 2 channelizing devices are moved to a new location or are removed and re-installed at the same location, they will be measured for separate payment. However, when the Group 2 channelizing devices are moved from one lane to another by simply moving the devices across the lane edge line without removal from the roadway, no additional payment will be made.

Truck-Mounted Attenuator (TMA) will be measured in hours of actual use and will be paid for at the contract unit price per hour. This price shall include the truck-mounted attenuator; support vehicle; lights; electronic arrows if allowed but not required; and

maintenance. When electronic arrows are used at the option of the Contractor in lieu of the rotating or high-intensity amber strobe light, the cost of the electronic arrow shall be included in the price bid for truck-mounted attenuators. When electronic arrows are required and not only allowed on the truck-mounted attenuator support vehicles, they will be paid for separately. The RMTA reserves the right to substitute their TMA in lieu of contractor's TMA at the RMTA's direction. RMTA TMA shall be operated by RMTA staff only. Contractor shall not submit or be paid for TMA hourly pay units for when the RMTA's TMA is in service.

Payment will be made under:

Pay Item	Pay Unit
Flagger Service	Hour
Electronic Arrow	Hour
Group 2 Channelizing Device	Day
Truck-Mounted Attenuator	Hour

The RMTA reserves the right to substitute their Portable Changeable Message Sign (PCMS) in lieu of contractor's PCMS at the RMTA's direction. Contractor shall not submit or be paid for PCMS hourly pay units for when the RMTA's PCMS is in service. When Contractor's PCMS is used, PCMS will be measured and paid for in hours of use.

SECTION 514 - FIELD OFFICE

This section of the Specifications is completely replaced by the following:

A field office is not required for this project.

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

SPECIAL PROVISIONS

To

VIRGINIA DEPARTMENT OF TRANSPORTATION

2016 ROAD AND BRIDGE SPECIFICATIONS

FOR

RICHMOND EXPRESSWAY SYSTEM

CONTRACT NO. MR-2017
MISCELLANEOUS REPAIRS

CONTENTS

CONTENTS

SPECIAL PROVISION
TOLL COLLECTION PASS CARDS

DESCRIPTION

This provision details the disbursement and return of Toll Collection Pass Cards (Cards).

PROCEDURES

The Contractor shall provide the Engineer and the RMTA with a written request for Cards within 7 calendar days prior to work start. The written request shall contain, but not be limited to, the number of Cards requested, names and addresses of the individuals to whom the Cards shall be assigned, a brief but thorough explanation why each individual requires a Card, and the anticipated time frame for each individual to require the Card.

The Engineer shall review the Request for Cards within 7 calendar days of receipt of Request. The RMTA, via the Engineer, may provide between zero and the total number of Cards requested.

Cards cannot be used in the Open Road Tolling (ORT), or "Express", lanes located on northbound and southbound Powhite Parkway and on the westbound Downtown Expressway (DTE). At these Toll Plazas, Contractors' vehicles must go through a "Full Service" lane to use Toll Pass Cards.

In the event that the Contractor is required to use the ORT lanes to perform Maintenance of Traffic operations, and with the approval of the Engineer, arrangements be made to permit designated vehicles to use the ORT lanes with compensation. Other than said designated vehicles, additional Contractor's vehicles using the ORT lanes will not be compensated and are required to purchase an E-ZPass Transponder.

Prior to the distribution of a Card, the individual designated to receive a Card shall be required to provide a picture ID (driver's license preferred) of him- or herself, their home phone number, the name of their employer, their employer's address, and their employer's phone number. In addition, each person receiving a Card is required to sign a statement of fact that the Card shall be used only for and during the execution of RMTA contract obligations. Misuse of any Card by an individual shall result in the immediate revocation of Card privileges. Engineer shall notify individual's company and the Contractor of the assumed Card misuse. The Contractor is responsible for returning the misused Card to the Engineer within 48 hours of notification.

In addition, all Cards issued in accordance to this contract shall be returned to the Engineer within 48 hours after completion of work. Failure to return all Cards may result in delays in processing of the final payment.

SPECIAL PROVISION
MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC

All maintenance of traffic operations shall be conducted in accordance with the most current versions of the Manual on Uniform Traffic Control Devices (MUTCD), the Virginia Work Area Protection Manual (WAPM), and subject to the approval of the Engineer, VDOT, City of Richmond, and the RMTA. The Contractor shall prepare and submit a Maintenance of Traffic (MOT) Plan for review and approval by the Engineer for each phase of construction. The Contractor's signing and MOT plan shall consider the efforts of adjacent contractors, motorists and pedestrian traffic.

The Contractor shall provide the Engineer no less than 7 calendar days notice before closing any lane, ramp or bridge. A minimum of 10 calendar days notice is required if the request is to close Boulevard Bridge. A minimum of 14 calendar days notice is required if the request is to close any lane that would impact or extend onto a VDOT/City of Richmond roadway. Approval to close any ramp or bridge is subject to review and consideration of event traffic in the vicinity.

No work or installation of any MOT devices may commence unless the work can be completed and the area reopened to traffic within the allowable lane closure hours, AND the Contractor has a contingency plan approved by the Engineer. No less than (7) calendar days prior to beginning the work, the Contractor shall submit a contingency plan to the Engineer for approval. This plan shall detail temporary protective measures to allow for restoration of the road for use when the Contractor is unable to complete a repair due to unusual circumstances beyond his control. Temporary protective measures shall only be used in emergency situations and are not allowed to remain in place for an extended period of time without authorization by the Engineer.

The Contractor shall be aware that no traffic control devices (such as Group II channeling devices, cones, Arrow Boards, etc.), with the exception of advance warning signs, shall be placed on any median, roadway or shoulder prior to the time shown. Advance warning signs may be placed not more than thirty (30) minutes prior to the begin time in this special provision. All traffic control devices including advance warning signs and detours shall be removed, the roadway free of debris, and the lane open to traffic by the end time in this special provision.

The Contractor shall be aware that failure to comply with the times set forth in this special provision could result in liquidated damages.

Prior to setting any lane or shoulder closures, the Contractor shall meet with the Engineer to review MOT for each of the lane closures the Contractor intends to perform. The Contractor shall prepare a sketch identifying the signs to be used and their respective locations. Sketches shall be prepared in accordance with the current version of the WAPM. The Contractor shall coordinate these meetings with the Engineer, so that the RMTA has no less than (7) days after

the meeting ends, to advise the motoring public of upcoming traffic restrictions. Maintenance and installation of all lane closures shall be the sole responsibility of the Contractor.

DOWNTOWN EXPRESSWAY (DTE) & BELTLINE EXPWY. CONNECTOR TO DTE

Eastbound DTE/Northbound Connector: The road is to be clear by 6:00 a.m.
Westbound DTE/Southbound Connector: The road is to be clear by 3:00 p.m.

TIMES OF ALLOWABLE SINGLE LANE CLOSURES:

(1) E.B. DTE / N.B. Connector:
   A. Weekdays – 10:00 a.m. to 6:00 a.m.
   B. Weekends – 10:00 a.m. Friday – 6:00 a.m. Monday

(2) W.B. DTE / S.B. Connector:
   A. Weekdays – 6:00 a.m. to 3:00 p.m. & 7:00 p.m. to 6:00 a.m.
   B. Weekends – 7:00 p.m. Friday – 3:00 p.m. Monday

TIMES OF ALLOWABLE MULTIPLE LANE CLOSURES: Multiple lane closures which restrict open lanes to (1) one in a single direction.

(1) E.B. DTE / N.B. Connector:
   A. Weekdays – 7:00 p.m. to 6:00 a.m.
   B. Weekends – RMTA shall decide allowable times based on individual weekend request by Contractor

(2) W.B. DTE / S.B. Connector:
   A. Weekdays – 9:00 p.m. to 6:00 a.m.
   B. Weekends – RMTA shall decide allowable times based on individual weekend request by Contractor

NUMBER OF LANES CLOSED (ANY DIRECTION)

- All roadways must have a minimum of (1) one lane open at all times. If a full roadway closure is required, the Contractor, the Authority and the Engineer shall schedule a mutually agreeable time. The length of the full closure shall be minimized by the Contractor.

- Where three (3) or more roadway lanes exist, the number of lanes which the Contractor may close is at the Engineer's discretion, based on the geometry of the area where lane/shoulder closures are desired.

DTE TOLL PLAZA (GATED LANES) AND EXPRESS LANES (ORT ZONE) RESTRICTIONS

NUMBER OF LANES CLOSED W.B DTE TOLL PLAZA (GATED LANES)

- No more than one lane closure will be permitted at any time for the cash lanes 43-46.
- One (l) Full Service lane must remain open at all times.
- No Toll Lane shall be closed from 3:00 p.m. to 7:00 p.m.
- Lane 45 (Secure Booth) may not be closed from 11:00 p.m. to 7:00 a.m. any day

NUMBER OF LANES CLOSED E.B DTE TOLL PLAZA (GATED LANES)

- There shall be at least three toll lanes open in a single direction at all times.
- One (l) Full Service lane must remain open at all times.
- No Toll Lane shall be closed from 3:00 p.m. to 7:00 p.m.
- Lane 55 (Secure Booth) may not be closed from 11:00 p.m. to 7:00 a.m. any day

NUMBER OF LANES CLOSED W.B DTE EXPRESS (ORT) LANES

- No more than two lane closures will be permitted at any time for the WB express lanes 47- 49.
- No Toll Lane shall be closed from 3:00 p.m. to 7:00 p.m.

DOWNTOWN EXPRESSWAY (DTE) RAMP CONNECTIONS TO/FROM I-95

Lane closures on Bridges 63 and 66 shall only be permitted at nights between 9 P.M. and 6 A.M. and on weekends between 9 P.M. Friday and 6 A.M. Monday. Closures of Ramp Bridges 64, 65, 67 and 68 shall only be permitted at nights between 10 P.M. and 5 A.M weekdays, and on weekends between 5 A.M. Saturday and 5 A.M. Monday.

There shall be no total closures of the either the eastbound Downtown Expressway (DTE) or westbound DTE permitted; One lane shall be maintained on Bridge 63 and Bridge 66 at all times. In addition, Contractor shall maintain at least one ramp entering and at least one ramp exiting the city at all times; Bridge 64 shall not be permitted to be closed while Bridge 65 is closed and Bridge 67 shall not be permitted to be closed while Bridge 68 is closed.

All lane closures must be coordinated with VDOT, RMTA and the Engineer for final approval of dates and times. Contractor shall notify VDOT Smart Traffic Center at 804-796-4520 to advice of the lane closure status of these bridges

POWHITE PARKWAY

Northbound/Eastbound: The road is to be clear by 6:00 am.
Southbound/Westbound: The road is to be clear by 3:00 pm.

TIMES OF ALLOWABLE SINGLE LANE CLOSURES:

(1) Northbound/Eastbound:

A. Weekdays – 10:00 a.m. to 5:00 a.m.
B. Weekends – 10:00 a.m. Friday – 5:00 a.m. Monday

(2) Southbound/Westbound:

A. Weekdays – 6:00 a.m. to 3:00 p.m. & 7:00 p.m. to 6:00 a.m.
B. Weekends – 7:00 p.m. Friday – 3:00 p.m. Monday

TIMES OF ALLOWABLE MULTIPLE LANE CLOSURES: Lane closures which restrict open lanes to (1) one in a single direction.

(1) Northbound/Eastbound:

A. Weekdays – 9:00 p.m. to 5:00 a.m.
B. Weekends – RMTA shall decide allowable times based on individual weekend request by Contractor

(2) Southbound/Westbound:

A. Weekdays – 9:00 p.m. to 6:00 a.m.
B. Weekends – RMTA shall decide allowable times based on individual weekend request by Contractor

LANE RESTRICTIONS (ANY DIRECTION)

- All roadways must have a minimum of (1) one lane open at all times.
- Where three (3) or more roadway lanes exist, the number of lanes which the Contractor may close is at the Engineer's discretion, based on the geometry of the area where lane/shoulder closures are desired.

<u>POWHITE PARKWAY TOLL PLAZA (GATED LANES) AND EXPRESS LANES (ORT ZONE) RESTRICTIONS</u>

NUMBER OF LANES CLOSED POWHITE N.B. AND S.B. TOLL PLAZAS (GATED LANES)

- There shall be at least three toll lanes open in a single direction at all times.
- One (l) Full Service lane must remain open at all times.
- No NB Toll Lane shall be closed from 5:00 a.m. to 10:00 a.m.
- No SB Toll Lane shall be closed from 3:00 p.m. to 7:00 p.m.
- Lane 3 and Lane 12 (Secure Booths) may not be closed between 11:00 p.m. to 7:00 a.m. any day

NUMBER OF LANES CLOSED POWHITE EXPRESS (ORT) LANES

- No more than two lane closures will be permitted at any time for the NB express lanes 90- 92.
- No more than two lane closures will be permitted at any time for the SB express lanes 93- 95.
- No NB ORT Toll Lane shall be closed from 5:00 a.m. to 10:00 a.m.
- No SB ORT Toll Lane shall be closed from 3:00 p.m. to 7:00 p.m.

EXIT AND ENTRANCE RAMP TOLL PLAZAS

TIMES AND NUMBERS OF TOLL LANE CLOSURES (ANY DIRECTION)

No toll lane closures shall be permitted during peak hours each weekday. Peak hours are 6:00 a.m. to 10:00 a.m. for EB or NB ramps and 3:00 p.m. to 7:00 p.m. for WB or SB ramps.

- The number of lanes which the Contractor may close is at the Engineer's discretion, based on the geometry of the area where lane/shoulder closures are desired.
- The Authority and the Engineer shall schedule a mutually agreeable time.
- The length of the full closure shall be minimized by the Contractor.

The Contractor shall provide the Engineer no less than 7 calendar days notice before closing any given toll lane or any exit or entrance ramp. Pick up operation shall commence no later than 30 minutes prior to closing period(s) referenced above.

The Contractor shall provide written notice to the Engineer a minimum of 7 calendar days notice before any lane or ramp closures. The RMTA and the Engineer reserve the right to restrict dates and times of proposed lane or ramp closures. Contractor shall not be permitted to close any ramps or lanes during events in Downtown Richmond or the vicinity when high traffic volumes are expected to enter or exit Downtown.

All lane closures must be coordinated with VDOT, RMTA, City of Richmond (if applicable) and the Engineer for final approval of dates and times. It will be the Engineer's sole responsibility to notify VDOT Traffic Operations Center (Smart Traffic) at 804-796-4520 to advise of the lane closure status of these bridges. The Contractor shall communicate any changes in these times/dates immediately with the Engineer.

POINT OF CONTACT

The Contractor must have a point of contact or construction foreman responsible for the entire project on site at all times. This person will coordinate all work and shall be in close contact with

the onsite inspections and shall clearly communicate any changes to the work plan, if they occur. In the event that this individual changes from the previous day, the Contractor shall contact the Engineer and confirm this change, prior to starting any work. The Contractor will be required to have a point of contact on duty at all times, regardless of extended shifts or type(s) of work being performed

BOULEVARD BRIDGE

Boulevard Bridge is a two-lane bridge carrying traffic in two opposing directions. Traffic in both directions must be maintained at all times. Typically, only single lane closures are permitted at any time. A full bridge closure may be permitted under rare circumstances with the approval of the Engineer and the Authority. The Contractor shall submit plans no less than 10 calendar days notice prior for approval. Consideration to traffic volumes and event traffic in the vicinity will be given.

Lane closures shall not be permitted Monday – Friday between the hours of 6:30 am to 9:30 am and 3:00 pm to 7:00 pm, or as directed by the Engineer.

Traffic control shall utilize flaggers and be in accordance with MUTCD and the Virginia Work Area Protection Manual standards. Truck mounted attenuators are prohibited on Boulevard Bridge.

LANE CLOSURE AND MOT VIOLATIONS

The RMTA reserves the right to charge liquidated damages for the Contractor's failure to remove a lane or ramp closure by the prescribed time each day. The liquidated damages shall be established as One Thousand Dollars ($1,000) per each fifteen (15) minutes, or a portion of 15 minutes, per lane or ramp, for any closure beyond the limits established above. Assessment of liquidated damages will stop when all maintenance of traffic devices have been removed from the roadway and lanes or ramps have been safely reopened to the approval of the Engineer. Any liquidated damages assessed in this Special Provision will be in addition to those listed in Section 108 of the Specifications.

Active work shall be pursued by the Contractor within one (1) hour from the time a lane or ramp closure is placed. The RMTA reserves the right to charge liquidated damages, as stated above, after one (1) hour of non-active work from the time the lane or ramp closure placement is completed. If active work has not started within two (2) hours from the time that the lane closure placement is completed, the Engineer shall require the lane closure to be immediately removed. Assessment of liquidated damages will end when lanes or ramps have been safely reopened to the approval of the Engineer or active work is pursued. Active work will be on-site activity as determined by the Engineer and the RMTA.

In addition, active work must be on-going at all times while a closure is in place. If active work is stopped for one (1) hour while a closure is in place or a closure is not removed within one (1) hour of the completion of active work, the Authority reserves the right to charge liquidated damages as stated above. The Contractor shall be aware that he will be required to perform active work while the deck is curing and shall have a minimum of two vehicles in the lane closure with high-intensity rotating, oscillating, or strobe lights flashing at all times.

STAGING AREA / CONSTRUCTION ENTRANCE

The Contractor shall be aware of the close proximity of live traffic to the work zone. Extra care shall be taken when slow moving vehicles are entering live traffic. Contractor must demonstrate how vehicles can enter and exit the work zone safely and minimize impacts to general public in his MOT plan. Contractor may consider the use of a shadow vehicle for equipment entering live traffic at slow speeds

CERTIFICATION OF PERSONNEL

FHWA regulations provided in 23 CFR Subpart J state "States shall require that personnel involved in the development, design, implementation, operation, inspection, and enforcement of work zone related transportation management and traffic control be trained, appropriate to the job decisions each individual is required to make." In accordance with the FHWA regulation and VDOT regulations, the Contractors foreman, or employee who is directly responsible for placing maintenance of traffic devices, shall be properly trained. The minimum training required for this Contract is the "Basic Work Zone Traffic Control Training" course. This is a one-day course designed by VDOT. For more information on the course, see the following: http://www.vdot.virginia.gov/business/trafficeng-WZS.asp

A trained employee must be on-site prior to setting up traffic control devices or a stop work order may be issued. In addition, a trained employee must be on-site at all times when any work inside a work zone requiring traffic control is on-going. A trained employee must be on-site at all times during the removal of traffic control devices. This employee will coordinate with the "Point of Contact" at all times. If the inspector or engineer observes the Contractor without a trained employee on-site during the setting up, maintenance or removal of the work zone traffic control, the RMTA reserves the right to charge liquidated damages at the rate of One Thousand Dollars ($1,000) per day.

RESTRICTED TIME OF WORK AREAS

Portions of the Downtown Expressway, Beltline Expressway Connectors, and the Powhite Parkway are adjacent to residential areas. These areas are identified as, but not limited to, the neighborhoods near the intersection of Powhite Parkway and Forest Hill Avenue and neighborhoods between the Downtown Expressway Beltline Connector and Park Drive/Blanton Avenue on the north end of the project.

Work in these areas after 11:00 PM shall be restricted. Activities permitted after this time shall include saw-cutting, placement of concrete, and asphalt paving. Any activities that produce unacceptable decibel levels, as determined by the Engineer and the RMTA, shall not be permitted. Typical activities not permitted after 11:00 PM include, but are not limited to, jack hammering or roto-hammering.

PROTECTION OF PROPERTY

The Contractor shall provide for the Engineer's review the method intended to protect the motoring public, from any activity which poses a potential threat to another's property or person (i.e. cars, motorcycles, pedestrians, businesses, etc.).

TRAFFIC ON MILLED SURFACES

At the Contractor's discretion he will be allowed to have traffic drive on a milled surface for no more than 48 hours after the milling operation is complete. If the Contractor chooses this method and there are elevation differences, he will be required to install temporary pavement wedges per VDOT Road and Bridge Standard 305.01, ACOT -1. This detail is provided below for the Contractor's reference. The Contractor shall also have proper drainage measures in-place prior to forecasted inclement weather. Drainage measures shall be submitted to the Engineer for approval prior to installation. Contractor shall be responsible for installation and maintenance of the pavement wedges and drainage measures to the approval of the Engineer. The Contractor shall not be allowed to remove any lane closure until all required pavement wedges and drainage measures are installed

HOLIDAYS AND SPECIAL EVENTS

The project will be officially shut down for the following holidays during the periods noted:

- Memorial Day: 5/26/17 (Friday) – 5:00 A.M. through
  5/30/17 (Tuesday) – 10:00 A.M.
- Independence Day: 6/30/17 (Friday) – 5:00 A.M. through
  7/5/17 (Wednesday) – 10:00 A.M.
- Labor Day: 9/1/17 (Friday) - 5:00 A.M. through
  9/5/17 (Tuesday) - 10:00 A.M.
- Thanksgiving: 11/22/17 (Wednesday) – 5:00 A.M. through
  11/27/17 (Monday) – 10:00 A.M.
- Christmas: 12/22/17 (Friday) – 5:00 A.M. through
  12/26/17 (Tuesday) – 10:00 A.M.
- New Year's Day: 12/29/17 (Friday) – 5:00 A.M. through
  1/2/18 (Tuesday) – 10:00 A.M.

The Engineer reserves the right to limit/cancel/modify the lane closure times and/or work that may be performed to accommodate the following special events. The Contractor should be aware of typical increased weekend traffic during these events.

- Ukrop's Monument Ave. 10K Race
  3/31/17 (Friday) – 2:00 p.m. through 04/03/17 (Monday) – 7:00 a.m.
- Dominion River Rock
  5/19/17 (Friday) - 2:00 p.m. through 5/22/17 (Monday) - 7:00 a.m.
- Jazz Festival at Maymont Park
  (Usually in Mid-August)
- Any NASCAR Race in Richmond
  4/28/17 (Friday) - 2:00 p.m. through 5/01/17 (Monday) - 7:00 a.m.

  9/08/17 (Friday) - 2:00 p.m. through 9/11/17 (Monday) - 7:00 a.m.
- Richmond Folk Festival
  10/13/17 (Friday) - 2:00 p.m. through 10/16/17 (Monday) - 7:00 a.m.
- Anthem Richmond Marathon
  11/10/17 (Friday) - 2:00 p.m. through 11/11/17 (Saturday) - 9:00 p.m.

No allowance shall be made for these periods in determining the contract end date.

MEASUREMENT AND PAYMENT

Standard Maintenance of Traffic pay items will be measured and paid as per VDOT 2016 Road and Bridge Specifications Section 512.04.

SPECIAL PROVISION
TRIM EXISTING VEGETATION

DESCRIPTION AND LOCATION

This work includes the cutting back of vegetation at specific locations adjacent to the roadway that include, but are not limited to, signs, guardrails, bridges, abutments, junction boxes, electrical services and access paths. This work is to include pruning existing branches, and clearing of vegetation as close to the ground as possible to allow access to structures. It is not anticipated that herbicide spraying will be required for this item.

Work locations shall be as determined by the Engineer.

PROCEDURES

All work shall be in accordance with Section 601 and this Special Provision.

Contractor shall cut back or remove vegetation in areas where vegetation is encroaching structures or obstructing access to structures. Cut back shall be considered as a 10' clearance of foliage from structure as measured in all directions from the structure. For roadways, Contractor shall cut back vegetation where it is encroaching over the existing guardrails. Cut back shall provide a 4' clearance from the foliage to the guardrail or barrier face.

Branches of trees that overhang the roadway or reduce sight distance and that are less than 20 feet above the elevation of the finished grade shall be trimmed, as directed by the engineer, using approved tree surgery practices in accordance with the VDOT requirements of Section 601.03(b).

All trimmings, dead wood, windfalls, stumps, and rubbish in the trimming areas shall be removed as directed by the Engineer and legally disposed of by the Contractor off site. Contractor will not be permitted under any circumstance to burn debris on RMTA property.

MEASUREMENT AND PAYMENT

Trim Existing Vegetation will be measured in square feet of surface area and will be paid for at the contract unit price per square foot. This price shall include all labor, equipment, materials, incidentals and proper disposal of material off-site for vegetation removal throughout the RMTA Expressway System.

PAY ITEM	PAY UNIT
Trim Existing Vegetation	Square Foot

SPECIAL PROVISION
RIGHT-OF-WAY FENCE

DESCRIPTION

This work shall consist of furnishing, removing, replacing and installing sections of right-of-way fence.

MATERIALS

ITEM	VDOT STANDARD	VDOT SECTION
Right-of-way fence	FE-CL	507
Right-of-way fence (fabric only)	FE-CL	507

MEASUREMENT AND PAYMENT

Right-of-way fence will be measured and paid for in accordance with the **Fence (FE-CL)** item as described in VDOT Section 507.

The Pay Item **Fence (FE-CL Fabric Only)** will be measured in linear feet of installed fence fabric, complete in place, along the top of the fence and will be paid for at the contract unit price per linear foot of fence fabric.

Pay Item	Pay Unit
Fence (FE-CL)	Linear Foot
Fence (FE-CL Fabric Only)	Linear Foot

SPECIAL PROVISION
HYDRAULIC CEMENT CONCRETE REPAIR

DESCRIPTION

This work shall consist of the repair of deteriorated sections of hydraulic cement concrete on Bridge Decks or other areas as identified by the Engineer. These repairs shall be in accordance with VDOT Spec. 412 for Bridge Decks and VDOT Spec. 316 Hydraulic Cement Concrete Pavement unless otherwise noted herein.

MATERIALS

Patching repairs will be made using a rapid-cure cement-based patching product, matching the requirements of VDOT Class A4 concrete, modified as necessary to achieve a compressive strength of at least 3,000 psi in a maximum of 8 hours. The product recommended for bridge deck and pavement repairs is Heartland High Performance Volumetric Concrete. Substitute products may be used as approved by the Engineer. All products used must be listed on the most current VDOT Approved Products List. Contractor shall submit proposed product data sheet to Engineer for approval prior to use.

PROCEDURES

It is the Contractor's responsibility to dispose of the displaced concrete off site according to all applicable federal, state, and local laws.

The Contractor may not utilize the grassy areas adjacent to the Expressway System for construction purposes. If the use of these areas becomes absolutely necessary, the Contractor is to request, in writing, permission to conduct operations in said areas and also accept responsibility for any damage to said areas. Repair to any damaged areas will be prescribed solely by the Engineer.

At locations where bridge deck expansion joint sealant is being repaired or replaced, Contractor shall sound bridge deck two feet from each side of the joint opening. All delaminated concrete shall be removed to a minimum depth of at least ½" or as directed by the Engineer. At locations where joint sealant will be attached to repair product, Contractor shall certify that joint sealant primer will fully bond to concrete repair product. If any joint sealant does not bond to areas where concrete was repaired, as determined by the Engineer, Contractor shall fully remove sealant and concrete repair product and replace same with comparable product at Contractor's expense and without extension of contract time.

Vehicular traffic will not be permitted on repaired areas until patching compound has attained a compressive strength of 3,000 pounds per square inch.

LOCATION

Work locations shall be as determined by the Engineer.

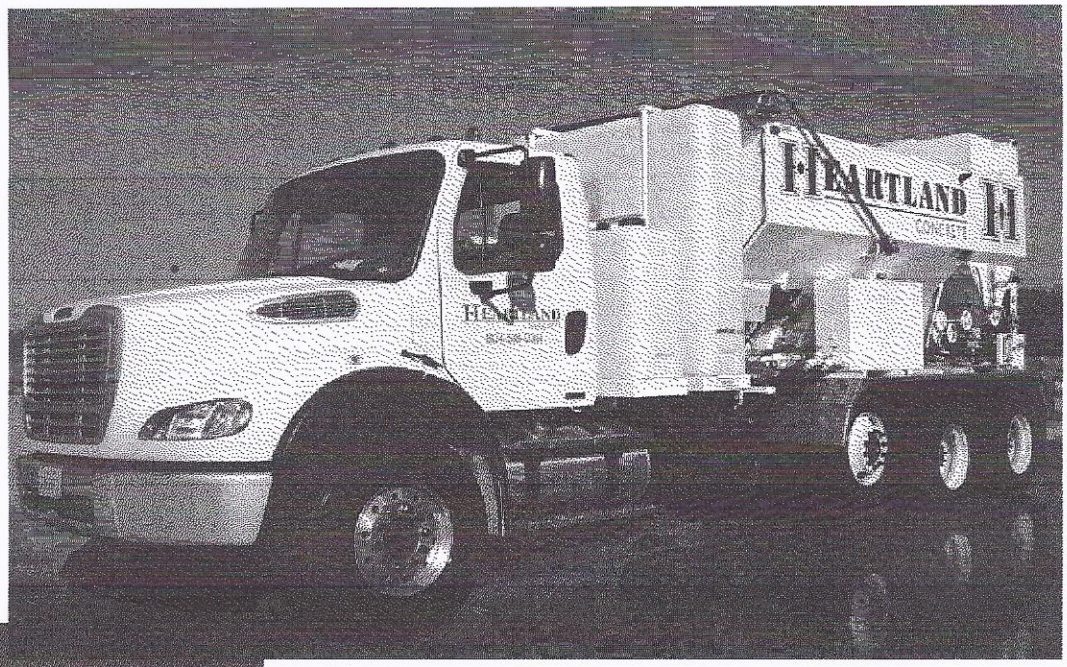
MEASUREMENT AND PAYMENT

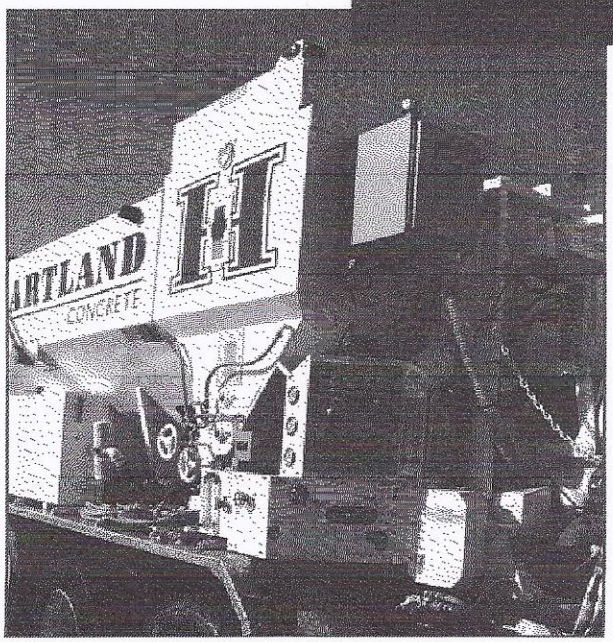
The concrete repairs will be measured and paid for in accordance with the items as described in VDOT Spec 412 or 316 with the following exceptions:

Concrete removal and surface preparation shall be incidental to all repair items.

Heartland High Performance Volumetric Concrete

The Heartland High Performance Volumetric Concrete Solution is designed for the ultimate in construction quality, efficiency, flexibility and ease of operation. Heartland High Performance Concrete is friendly to the environment by eliminating waste, mixing the exact amount required for the project at the time it is needed. Heartland High Performance Volumetric Certified operators have ultimate control of the mix design on your project site, allowing us to provide the freshest, highest quality concrete, slurry, flowable fill, grout and shotcrete available for your project.





- Eliminate concrete waste
- Cost effective on–site concrete production
- Minimize crew production costs
- Control delivery schedule
- On–Demand production
- Eliminate "Hot" Loads
- Instantaneous mix design changes
- Integrate Rapid Return to Service Solutions
- Exceeds industry standards
- Independent certified testing

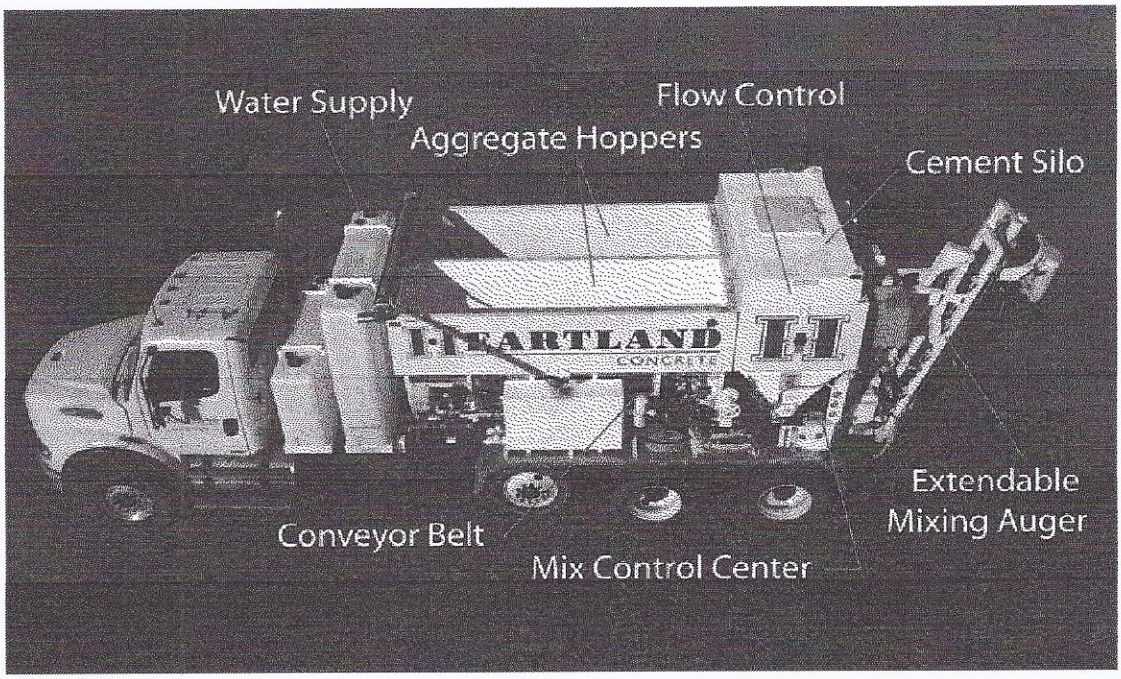
HEARTLAND
CONCRETE

23220 Airpark Drive, Petersburg, VA 23803
Office. 804.518.0361 Fax. 804.518.0363
www.heartlandconcrete.us

Why High Performance Volumetric?

The Heartland High Performance Volumetric Concrete system, provides many unique advantages to projects, owners, contractors and engineers.

First off, the mix design is calculated for a specific strength or certain desirable finishes. The mix is proportioned using known volumes of the component materials in the mix design. All of the ingredients are stored in separate compartments on the unit, as opposed to the traditional method of mixing sand, stone, water and cement at a central batch plant. Other admixtures can be added to produce a specified concrete mix design, on a continuous or intermittent basis, on site where the mix is to be poured.



Once the Heartland High Performance Volumetric Mixer arrives at the project, the ingredients are conveyed into the mixing auger which will continuously meter and combine the correct proportions using a volumetrically calibrated state of the art computer control system. This method of mixing the materials needed on site allows for a much easier clean up and wash out as the only component that needs to be cleaned is the mixing auger. Heartland High Performance Volumetric Mixers eliminate waste by allowing us to provide the exact amount of concrete the customer needs–nothing more. All mix designs can be made from the same High Performance Volumetric Mixer , on-the-fly, as desired saving you time and money.

- Long Distance and Remote Deliveries
- High Security Facilities
- Critical Production and Manufacturing Facilities
- Meet Around the Clock Demand
- No strength loss because of in truck hydration
- Low slump mixes are easily produced
- Meet Requirements of Virtually Any Mix Design
- Adjustable Discharge Rates

HEARTLAND CONCRETE
23220 Airpark Drive, Petersburg, VA 23803
Office. 804.518.0361 Fax. 804.518.0363
www.heartlandconcrete.us

Form TL-27MC (Revised 12/07)

VIRGINIA DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION

STATEMENT OF HYDRAULIC CEMENT CONCRETE MIX DESIGN

Submit one copy to the District Administrator, Virginia Department of Transportation. Approval must be received by the contractor from the Materials Division before work is begun. This mix design is approved for all projects of the Department for the class of concrete shown: Calendar Year 2011 Mix Design No. 4-5206-11

Producer *Heartland Concrete* Plant Location Petersburg Phone (804) 518-0361

Type of Mix: Volumetric X Job Mix _____ Date 7/6/2011

Mix Design - One Cubic Yard (Meter) Based on SSD Condition

Class of Concrete Rapid 658 (E) Slump/ 4 - 8 In. _____ mm Air Content 4 - 8 %

_____ (M) Flow

Material	Quantities				Source Code	Source Name	Plant/Quarry Location
Cement Type Rapid	658	lbs.		kg.	CTS	CTS	Logansport, In
Min.Admix.) FlyAsh	0	lbs.		kg.			
Min.Admix.2		lbs.		kg.			
Sand (1)	1235	lbs.		kg.	6014	Luck	Carolina Quarry
No. 57 Stone (1)	1774	lbs.		kg.	7007	Luck	Fairfax Quarry
Gr./No. ____ Aggr. (1)		lbs.		kg.			
Water (2) 275 lbs.	33.0	gal.		L.		City	Arlington, VA
Admixture (AE) (3)	Dosage varies	oz.		ml.	66	Sika	Lyndhurst, NJ
Admixture (Retarder) (3)		oz.		ml.			
Admixture (Other) (3)	26.3	oz.		ml.	191	Sika	Lyndhurst, NJ

NOTES: Mix based on CTS Rapid Set manufactures recommendations

(1) The quantities of fine and coarse aggregates necessary to conform to specifications in regard to consistency and workability shall be determined by the method described in "Recommended Practice for Selecting Proportions for Normal Weight Concrete" (ACI-211.1) and the actual quantities used shall not deviate more than plus or minus 5 percent from such quantities.

(2) To provide minimum slump permissible in Table II-17 while satisfying placement and finishing requirements. A separate design shall be submitted for each slump desired.

(3) The quantity of admixture will not be approved or disapproved since it varies considerably and must be initially established by trial and error by the producer or contractor with subsequent adjustment during batching to maintain the desired results within the range specified

Mineral Admixture #1 - sp.gr.	2.09
Mineral Admixture # 2 - sp.gr.	
Sand - Abs.	0.38
Sand - F.M.	2.80
Sand - sp.gr.	2.64
C.A. #1 - Abs.	0.75
C.A. #1 - sp.gr.	2.86
C.A. #1 Unit mass 104 (Lbs/C.F.) / _____ (kg/C.M.)	
Aggr. #2 - Abs.	
Aggr. #2 - sp.gr.	
2nd F.A./C.A.-F.M./u.wt. _____ (E) / _____ (M)	
Design W/C Ratio	0.42

Contractor _____ (Name of Company) By Mitch Upton (Certified Technician Preparing Form)

Producer Technician's Expiration Date 12/31/2012 (Do Not Use Social Security Number)

FOR DEPARTMENT USE ONLY

Remarks: _____

Copies: District Materials Engineer
Project Inspector
Plant Inspector
Sub- Contractor and / or R.M. Producer

Checked by Trey Simpson

Approved by Harold Dyson PE (District Materials Engineer) 7/14/11

Approved tentatively subject to the production of material meeting the requirements of the Specifications and Special Provisions.

SPECIAL PROVISION
SHOTCRETE

DESCRIPTION

This work shall consist of detecting delaminated sections of concrete substructure members, removing delaminating concrete, preparing surfaces in concrete spalls, preparing exposed rebar within spalls and repairing surfaces with pneumatically applied concrete.

MATERIALS

VDOT Specification Section 412 shall apply. Contractor shall provide shotcrete mix design and performance data at least 7 calendar days prior to scheduled work start date to Engineer for approval. Shotcrete shall be Class A with silica fume. Shotcrete mixtures submitted for approval by the Engineer shall be on the VDOT Approved Products List.

PROCEDURE

Contractor shall visually inspect exposed concrete substructure surfaces for suspected delamination. Contractor shall sound out with a hammer or similar implement all surfaces where delamination is suspected. Delaminated sections shall be removed as directed by the Engineer.

Contractor shall notify the Engineer a minimum of 24 hours prior to the removal of any concrete to allow a proper inspection. Concrete removal shall not commence without an inspection and approval by the Engineer. The Contractor shall provide access to the Engineer to inspect work areas. The Authority reserves the right to restrict payment on any areas where the Engineer removed concrete prior to an inspection and approval. If the Engineer does not complete an inspection within 24 hours of notice by the Contractor, the Contractor is permitted to proceed with concrete removal without penalty.

The surface of all Shotcrete repairs shall receive "neat lines", acceptability subject to approval of the Engineer. All Shotcrete repairs shall be completed no later than November 22, 2017.

LOCATIONS

A table of currently identified spalls, areas of delamination and cracks on a particular element of the referenced structure is presented below. This table is provided for informational purposes only. The estimated quantities below are provided for planning purposes only and are in no way a guarantee of actual quantities. The RMTA reserves the right to delete or add structures and repair locations to the scope of work. The Contractor is responsible to inspect the structure locations prior to bidding. No adjustments shall be made in unit price due to deletion of structure locations from the scope of work. Any work performed at the Diamond shall be paid under standard or elevated rates.

Shotcrete work locations are broken down into three categories:

1. "Standard" - Locations on land less than 30 feet above grade.
2. "Elevated" - Locations on land greater than 30 feet above grade.
3. "Above Water" - Locations above the James River or Kanawha Canal.

Shotcrete (Class A) Standard - Possible Locations		
RMTA Bridge #	Element	Estimated Shotcrete Qty. (S.F.)
4	N. Abutment soffit	112
	S. Abutment soffit	112
17	Pier 1 soffit	52
	Pier 3 soffit	48
6	Pier 2	60
9N	E. Abutment	38
10S	W. Abutment	23

Shotcrete (Class A) Elevated - Possible Locations		
RMTA Bridge #	Element	Estimated Shotcrete Qty. (S.F.)
64	Pier 10W	26
65	Pier 9	45
	Pier 10	25
	Pier 11	21
B67	Pier 1	29
	Pier 5	10

Shotcrete (Class A) Over Water - Possible Locations		
RMTA Bridge #	Element	Estimated Shotcrete Qty. (S.F.)
8S	Pier 1	2
	Pier 2	8
	Pier 3	5
	Pier 4	35
	Pier 5	77
	Pier 6	63
	Pier 7	45
	Pier 8	38
	Pier 9	24
	Pier 12	50
	Pier 13	2
	Pier 14	5
	Pier 15	3
	Pier 16	12
	Pier 17	41

Shotcrete (Class A) Over Water - Possible Locations		
RMTA Bridge #	Element	Estimated Shotcrete Qty. (S.F.)
BB	Pier 11	27
	Pier 12	21
	Pier 15	3
	Pier 16	38
	Pier 17	17
	Pier 18	6
	Pier 19	35
	Pier 20	24
	Pier 21	24
	Pier 22	12
	Pier 23	39
	Pier 24	8
	Pier 25	41
	Pier 26	40
	Pier 27	6
	Pier 28	16

COORDINATION AND SCHEDULING

Contractor shall coordinate and schedule all Shotcrete Repair activities with the Engineer. RMTA structures to be repaired may require access from property owned or managed by others (e.g. VDOT or City of Richmond). Contractor shall coordinate and schedule with appropriate owner, party or agency work activities on non-RMTA property. In addition, Contractor shall secure all necessary permits required for site access to perform work. Contractor shall abide by all permits regulations and guidelines issued by the governing agency. Contractor shall provide name and phone number of contact person at each governing agency where a RMTA structure scheduled to be repaired is located (excluding RMTA property) at least five days prior to scheduled work start to the Engineer.

MEASUREMENT AND PAYMENT

Potential Shotcrete work locations are hereby delineated by means of access. Access to "Elevated" shotcrete work locations may require the use of a manlift or significant staging. Access to "Standard" shotcrete work locations may require incidental staging. Access to "Above Water" shotcrete work locations may require a float, staging built up from the River and attached to the bridge, or the use of an under bridge access platform truck. Shotcrete Unit Costs shall be measured and paid for according to the defined Pay Items below:

The Pay Item **Shotcrete, Type A (Standard)** will be measured in square feet of surface to which it is applied and will be paid for at the contract unit price per square foot. This Unit Price shall include all cutting, drilling, hammering, and all other work involved in the complete removal and disposal of concrete and other materials necessary to provide for joining new and old portions of the structure according to this Special Provision or as directed by the Engineer. This Unit Cost shall include all access requirements to perform Shotcrete repairs at grade and up to 30' above grade. The Contract Unit Price shall also include dowels or other approved anchor devices, disposing of surplus material, cleaning and repairing reinforcing steel, welded wire fabric and steel and synthetic fibers.

The Pay Item **Shotcrete, Type A (Elevated)** will be measured in square feet of surface to which it is applied and will be paid for at the contract unit price per square foot where the work location is equal to or greater than 30' above grade. This Unit Price shall include all cutting, drilling, hammering, and all other work involved in the complete removal and disposal of concrete and other materials necessary to provide for joining new and old portions of the structure according to this Special Provision or as directed by the Engineer. This Unit Cost shall include all access requirements to perform Shotcrete repairs where the work is at elevations of 30' or more above grade. The Contract Unit Price shall also include dowels or other approved anchor devices, disposing of surplus material, cleaning and repairing reinforcing steel, welded wire fabric and steel and synthetic fibers.

The Pay Item **Shotcrete, Type A (Over Water)** will be measured in square feet of surface to which it is applied and will be paid for at the contract unit price per square foot. This Unit Price shall include all cutting, drilling, hammering, and all other work involved in the complete removal and disposal of concrete and other materials necessary to provide for joining new and old portions of the structure according to this Special Provision or as directed by the Engineer. This Unit Cost shall include all access requirements to perform Shotcrete repairs above the James River or Kanawha Canal. The Contract Unit Price shall also include dowels or other approved anchor devices, disposing of surplus material, cleaning and repairing reinforcing steel, welded wire fabric and steel and synthetic fibers.

Pay Item	Pay Unit
Shotcrete, Type A (Standard)	Square foot
Shotcrete, Type A (Elevated)	Square foot
Shotcrete, Type A (Over Water)	Square foot

SPECIAL PROVISION
PATCHING ASPHALT PAVEMENT

DESCRIPTION

This work shall consist of repairing sections of cracked and deteriorated SMA or SM asphalt concrete pavement on the RMTA system.

LOCATIONS

Asphalt pavement patch locations shall be determined by the Engineer. Asphalt pavement on the entire RMTA system is subject to asphalt patching.

Asphalt Patching	
Location	**IN*SY**
Powhite South at South Abutment	12
Entrance to the maintenance yard	5
Access Rd between Powhite N &S	5
Miscellaneous Locations	78

MATERIALS

Patching material shall be **SuperPave Mix SM 9.5E** with performance grade binder (PG 64E-22) subject to Engineer's approval. The mix design shall be submitted to the Engineer for approval at least 7 calendar days prior to starting work.

PROCEDURES

Patching consists of saw cutting an area designated by the Engineer, then removing the contents inside the area with pneumatic hammers. Once the contents have been removed, the hole is to be compacted and blown out with compressed air. Then the entire surface area, including sides, shall be covered with a tack coat. Surface course asphalt concrete is then to be placed in the hole and then rolled. All holes are to be a minimum 2" deep unless otherwise directed by the Engineer. The asphalt will be placed, in 2" lifts, with each 2" lift being tamped by gasoline-powered, piston-driven hand tamper with a compacting area of not less than 1 square foot. After the final or only lift of asphalt has been placed, the asphalt is to be rolled with a steel-drum, vibratory roller that has been approved by the Engineer.

MEASUREMENT AND PAYMENT

Asphalt Concrete Patch shall be measured in square yards per inch of depth and will be paid for at the contract unit price per square yard per inch. This price shall include all equipment, labor, material, removal and disposal of materials, and incidentals required to complete the work.

Pay Item	Pay Unit
Asphalt Concrete Patch	Inch x Square Yard

SPECIAL PROVISION
CLEANING DRAINAGE MANHOLE

DESCRIPTION

This work shall consist of cleaning out built up trash and debris from the interior of a drainage manhole. Work shall be performed by manual labor, the use of a vacuum truck or any other method chosen by the Contractor and approved by the Engineer.

The manhole is approximately 50' west of the centerline of Portland Place, approximately 900' south of its intersection with Queen Charlotte Road. Approximate Google Maps coordinates are 37.548545, -77.491843. In 2008, the RMTA installed a steel trash separator device inside the manhole. The device is bolted to the sides and bottom of the manhole. The bottom of the device is approximately 23' below the top of manhole. The base of the manhole is a 4' x 4' square and the circular riser is 48" diameter. Steps are attached to the side of the manhole spaced approximately 16" on center.

There is a stone access road to the manhole from Portland Place Road.

Work shall be performed in accordance with all OSHA confined space and other applicable regulations pertaining to this type.

The Contractor shall clean the manhole twice during this Contract. The first shall be within one month after the Notice To Proceed is issued. The second shall be within one month of the contract completion date. The RMTA reserves the right to delete one of the cleaning occurrences. If only one cleaning is chosen, the cleaning date shall be as agreed upon by the Engineer and the Contractor.

MEASUREMENT AND PAYMENT

Clean Manhole will be measured in units of each occurrence of cleaning the manhole, and will be paid for at the contract price per each. This price shall include all equipment, labor, incidentals and the proper disposal of trash and debris offsite per each cleaning.

Pay Item	Pay Unit
Clean Manhole	Each

SPECIAL PROVISION
BRIDGE REPAIRS

DESCRIPTION

This work shall consist of repairing specific steel surfaces of bridge structural steel members and bridge deck joint repairs. Repair plans for specific bridge rehabilitation details are provided in the Appendix.

All repairs shall be completed in accordance with the plan sheets, the requirements herein, and the 2016 VDOT Road and Bridge Specifications. All welding and testing shall be in accordance with AASHTO/AWS D1.5 Specifications. For each welder, welding operator, or tacker, the Contractor shall submit a copy of the certificate of qualification to the Engineer. The qualification certification shall state the name of the welder, operator, or tacker; name and title of the person who conducted the examination; type of specimens; position of welds; results of tests; and date of the examination. The qualification certification shall be made by an approved agency. Testing shall be in accordance with AASHTO/AWS D1.5 Specifications with a Flaw Severity Class A.

For the Contractor's reference, sheets from the as-built plans for Boulevard Bridge as well as Bridges 10S and 67 are included in the Appendix.

All new structural steel plate(s) and lacing bars shall be shop primed. Subsequent coatings shall be field applied following plate installation. In addition to the repair plate(s), steel surfaces within one foot of repaired area and any other steel surface where the coating system was damaged during these repairs shall be cleaned and coated under this contract. All prime and paint coat application costs shall be the responsibility of the Contractor and shall be incidental to the bridge repair item.

All structural steel shall first be solvent cleaned as per SSPC SP-1 specification to remove contamination. Then the Contractor shall use hand tools to clean surfaces removing loose rust, soot, or other remaining contamination using specification SSPC-2. Lastly, the Contractor shall apply a primer and intermediate coat of Carboline Carbomastic 15 Surface Tolerant Aluminum Mastic Epoxy and a finish Coat of Carboline Carbothane 133 LH as per the recommendation of the manufacturer. Specifications for SSPC-1, SSPC-2, Carbomastic 15, and Carbothane 133 LH are attached to this Special Provision.

The Contractor shall perform 100% ultrasonic testing for the entire length of the full penetration welds used for repairs at the locations noted on the plans. All testing costs shall be the responsibility of the Contractor and shall be incidental to the bridge repair item.

Prior to any steel fabrication, the Contractor shall field verify all dimensions and assess the working conditions to determine any constructability issues. Should the Contractor have any issues or questions, they shall be submitted to the Engineer prior to steel fabrication and start of work.

The Kanawha Canal discharges into the James River which is in the Chesapeake Bay Watershed and all work may be subject to the provisions in the Chesapeake Bay Preservation Act; therefore, no debris or wastewater of any type shall be discharged into the canal or river. Furthermore, the Contractor shall be responsible for compliance with all environmental laws and regulations regarding this type of work. All environmental permits as well as submittals, if required, shall be incidental to this work.

The Contractor is advised that the area under the Boulevard Bridge and Bridge 67 is not owned by RMTA and may require work permits from the City of Richmond.

For lane closures on and underneath these bridges and associated measurement and payment items, the Contractor shall refer to the special provisions for Maintenance of Traffic.

BRIDGE DESCRIPTIONS

Boulevard Bridge

The Boulevard Bridge is a two-lane bridge that carries State Route 161 (Westover Hills Boulevard) over the James River as well as Norfolk Southern and CSX Railroads. The superstructure consists of 13 spans of a semi-continuous steel girder floor beam system and 11 spans of a semi-continuous steel deck truss. The bridge is a weight limited structure; the maximum weight of a vehicle is 7,500 pounds. Four separate repairs are required.

The first repair shall include the fabrication of three different types of lacing bars (15 each of Type A, Type B and Type C) and procuring a total of 140 bolts/nuts/washers.

The second repair is the removal of damaged lacing bars and rivets and replacement with a new lacing bar and bolts at various locations.

The third repair is the removal of damaged or missing rivets and replacement with new bolts at various locations.

Lacing bars and other repair locations are difficult to access and include mid-span lower chord and truss member connections.

All steel repairs require that traffic be removed from the lane over the repair area. In addition, if these repairs impact the operation of the railroad, the Contractor must receive construction approval from the appropriate railroad and schedule a railroad flagger before beginning work. The Contractor shall utilize roadway flaggers to control traffic when one lane of the bridge is

closed in accordance with the Special Provision for Maintenance of Traffic. See the repair plans for more information.

Bridges 9N, 9S, 10N & 10S

Each bridge contains six (6) pins that will require UT Testing to ensure there are no internal flaws not visible by a hands-on inspection. There are three (3) pins at each abutment located at the bearings and hinge location that range in size from 3" to 5" in diameter. There are a total of twenty-four (24) pins that will need to be tested at the four (4) bridges.

Bridge 10S

This bridge carries a single CSX Railroad track over the southbound lanes of the Downtown Expressway Connector. There is one span consisting of a through steel girder and floorbeam system. This bridge has an adjacent parallel structure to the north (Parallel bridge is VDOT 1863). The parallel structures share both abutments. Due to the skew of the abutments, there are three bearings at each abutment; two abutment bearings and one end bearing. There are two pin connections; at the south through girder bearing at the west abutment and at the north through girder bearing at the east abutment. The repair is to grind flush the high load impact damage that occurred to the bottom flange on the south girder.

Bridge 67

Bridge 67 is a single lane bridge ramp carrying traffic from EB State Route 195 (Downtown Expressway) to NB I-95 that crosses Dock Street, E Cary Street, E Main Street, and CSX Railroad. The superstructure is composed of 12 simple spans and three continuous spans of multiple steel girders. The multiple repairs are to be first for the Pier 10W lower lateral gusset plates (top and bottom) and the lower lateral gusset plate (top only) along the same lateral brace that connects to the existing VDOT truss. Both repair locations are in the vicinity of Pier 10W. The second repair is to be at Pier 12W – Floorbeam 16 to the web and stiffeners. The repair will consist of adding angles to the web/bottom flange location, replacing the field splice plates and bolts and removing the deteriorated sections of stiffeners located at the bottom flange and welding new sections in its place.

Measurement and Payment

The Pay Items for Bridge Repairs will be paid for at the contract lump sum bid price at each location of bridge steel repairs. This price shall include all materials, labor, tools, equipment, and incidentals necessary to complete the repairs including access to the site, jacking and shoring procedures, removal of existing steel, steel fabrication, cutting, grinding, steel installation, welding, labor, shop and field cleaning, priming and painting, ultrasonic testing (where noted on plans), and shop coating of steel plates.

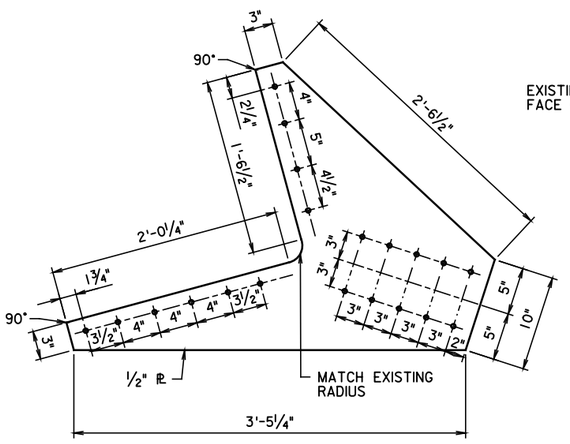
This price shall also include review fees; submittals; and preparation of all plans, drawings, schedules, and narratives necessary for describing the Contractor's means and methods required to perform the work. This price shall include any requirements to remain in

compliance with all environmental laws and regulations for work near or in the James River and Kanawha Canal. Legal offsite disposal of all waste materials shall be incidental to this item.

Any repairs which may require coordination with railroads shall be performed in accordance with the Supplemental Specifications, Section 107.19 Railway-Highway Provisions.

Payment will be made under:

Designation	Description and Location	Pay Unit
Boulevard Bridge	Lacing Bar Fabrication and Bolts (Plan Sheet SP-I-1)	Lump Sum
Boulevard Bridge	Lacing Bar and Bolt Replacement, Multiple Undefined Locations (Plan Sheet SP-I-1)	Each
Boulevard Bridge	Rivet Replacement Multiple Undefined Locations (Plan Sheet SP-I-1)	Each
Bridges 9N, 9S, 10N & 10S	UT Testing of Pins	Each
Bridge 10S	South Girder, High Load Impact Damage, Grind Out Damage	Lump Sum
Bridge 67	Pier 12W, Floorbeam 16	Lump Sum
Bridge 67	Lower Lateral Gusset Plates (Top & Bottom) Near Pier 10W	Lump Sum
Bridge 67	Lower Lateral Gusset Plate (Top Only) Opposite End of Lateral Brace That Connects to Existing VDOT Truss Near Pier 10W	Lump Sum
Bridge 67	Floorbeam 16 Repair in Unit 13 Between Pier 96 and Pier 12W	Lump Sum



**BRIDGE 67, PIER 10W
LATERAL GUSSET PLATE
LOOKING NORTHEAST**

**BRIDGE 67, PIER 10W
LATERAL GUSSET PLATE
LOOKING NORTHEAST**

**BRIDGE 67, PIER 10W
LATERAL GUSSET PLATE
LOOKING EAST**

Notes:

1. Work must be completed in accordance with the Virginia Department of Transportation Road and Bridge Specification, issued 2007, current supplemental specification, contract special provisions and contract.
2. All work shall be completed in accordance with the Construction Agreement between CSX Transportation and RMTA. The Contractor shall abide and perform all work in accordance with Schedule 1.
3. Contractor shall verify all dimensions of the existing plate, channel and angle, paying particular attention to the geometry, angles and alignment of the member and (if applicable) bolts to be replaced, field verified dimensions are to be used to determine the final geometry prior to fabrication.
4. Contractor shall be required to apply a three coat epoxy-urethane system to all new structural steel and to areas of existing structural steel where existing paint coatings are damaged during repair work. Surface preparations shall meet SSPC-SP1, SP2 and SP3. Type and color of coating shall be approved by the Engineer.
5. All repair welding shall be performed in accordance with AASHTO/AWS 2010 Bridge Welding Code, 6th Edition. Fillet welds shall be subject to 100% magnetic particle inspection.
6. All existing structural steel is ASTM 36. All new structural steel shall be AASHTO M270, Grade 36.
7. All bolts used in the repairs shall be A325 bolts.
8. All holes are $\frac{15}{16}$" diameter. All bolts are $\frac{7}{8}$" diameter.
9. Contractor shall temporarily support the end of angle affected by the gusset plate replacement.
10. Bolts/rivets may not be removed if forecast wind speeds during the course of the repair are expected to exceed 30mph.
11. Reference: Bridge B67 As-built plans.

Suggested Sequence of Construction (Lateral and Diaphragm Plates):

In general, the sequence of construction is as indicated below. Deviation from the sequence of construction shown is acceptable upon review and approval by the Engineer.

1. Remove bottom lateral connection plate by cutting plate at common face with air carbon arc. Care shall be taken not to damage column.
2. Replace removed portion of lower plate with new steel. Bolt in place to lateral. Full pen weld new plate to existing plate.
3. Remove and replace top plate in kind.
4. Clean and paint repair area.

**EXISTING AND PROPOSED
TOP LATERAL
GUSSET PLATE**

Scale: 1½" = 1'-0"

**EXISTING AND PROPOSED
BOTTOM LATERAL
GUSSET PLATE**

Scale: 1½" = 1'-0"

Note:

Weld "A" and Weld "B" shall not intersect. Welds shall be stopped at beginning radius.

VIEW A-A

Scale: 1½" = 1'-0"

WELD DETAIL

Scale: NTS

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

BRIDGE 67
PIER 10W
LATERAL GUSSET PLATE

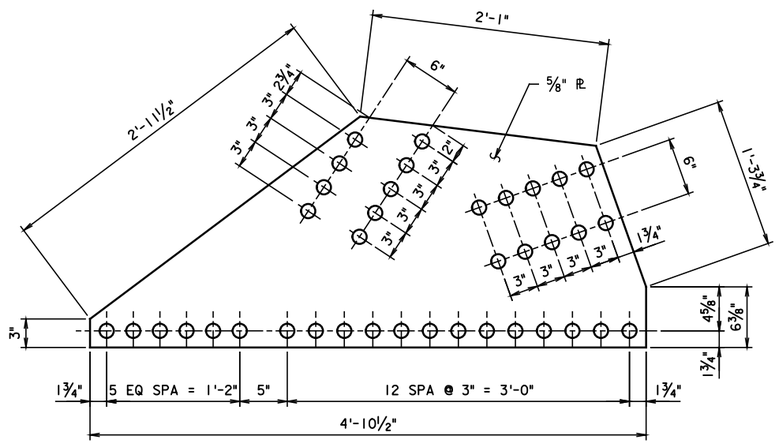
HNTB
HNTB CORPORATION
ARCHITECTS ENGINEERS & PLANNERS
ARLINGTON, VIRGINIA

SCALE AS NOTED	DATE FEBRUARY 2017	SHEET 1 OF 5	
PLAN NO.	PROJECT	FILE NO.	SHEET NO.
A	MR 2017		SP-1-1

BRIDGE 67, PIER 93-94
LATERAL GUSSET PLATE

REPLACE BOLTS IN VERTICAL AND HORIZONTAL OF ANGLE PRIOR TO REMOVAL OF LATERAL GUSSET PLATE. SEE NOTE 3 OF SUGGESTED SEQUENCE.

BRIDGE 67, PIER 93-94
LATERAL GUSSET PLATE



EXISTING AND PROPOSED
TOP LATERAL
GUSSET PLATE

Scale: 1½" = 1'-0"

Notes:

1. Work must be completed in accordance with the Virginia Department of Transportation Road and Bridge Specification, issued 2007, current supplemental specification, contract special provisions and contract.
2. All work shall be completed in accordance with the Construction Agreement between CSX Transportation and RMTA. The Contractor shall abide and perform all work in accordance with Schedule 1.
3. Contractor shall verify all dimensions of the existing plate, channel and angle, paying particular attention to the geometry, angles and alignment of the member and (if applicable) bolts to be replaced, field verified dimensions are to be used to determine the final geometry prior to fabrication.
4. Contractor shall be required to apply a three coat epoxy-urethane system to all new structural steel and to areas of existing structural steel where existing paint coatings are damaged during repair work. Surface preparations shall meet SSPC-SP1, SP2 and SP3. Type and color of coating shall be approved by the Engineer.
5. All repair welding shall be performed in accordance with AASHTO/AWS 2010 Bridge Welding Code, 6th Edition. Fillet welds shall be subject to 100% magnetic particle inspection.
6. All existing structural steel is ASTM 36. All new structural steel shall be AASHTO M270, Grade 36.
7. All bolts used in the repairs shall be A325 bolts.
8. All holes are 15/16 " diameter. All bolts are ⅞" diameter.
9. Contractor shall temporarily support the end of angle affected by the gusset plate replacement.
10. Bolts/rivets may not be removed if forecast wind speeds during the course of the repair are expected to exceed 30mph.
11. Reference: Bridge B67 As-built plans.

Suggested Sequence of Construction (Lateral and Diaphragm Plates):

In general, the sequence of construction is as indicated below. Deviation from the sequence of construction shown is acceptable upon review and approval by the Engineer.

1. Contractor is to replace top lateral connection in-kind. Bottom lateral connection plate shall remain as is.
2. Contractor shall carefully measure, mark and drill all holes in new plate prior to removal of existing plate. After removal of existing plate new plate shall be immediately installed.
3. Prior to removal of existing plate, contractor shall replace all bolts that connect angle to vertical plate and connect angle to lateral member.
4. Clean and paint repair area.

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

BRIDGE 67
PIER 93-94
TOP LATERAL GUSSET PLATE

HNTB
HNTB CORPORATION
ARCHITECTS ENGINEERS & PLANNERS
ARLINGTON, VIRGINIA

SCALE AS NOTED	DATE FEBRUARY 2017	SHEET 2 OF 5		
PLAN NO. A	PROJECT MR 2017	FILE NO.	SHEET NO. SP-1-2	

BRIDGE 10S
SOUTH GIRDER
LOOKING SOUTH

BRIDGE 10S
SOUTH GIRDER
LOOKING SOUTH

Notes:

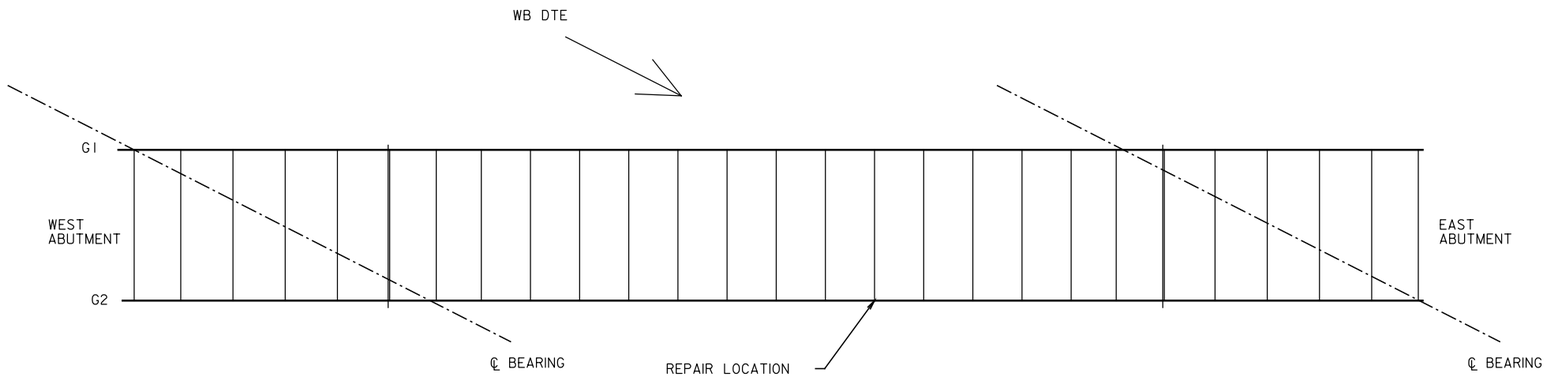
1. Work must be completed in accordance with the Virginia Department of Transportation Road and Bridge Specification, issued 2007, current supplemental specification, contract special provisions and contract.
2. All work shall be completed in accordance with the Construction Agreement between CSX Transportation and RMTA. The Contractor shall abide and perform all work in accordance with Schedule 1.
3. Contractor shall be required to apply a three coat epoxy-urethane system to all new structural steel and to areas of existing structural steel where existing paint coatings are damaged during repair work. Surface preparations shall meet SSPC-SP1, SP2 and SP3. Type and color of coating shall be approved by the Engineer.
4. All existing structural steel is ASTM 36.

   Reference: Bridge B67 As-built plans.

Suggested Sequence of Construction:

In general, the sequence of construction is as indicated below. Deviation from the sequence of construction shown is acceptable upon review and approval by the Engineer.

1. Remove paint and clean area.
2. Grind out impact damage until the bottom flange has a smooth surface. Grinding shall be performed in the direction of the bottom flange (looking longitudinally down the flange).
3. Dye pen test the area to confirm no crack is present.
4. Clean and paint the repair area.



FRAMING PLAN

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

BRIDGE 10S
SOUTH GIRDER
WB DTE

HNTB CORPORATION
ARCHITECTS ENGINEERS & PLANNERS
ARLINGTON, VIRGINIA

SCALE	DATE	SHEET	OF
AS NOTED	FEBRUARY 2017	3	5

PLAN NO.	PROJECT	FILE NO.	SHEET NO.
A	MR 2017		SP-1-3

BRIDGE 67, PIER 12W
FLOORBEAM 16
LOOKING EAST

BRIDGE 67, PIER 12W
FLOORBEAM 16
LOOKING NORTH

BRIDGE 67, PIER 12W
FLOORBEAM 16
LOOKING NORTH

BRIDGE 67, PIER 12W
FLOORBEAM 16
LOOKING NORTHWEST

Notes:

Work shall be completed in accordance with the Virginia Department of Transportation Road and Bridge Specification, issued 2007, current supplemental specifications, contract special provisions.

Contractor shall verify all dimensions, existing and new plates prior to beginning repair work.

All existing structural steel is ASTM-A36. All new structural steel shall be AASHTO M270, grade 36.

7/8" diameter A325 high strength bolts shall be used. Threads are to be excluded from plates. All holes are 15/16 " diameter.

Paint primer shall be applied to all areas to be covered by retrofit plates and angles. Paint primer shall be applied to all areas to be covered by retrofit plates and angles. Splice to be painted after bolt replacement.

Contractor shall be required to apply a three coat epoxy-urethane system to all new structural steel and to areas of existing structural steel where existing paint coatings are damaged during repair work. Surface preparations shall meet SSPC-SP1, SP2 and SP3. Type and color of coating shall be approved by the Engineer.

Bolts at splice location shall be removed and replaced with new A325 bolts. One side of floorbeam bolts shall be removed and new plates added one at a time.

Bolts may not be removed if forecast wind speeds during the course of the repair are expected to exceed 30mph.

Caulk shall be added around the perimeter of all repairs to ensure no water will infiltrate the area.

Reference: Bridge 67, Contract C-10, original design plans.

Legend:

N.S. - Near side
F.S. - Far side

- Section loss

Suggested Sequence of Construction:

In general, the sequence of construction is as indicated below. Deviation from the sequence of construction shown are acceptable upon review and approval by the engineer.

See sheet 5 of 5 (SP-1-5) for repair details.

Bottom Flange Repair:

1. Remove traffic from bridge.
2. Trim web splice plate to accommodate proposed angles, both sides.
3. Remove bottom flange splice plates.
4. Clean and paint all rust areas in repair limits.
5. Field drill web and flange holes, place bolts in flange holes.
6. Insert web bolts after all angles connected to flanges.

Stiffener Repair:

1. Remove deteriorated section of stiffeners.
2. Weld proposed section of stiffener to existing web and stiffener.
4. Paint all new repair areas.

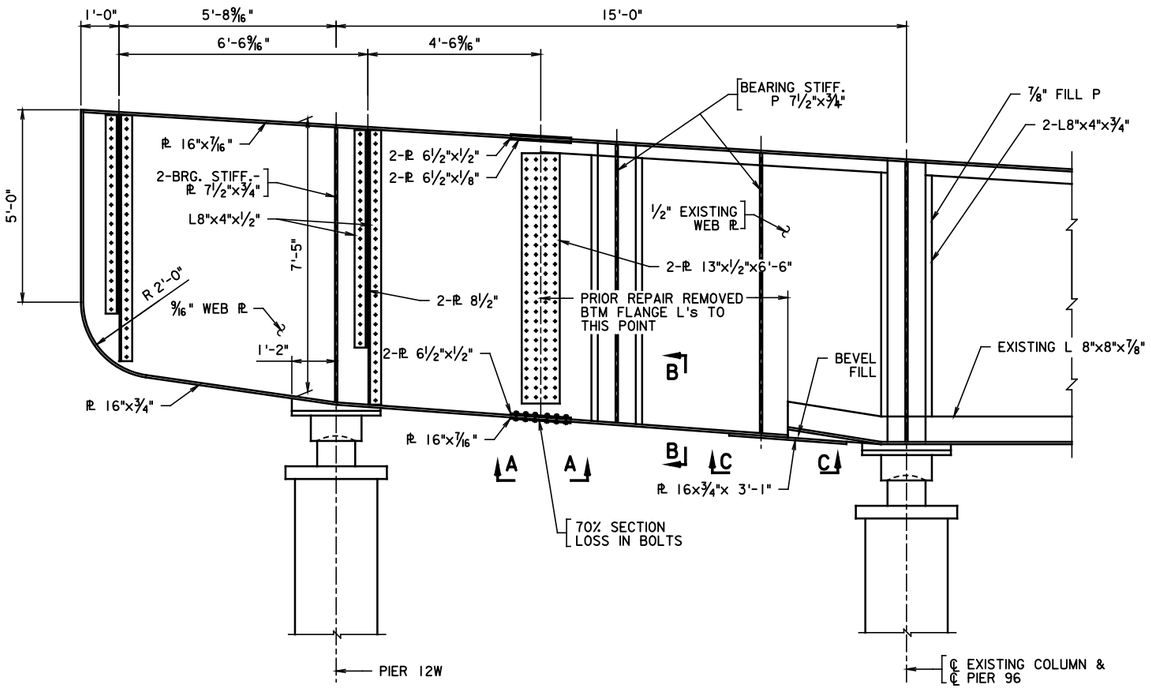
RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

BRIDGE 67
PIER 12W
FLOORBEAM 16

HNTB CORPORATION
ARCHITECTS ENGINEERS & PLANNERS
ARLINGTON, VIRGINIA

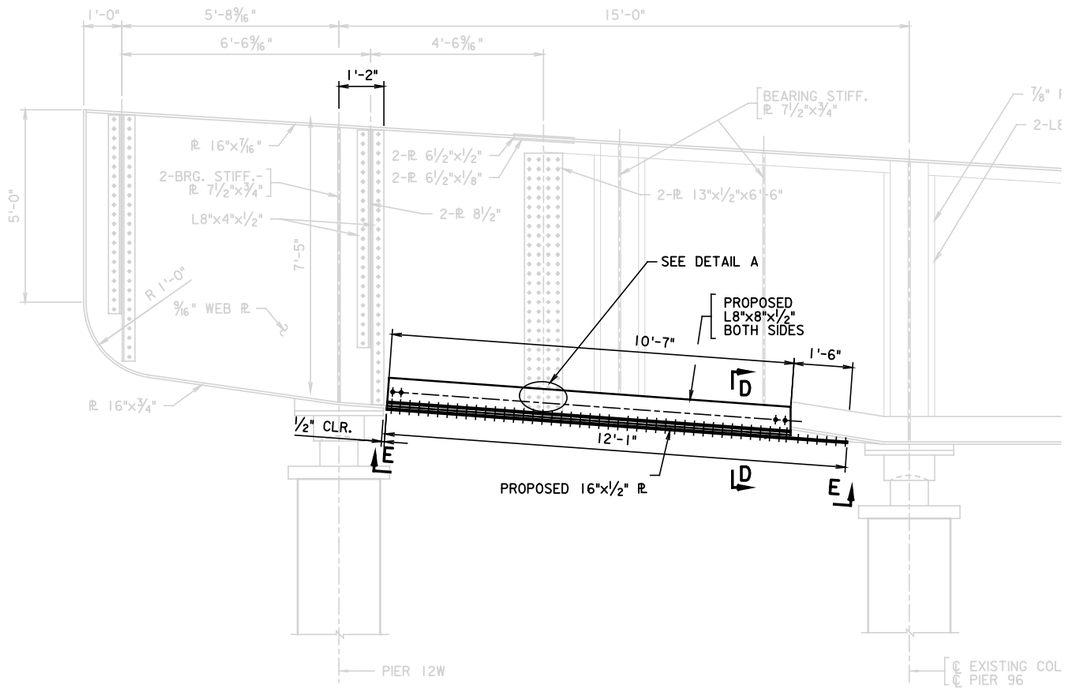
SCALE	DATE	SHEET	OF
AS NOTED	FEBRUARY 2017	4	5

PLAN NO.	PROJECT	FILE NO.	SHEET NO.
A	MR 2017		SP-1-4



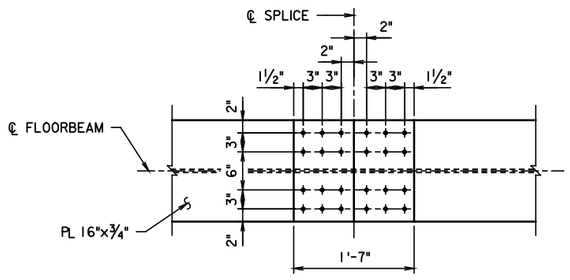
EXISTING ELEVATION - FLOORBEAM 16

Scale: 1/2" = 1'-0"



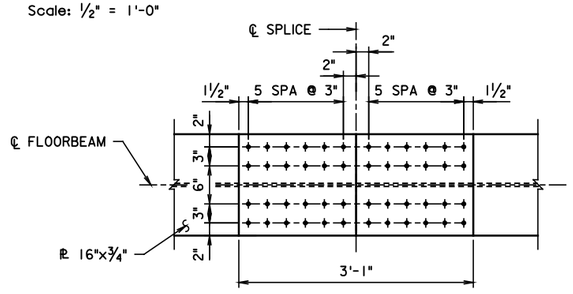
PROPOSED ELEVATION - FLOORBEAM 16

Scale: 1/2" = 1'-0"



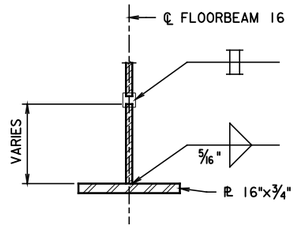
EXISTING SECTION A-A

Scale: 1" = 1'-0"



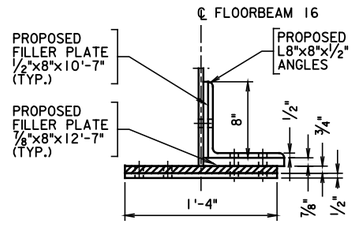
EXISTING SECTION C-C

Scale: 1" = 1'-0"



EXISTING SECTION B-B

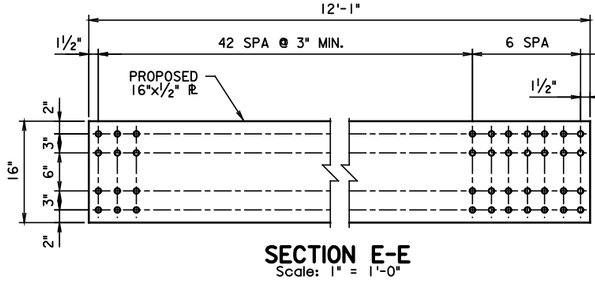
Scale: 1" = 1'-0"



SECTION D-D

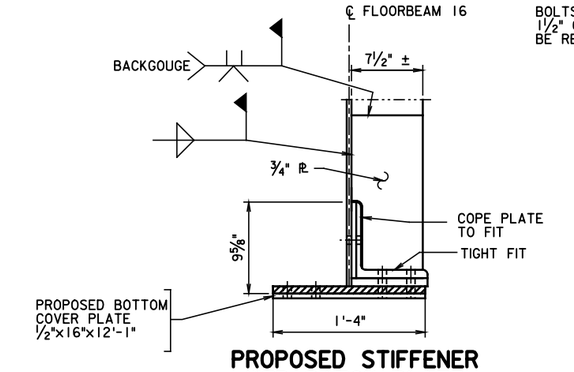
Scale: 1 1/2" = 1'-0"

FILL PLATES TO BE DETERMINED BY CONTRACTOR TO ENSURE ANGLES WILL SEAT PROPERLY AGAINST THE WEB AND BOTTOM FLANGE



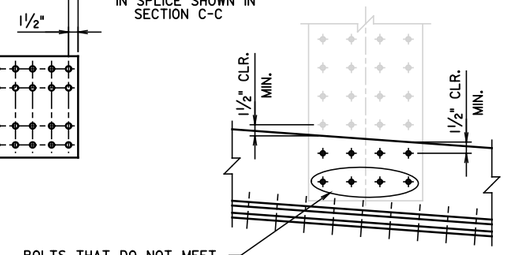
SECTION E-E

Scale: 1" = 1'-0"



PROPOSED STIFFENER WEB PATCH PLATE

Scale: 1 1/2" = 1'-0"



DETAIL A

Scale: 1 1/2" = 1'-0"

IF MINIMUM CLEARANCE CANNOT BE OBTAINED, NEW ANGLE WILL HAVE TO BE TRIMMED HORIZONTALLY AT SPLICE PLATE

Section loss

Approximate Steel Weight = 1,100lbs

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

BRIDGE 67
PIER 12W
FLOORBEAM 16

HNTB CORPORATION
ARCHITECTS ENGINEERS & PLANNERS
ARLINGTON, VIRGINIA

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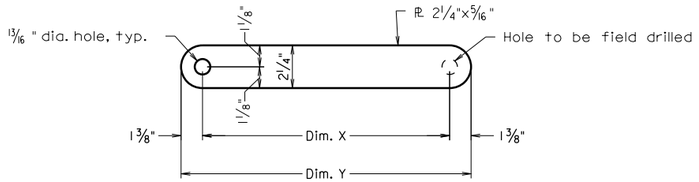

PROPOSED LACING BAR REPLACEMENT

Scale: 3" = 1'-0"

LACING BAR	Dim. X*	Dim. Y*	Fabrication Qty. **	Installation Qty. **	Bolts Qty. **/***
Type "A"	10 3/8"	1'-1 1/8"	15	8	30
Type "B"	1'-1 3/16 "	1'-3 15/16 "	15	8	30
Type "C"	1'-1"	1'-3 3/4"	15	8	30

* Dimension may vary, field verification required.

** In addition to Lacing Bar Types "A", "B", and "C", Contractor shall provide replacement lacing bars as shown in the photo to the right. Field measurement is necessary before fabrication of lacing bars. Fabrication Qty: 15 bars; Installation Qty: 8 bars; Bolts Qty: 30 bolts

*** In addition to lacing bar replacement the Contractor shall supply and install 50 additional bolts, nuts and washers to replace missing rivets.

TYPICAL PACK RUST BETWEEN LACING BARS AND TRUSS MEMBERS

Notes:

1. Work shall be completed in accordance with the Virginia Department of Transportation Road and Bridge Specification, issued 2007, current supplemental specifications, contract special provisions and contract.
2. Contractor shall verify all dimensions of the existing lacing bars to be replaced, paying particular attention to the alignment of the member and bolts to be replaced. Field verified dimensions are to be used to determine the final geometry prior to fabrication.
3. Contractor shall be required to apply a three coat epoxy-urethane system to all new structural steel and to areas of existing structural steel where existing paint coatings are damaged during repair work. Surface preparation shall meet SSPC-SP1, SP2 and SP3. Type and color of coating shall be approved by the Engineer.
4. All existing structural steel is Fy=30ksi, Fu=60ksi. All new structural steel shall be AASHTO M270, grade 36 and shop primed.
5. 3/4" diameter A325 high strength bolts shall be used in the repairs. Threads are to be excluded from planes.
6. Rivets at location of existing lacing bars to be replaced shall be removed and replaced with new A325 bolts.
7. Contractor shall provide number of bolts shown + 20% spare. (204 bolts)
8. Following completion of installation, all unused lacing bars and bolts shall be transferred to RMTA possession at no additional cost.
9. Reference: Boulevard Bridge Over James River As-built plans.

TYPICAL 100% SECTION LOSS OF LACING BARS AND BATTEN PLATES

TYPICAL SECTION LOSS OF LACING BARS AND MISSING RIVETS ON TRUSS LOWER CHORD

Suggested Sequence of Construction:

In general, the sequence of construction is as indicated below. Deviation from the sequence of construction shown is acceptable upon review and approval by the Engineer.

1. Locate and size lacing bars for replacement.
2. Remove corroded lacing bar and clean the truss member behind it. Note any section loss and report findings to Engineer.
3. Install proposed lacing bar replacment. Bolt in place.
4. Locate missing rivets and replace with A325 bolts.
5. Paint repair area.

RICHMOND METROPOLITAN TRANSPORTATION AUTHORITY

BOULEVARD BRIDGE
LACING BAR AND BOLT
REPLACEMENT

HNTB CORPORATION
ARCHITECTS ENGINEERS & PLANNERS
ARLINGTON, VIRGINIA

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SSPC: The Society for Protective Coatings

SURFACE PREPARATION SPECIFICATION NO. 1

Solvent Cleaning

1. Scope

1.1 This specification covers the requirements for the solvent cleaning of steel surfaces.

2. Definition

2.1 Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants from steel surfaces.

2.2 It is intended that solvent cleaning be used prior to the application of paint and in conjunction with surface preparation methods specified for the removal of rust, mill scale, or paint.

3. Surface Preparation Before and After Solvent Cleaning

3.1 Prior to solvent cleaning, remove foreign matter (other than grease and oil) by one or a combination of the following: brush with stiff fiber or wire brushes, abrade, scrape, or clean with solutions of appropriate cleaners, provided such cleaners are followed by a fresh water rinse.

3.2 After solvent cleaning, remove dirt, dust, and other contaminants from the surface prior to paint application. Acceptable methods include brushing, blow off with clean, dry air, or vacuum cleaning.

4. Methods of Solvent Cleaning

4.1 Remove heavy oil or grease first by scraper. Then remove the remaining oil or grease by any of the following methods:

4.1.1 Wipe or scrub the surface with rags or brushes wetted with solvent. Use clean solvent and clean rags or brushes for the final wiping.

4.1.2 Spray the surface with solvent. Use clean solvent for the final spraying.

4.1.3 Vapor degrease using stabilized chlorinated hydrocarbon solvents.

4.1.4 Immerse completely in a tank or tanks of solvent. For the last immersion, use solvent which does not contain detrimental amounts of contaminant.

4.1.5 Emulsion or alkaline cleaners may be used in place of the methods described. After treatment, wash the surface with fresh water or steam to remove detrimental residues.

4.1.6 Steam clean, using detergents or cleaners and follow by steam or fresh water wash to remove detrimental residues.

5. Inspection

5.1 All work and materials supplied under this standard shall be subject to timely inspection by the purchaser or his authorized representative. The contractor shall correct such work or replace such material as is found defective under this standard. In case of dispute the arbitration or settlement procedure established in the procurement documents, if any, shall be followed. If no arbitration or settlement procedure is established, then a procedure mutually agreeable to purchaser and contractor shall be used.

5.2 The procurement documents covering work or purchase should establish the responsibility for testing and for any required affidavit certifying full compliance with the standard.

6. Disclaimer

6.1 While every precaution is taken to ensure that all information furnished in SSPC standards and specifications is as accurate, complete, and useful as possible, SSPC cannot assume responsibility nor incur any obligation resulting from the use of any materials, coatings, or methods specified herein, or of the specification or standard itself.

6.2 This specification does not attempt to address problems concerning safety associated with its use. The user of this specification, as well as the user of all products or practices described herein, is responsible for instituting appropriate health and safety practices and for ensuring compliance with all governmental regulations.

7. Note

Notes are not requirements of this specification.

7.1 A Commentary Section is available and contains additional information and data relative to this specification. The Surface Preparation Commentary, SSPC-SP COM, is not part

of this specification. The table below lists the subjects discussed relevant to solvent cleaning and the appropriate Commentary section.

Section Subject	SSPC-SP COM Section
Solvents and Cleaners	5.1.1 through 5.1.3
Steam Cleaning	5.1.4
Threshold Limit Values	5.1.5

SSPC: The Society for Protective Coatings

SURFACE PREPARATION SPECIFICATION NO. 2

Hand Tool Cleaning

1. Scope

1.1 This standard covers the requirements for hand tool cleaning steel surfaces.

2. Definitions

2.1 Hand tool cleaning is a method of preparing steel surfaces by the use of non-power hand tools.

2.2 Hand tool cleaning removes all loose mill scale, loose rust, loose paint, and other loose detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Mill scale, rust, and paint are considered adherent if they cannot be removed by lifting with a dull putty knife.

2.3 SSPC-VIS 3 or other visual standard of surface preparation agreed upon by the contracting parties may be used to further define the surface (see Note 8.1).

3. Referenced Standards

3.1 The latest issue, revision, or amendment of the referenced standards in effect on the date of invitation to bid shall govern, unless otherwise specified. Standards marked with an asterisk (*) are referenced only in the Notes, which are not requirements of this standard.

3.2 If there is a conflict between the requirements of any of the cited reference standards and this standard, the requirements of this standard shall prevail.

3.3 SSPC SPECIFICATIONS:

SP 1	Solvent Cleaning
***SP 3**	Power Tool Cleaning
***SP 11**	Power Tool Cleaning to Bare Metal
***SP 15**	Commercial Grade Power Tool Cleaning
VIS 3	Guide and Reference Photographs for Steel Surfaces Prepared by for Power- and Hand-Tool Cleaning

3.4 INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO):

***8501-1**	Preparation of steel substrates before application of paints and related products: Visual assessment of surface cleanliness—Part I.

4. Surface Preparation Before and After Hand Tool Cleaning

4.1 Before hand tool cleaning, visible deposits of oil, grease, or other materials that may interfere with coating adhesion shall be removed in accordance with SSPC-SP 1 or other agreed-upon methods. Nonvisible surface contaminants such as soluble salts shall be treated to the extent specified by the procurement documents [project specifications] (see Note 8.2).

4.2 After hand tool cleaning and prior to painting, reclean the surface if it does not conform to this standard.

4.3 After hand tool cleaning and prior to painting, remove dirt, dust, or similar contaminants from the surface. Acceptable methods include brushing, blow off with clean, dry air, or vacuum cleaning.

5. Methods of Hand Tool Cleaning

5.1 Use impact hand tools to remove stratified rust (rust scale).

5.2 Use impact hand tools to remove all weld slag.

5.3 Use hand wire brushing, hand abrading, hand scraping, or other similar non-impact methods to remove all loose mill scale, all loose or non-adherent rust, and all loose paint.

5.4 Regardless of the method used for cleaning, if specified in the procurement documents, feather the edges of remaining old paint so that the repainted surface can have a reasonably smooth appearance.

5.5 If approved by the owner, use power tools or blast cleaning as a substitute cleaning method for this standard.

6. Inspection

6.1 Unless otherwise specified in the procurement documents, the contractor or material supplier is responsible for quality control to assure that the requirements of this document are met. Work and materials supplied under this standard are also subject to inspection by the purchaser or an authorized representative. Materials and work areas shall be accessible to the inspector.

6.2 Conditions not complying with this standard shall be corrected. In the case of a dispute, an arbitration or settlement procedure established in the procurement documents (project specification) shall be followed. If no arbitration or settlement procedure is established, then a procedure mutually agreeable to purchaser and material supplier (or contractor) shall be used.

7. Disclaimer

7.1 While every precaution is taken to ensure that all information furnished in SSPC standards and specifications is as accurate, complete, and useful as possible, SSPC cannot assume responsibility nor incur any obligation resulting from the use of any materials, coatings, or methods specified herein, or of the specification or standard itself.

7.2 This standard does not attempt to address problems concerning safety associated with its use. The user of this standard, as well as the user of all products or practices described herein, is responsible for instituting appropriate health and safety practices and for ensuring compliance with all governmental regulations.

8. Notes

Notes are not requirements of this standard.

8.1 Note that the use of visual standards in conjunction with this standard is required only when they are specified in the procurement documents (project specification) covering the work. It is recommended, however, that the use of visual standards be made mandatory in the procurement documents.

SSPC-VIS 3 provides a suitable comparative visual standard for SSPC-SP 2, SSPC-SP 3, SSPC-SP 11, and SSPC-SP 15. ISO 8501-1 may also serve as a visual standard.

8.2 The SSPC Surface Preparation Commentary (SSPC-SP COM) contains additional information and data relevant to this specification. The Commentary is non-mandatory and is not part of this specification. The table below lists the subjects discussed relevant to hand tool cleaning and the appropriate Commentary Section.

Subject	Commentary Section
Film Thickness	10
Maintenance Painting	4.2
Rust, Stratified Rust, Pack Rust, and Rust Scale	4.3.1
Visual Standards	11
Weld Spatter	4.4.1

product data carboline®

Carbomastic® 15

Selection & Specification Data

Generic Type Epoxy mastic

Description Aluminum-pigmented, low-stress, high-solids mastic with outstanding performance properties and proven field history. Carbomastic 15 was the pioneer mastic coating in a number of industrial markets and today still provides unmatched levels of barrier protection and corrosion resistance over existing finishes and rusted or SSPC-SP2 or SP3-cleaned steel.

Features

- Excellent performance over minimal surface preparation of steel substrates
- Suitable as a topcoat for most tightly adhered existing coatings
- Excellent choice for field touch-up of zinc-rich primers and galvanized steel
- Unique formulation with aluminum flakes provides exceptional barrier protection
- May be applied at 35°F (2°C) when CM 15 FC's part B is utilized
- Suitable for use under insulation on hot surfaces operating up to 300°F(150°C)
- VOC compliant to current AIM regulations

Color Aluminum (C901); Red (M500)
Color variations within a batch and from batch to batch may occur due to the metallic pigments and variations in application techniques and conditions. Neither product is color matched, nor will they match each other. (15 FC may have a greenish appearance.) *Red (M500) is available for use as a contrasting primer in multiple coat applications, but should always be topcoated.

Primers Self-priming. May be applied over most tightly adhering coatings as well as inorganic zinc primers. A mist coat may be required to minimize bubbling over inorganic zinc primers.

Topcoats May be coated with Acrylics, Epoxies, Alkyds, or Polyurethanes depending on exposure and need.

Dry Film Thickness 3.0 - 5.0 mils (76 - 127 microns) per coat
7.0 - 10.0 mils (178 - 254 microns) per coat
Do not exceed 10.0 mils (250 microns) in a single coat.

Solids Content By Volume 90% +/- 2%

HAPs Values As supplied: 0.70 lbs/solid gal

Theoretical Coverage Rate
1444 ft^2 at 1 mil (35 m^2/l at 25 microns)
481 ft^2 at 3 mils (12 m^2/l at 75 microns)
144 ft^2 at 10 mils (4 m^2/l at 250 microns)

Allow for loss in mixing and application.

Severe Exposures Temperature resistance under insulation: Up to 300°F(150°C)
Discoloration is observed above 180°F(82°C) but does not affect performance.

VOC Values
Thinner 10 32 oz/gal: 2.o lbs/gal (242 g/l)
Thinner 236 E 32 oz/gal: 0.7 lbs/gal (88 g/l)
Thinner 76 32 oz/gal: 1.9 lbs/gal (231 g/l)
As Supplied 0.7 lbs/gal (88 g/l)
These are nominal values.

Selection & Specification Data

Substrates & Surface Preparation

General Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.

Steel Immersion: SSPC-SP10 with a 2.0-3.0 mil (50-75 micron) surface profile.
Non-Immersion: SSPC-SP6 with a 2.0-3.0 mil (50-75 micron) surface profile for maximum protection. SSPC-SP2, SP3, SP7, or SP12 are also acceptable methods.

Galvanized Steel For optimum performance sweep blast cleaning is recommended. Consult your Carboline Sales Representative for specific recommendations.

Previously Painted Surfaces Lightly sand or abrade to roughen and degloss the surface. Existing paint must attain a minimum 3A rating in accordance with ASTM D3359 “X-Scribe” adhesion test.

Performance Data

Test Method	System	Results
ASTM 4060 Taber Abrasion	1 ct. CM15	130 mg loss; 1000 cycles using CS 17 wheel and 1000 gm load,
ASTM B117 Salt Spray	Rusted Steel 1 ct. CM 15	No blistering, rusting, or softening No rust creep from scribe
ASTM D1735 Water Fog	Rusted Steel 1ct CM 15	No blistering or softening, No creep from scribe
ASTM D522 Flexibility	Blasted steel 1 ct. CM15	A) Conical - crack 0.38", actual elongation 48.57% B) Cylindrical- no cracking observed
ASTM G 14 Impact Resistance	A) Blasted Steel 1 ct. CM 15, B) Rusted Steel 1 ct. CM 15	Area Damaged A) 1/4 inch (0.25") B) 1/4 - 9/16 inch (0.44")

Test reports and additional data available upon written request.

Mixing & Thinning

Mixing Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.

Thinning May be thinned up to 32 oz/gal (25%) with thinner #10. Substitute Thinner #72 when non-photochemically reactive thinners are desired or Thinner 236E if exempt thinners are required. To extend pot life, may be thinned up to 32 oz/gal (25%) with Thinner 72. Use of thinners other than those supplied by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

Ratio 1:1 Ratio (A to B)

March 2012

0185

Carbomastic® 15

Mixing & Thinning

Pot Life Approximately 30 minutes at 75°F (24°) unthinned. When thinned 12%, pot life will be 45 minutes at 75°F. Pot life ends when coating becomes too viscous to use.

*For CM 15 FC

Application Equipment Guidelines

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Spray Application (General) The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco.

Conventional Spray Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .086" I.D. fluid tip and appropriate air cap.

Airless Spray Pump Ratio: 30:1 (min.)*
GPM Output: 3.0 (min.)
Material Hose: 3/8" I.D. (min.)
Tip Size: .019-.025"
Output PSI: 1900-2100
Filter Size: 60 mesh
*Teflon packings are recommended and available from the pump manufacturer.

Plural Component May be applied by plural component spray equipment. Contact Carboline Technical Service for specific recommendations.

Brush & Roller (General) Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or rerolling. Use clean natural bristle brush or medium nap phenolic core roller. Work coating into all irregularities.

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Minimum	50 °F (10 °C)	50 °F (10 °C)	50 °F (10 °C)	0%
Maximum	90 °F (32 °C)	130 °F (54 °C)	100 °F (38 °C)	95%

This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions.

Curing Schedule

Surface Temp. & 50% Relative Humidity	Final Cure Immersion	Dry to Recoat or Topcoat
50 °F (10 °C)	15 Days	5 Days
60 °F (16 °C)	10 Days	3 Days
75 °F (24 °C)	5 Days	24 Hours
90 °F (32 °C)	3 Days	18 Hours

For CM 15 Dry to Touch is 5 hours at 75°F (24°C). Maximum re-coat/topcoat times are 30 days for epoxies and 90 days for polyurethanes at 75°F (24°C).
These times are based on a 5.0-7.0 mil (125-175 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discoloration and may result in a surface haze. Any haze or blush must be removed by water washing before recoating. If the maximum recoat time is exceeded, the surface must be abraded by sweep blasting prior to the application of additional coats.
Note: This product contains conductive pigments and cannot be holiday tested.

Cleanup & Safety

Cleanup Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

Safety Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.

Ventilation When used as a tank lining or in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. In addition to ensuring proper ventilation, appropriate respirators must be used by all application personnel.

Packaging, Handling & Storage

Shelf Life Part A & B: Min. 36 months at 75°F (24°C)

*Shelf Life : (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.

Shipping Weight (Approximate) 2 Gallon Kit - 25 lbs (11 kg)
10 Gallon Kit - 124 lbs (56 kg)

Storage Temperature & Humidity 45° - 110°F (7-43°C)
0-90% Relative Humidity

Flash Point (Setaflash) Part A: >200°F (93°C)
Part B: 76°F (24°C)

Storage Store Indoors.

carboline®
Coatings - Linings - Fireproofing
2150 Schuetz Rd., St. Louis, MO 63146
PH: 314-644-1000 Toll-Free: 800-848-4645
www.carboline.com

An RPM Company

March 2012
0185

Carbothane® 133 LH

carboline®

MARINE/OFFSHORE COATINGS product data

Selection & Specification Data

Generic Type
Aliphatic Acrylic-Polyester Polyurethane

Description
High build, low sheen finish that has excellent resistance to corrosion, chemicals and abrasion. Suitable for application over a number of Carboline primers and intermediates, this material provides very good weathering performance in a broad range of colors.

Features
- Exceeds SSPC Paint 36 specification for a Level 3 urethane
- Outstanding performance properties in both mild and aggressive environments
- High build; suitable for many two-coat systems
- Application by spray, brush or roller
- Indefinite recoatability
- VOC compliant to current AIM regulations
- Low HAPs content

Color
Refer to Carboline Color Guide.

Finish
Satin

Primers
Carbozinc, Carboguard and Carbomastic or other primers as specified. Refer to *Substrates & Surface Preparation*

Topcoats
Carbothane® Clear Coat when required.

Dry Film Thickness
3.0-5.0 mils (75-125 microns) per coat.
Dry film thickness in excess of 7 mils (175 microns) per coat is not recommended.

Solids Content
By Volume: 61% ± 2%

Theoretical Coverage Rate
978 mil ft^2 (24 m^2/l at 25 microns)
244 ft^2 at 4 mils (6 m^2/l at 100 microns)
Allow for loss in mixing and application.

VOC Values
As supplied: 2.7 lbs./gal (324 g/l)
Thinning:
4 oz/gal w/ Thinner 25: 2.8 lbs/gal (340 g/l)
4 oz/gal w/ Thinner 214: 2.8 lbs/gal (339 g/l)
3.6 oz/gal w/ Thinner 230: 2.8 lbs/gal (340 g/l)
4 oz/gal w/ Thinner 215: 2.8 lbs/gal (340 g/l)
13 oz/gal w/ Thinner 225e: 2.7 lbs/gal (324 g/l)
13 oz/gal w/ Thinner 236e: 2.7 lbs/gal (324 g/l)
13 oz/gal w/ Thinner 241: 2.7 lbs/gal (376 g/l)
13 oz/gal w/ Thinner 243e: 2.7 lbs/gal (324 g/l)
4 oz/gal w Thinner 252: 2.9 lbs/gal (341 g/l)
1.5 oz/gal w/ Additive 101: 2.78 lbs/gal (334 g/l)
These are nominal values and may vary slightly with color.

Dry Temp. Resistance
Continuous: 200°F (93°C)
Non-Continuous: 250°F (121°C)
Discoloration and loss of gloss is observed above 200°F (93°C).

Substrates & Surface Preparation

General
Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating. Refer to the specific primer's Product Data Sheet for detailed requirements of the specified primer.

Steel
SSPC-SP6 with a 1.5-2.5 mil (37.5-62.5 micron) surface profile for maximum protection. SSPC-SP2 or SP3 as minimum requirement. Prime with specific Carboline primers as recommended by your Carboline sales representative.

Galvanized Steel
Prime with specific Carboline primers as recommended by your Carboline Sales Representative. Refer to the specific primer's Product Data Sheet for substrate preparation requirements.

Aluminum
SSPC-SP1 and prime with appropriate Carboline primer as recommended by your Carboline sales representative.

Previously Painted Surfaces
Lightly sand or abrade to roughen and degloss the surface. Existing paint must attain a minimum 3B rating in accordance with ASTM D3359 "X-Scribe" adhesion test. Prime with specific Carboline primers as recommended by your Carboline sales representative.

Packaging, Handling & Storage

Shipping Weight (Approximate)	1 Gallon Kit 15 lbs (7 kg)	5 Gallon Kit 70 lbs (32 kg)
Flash Point (Setaflash)	Part A: 68°F (20°C) Part B: 28°F (-2°C)	
Storage (General)	Store Indoors.	
Storage Temperature & Humidity	40° -110°F (4°-43°C) 0-90% Relative Humidity	
Shelf Life	Part A: Min. 24 months at 75°F (24°C) Part B: Min. 24 months at 75°F (24°C)	

***Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.**

April 2014 replaces March 2010 8837

Carbothane®133 LH

Application Equipment

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

General Guidelines:

Spray Application (General) This is a high solids coating and may require adjustments in spray techniques. Wet film thickness is easily and quickly achieved. The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco.

Conventional Spray Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .070" I.D. fluid tip and appropriate air cap.

Airless Spray

Pump Ratio:	30:1 (min.)*
GPM Output:	3.0 (min.)
Material Hose:	3/8" I.D. (min.)
Tip Size:	.013-.015"
Output PSI:	2100-2300
Filter Size:	60 mesh

*Teflon packings are recommended and available from the pump manufacturer.

Brush & Roller (General) Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or re-rolling. For best results, tie-in within 10 minutes at 75°F (24°C).

Brush Recommended for touch-up only. Use a medium, natural bristle brush.

Roller Use a medium-nap synthetic roller cover with phenolic core.

Mixing & Thinning

Mixing Power mix Part A separately, then combine and power mix. DO NOT MIX PARTIAL KITS.

Ratio 4:1 Ratio (A to B)

	1.0 Gal. Kit	5.0 Gal. Kit
Part A:	1 gal. can (partial filled)	5 gal. can (partial filled)
UC 8800:	1 qt. (parital filled)	1 gallon can

Thinning Thinning not normally required. Carboline Thinner #225e, 236e or 243e may be used to thin this product to minimize HAP and VOC emissions. Thinner #25, #214, #215, or #230 may also be used. See "VOC Values" or Consult Carboline Technical Service for guidance.

Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

Pot Life 4 Hours at 75°F (24°C) and less at higher temperatures. Pot life ends when coating becomes too viscous to use. MOISTURE CONTAMINATION WILL SHORTEN POT LIFE AND CAUSE GELLATION.

Cleanup & Safety

Cleanup Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

Cleanup & Safety Cont.

Safety Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.

Ventilation When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved supplied air respirator.

Caution This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	65°-85°F (18°-29°C)	65°-85°F (18°-29°C)	65°-85°F (18°-29°C)	35-60%
Minimum	40°F (4°C)	40°F (4°C)	40°F (4°C)	0%
Maximum	100°F (38°C)	110°F (43°C)	110°F (43°C)	90%

Industry standards are for substrate temperatures to be 5°F (3°C) above the dew point. This product simply requires the substrate temperature to be above the dew point.

Caution: This Product is moisture sensitive in the liquid stage and until cured. Protect from high humidity, dew and direct moisture contact until cured. Application and/or curing in humidities above maximum, or exposure to moisture from rain or dew may result in a loss of gloss and/or microbubbling of the product.

Curing Schedule

Surface Temp. & 50% Relative Humidity	Dry to Handle	Minimum Dry to Recoat*	Final Cure
40°F (4°C)	24 Hours	24 Hours	28 Days
50°F (10°C)	15 Hours	15 Hours	14 Days
75°F (24°C)	6 Hours	6 Hours	7 Days
90°F (32°C)	3 Hours	3 Hours	4 Days

These times are based on a 3.0-5.0 mil (75-125 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure.

*Maximum recoat times are indefinite. Surface must be clean and dry.

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Coatings - Linings - Fireproofing
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An RPM Company

April 2014 replaces March 2010

SPECIAL PROVISION
CONCRETE SIDEWALK

DESCRIPTION

This work shall consist of removing and replacing sections of Sidewalk.

MATERIALS

ITEM	VDOT SECTION
HYDRAULIC CEMENT CONCRETE SIDEWALK (4 inch)	404 and 504

LOCATION:

Sidewalk	
Bridge #	Approximate Area (SY)
37	86
57	10
Boulevard Bridge	12

Other locations for sidewalk replacement may be determined by the Engineer.

PROCEDURES

Contractor shall inspect each location to determine the limits of work and shall submit plans to Engineer for approval prior to commencing work. Sidewalk to be replaced shall be sawcut and removed in the designated area, then disposed of in an approved disposal area. New sidewalk shall be installed in accordance with VDOT Specification 404 and 504 and shall match the width of the existing sidewalk. The sidewalk shall be finished in accordance with VDOT Specification 404.07(g) Class 7, Sidewalk Finish. Contractor shall preserve and protect adjacent roadway features such as curb, curb and gutter, guardrail, bridge parapets, etc. Items damaged in the prosecution of this work shall be replaced in like condition at no additional expense to the RMTA.

MEASUREMENT AND PAYMENT

HYDRAULIC CEMENT CONCRETE SIDEWALK (4 inch) shall be measured in square yards and will be paid for at the contract unit price per square yard. This price shall include the removal and disposal of the existing sidewalk; subgrade preparation, bedding material, reinforcing steel, Class A3 Concrete, in addition to all equipment, labor, material, and incidentals required to complete the new installation.

Payment will be made under:

Pay Item	Pay Unit
HYDRAULIC CEMENT CONCRETE SIDEWALK (4 inch)	Square Yards

SPECIAL PROVISION
SLOPE STABILIZATION

DESCRIPTION

This work shall consist of placing aggregate material at designated locations as directed by the Engineer. The contractor shall submit the source of supply for Engineers approval.

MATERIALS

ITEM	VDOT SECTION
CRUSHER RUN AGGREGATE NO. 25 OR 26	205
COARSE AGGREGATE NO. 57	203
AGGREGATE MATERIAL NO. 1	203
FINE AGGREGATE A - SAND	202

LOCATION

Engineer shall determine locations as necessary.

PROCEDURES

Generally, all work shall be performed from the edge of pavement or shoulder, utilizing lane closures as necessary to protect workers and the motoring public. Removal of guardrail is not anticipated but if removed, is incidental to work performed. It is solely the responsibility of the Contractor for acquiring permits or permissions for access from areas not owned by the RMTA. If the Contractor removes fence fabric to facilitate the repair work, the cost of removing and reinstalling the fence fabric will be incidental to the scope of work. Equipment shall be capable of depositing repair materials over existing guardrail. Compaction of stone will not be required.

MEASUREMENT AND PAYMENT

Stone will be measured by cross-sectioning the area filled, prior to the placement of stone and then converting to tons by using an appropriate conversion factor. If, by mutual consent, the Engineer and Contractor should agree to use a weight ticket furnished with the stone to gage either the quantity of stone placed at various locations or the total quantity of stone placed at multiple

locations to arrive at final quantities, this will be an acceptable method in lieu of the previously specified method.

Pay Item	Pay Unit
CRUSHER RUN AGGREGATE NO. 25 OR 26	TON
COARSE AGGREGATE NO. 57	TON
AGGREGATE MATERIAL NO. 1	TON
FINE AGGREGATE A - SAND	TON

SPECIAL PROVISION
MISCELLANIOUS BRIDGE COATINGS

DESCRIPTION

This work shall consist of cleaning and coating miscellaneous steel surfaces of existing bridge structural members. The intent of this work is to re-coat isolated structural members which exhibit corrosion and possible minor section loss. Structures are assumed to be Type B structures.

MATERIALS

All cleaned surfaces shall receive the following coating system, or engineer approved equal:

A. Polymeric Epoxy Amine at 1.0 -2.0 mils DFT. A thixotropic penetrating primer/sealer with excellent wetting properties that cures down to 35°. High solids that contains corrosion inhibitors and is compatible with a variety of topcoats.

B. Epoxy Polyamide (3/4 tint formula) at 3.0 – 5.0 mils DFT. Low temperature and rapid curing primer/finish that is VOC compliant with current AIM regulations. Solids content by Volume 63% ±2%.

C. Aliphatic Acrylic-Polyester Polyurethane (full tint formula) at 3.0 – 5.0 mils DFT. High build, low sheen finish that has excellent resistance to corrosion, chemicals and abrasion. VOC compliant with to current AIM regulations. Solids content by volume 61% ± 2%.

PROCEDURES

Contractor shall remove deteriorated coating back around the edges of the repair until an area of completely intact and adherent coating film, with no rust or blisters underneath, is attained. Edges of tightly adherent coating remaining around the repair shall be recoated and must be feathered so that the recoated surface can have a smooth appearance to provide a transition from the area of repair to the intact coating.

The remaining existing coating should have sufficient adhesion so that it cannot be lifted as a layer by inserting the blade of a dull putty knife under it using moderate pressure. Unless experience or spot tests show otherwise and to the approval of the Engineer, the contractor should use the same generic type of coating for this work as is in the existing coating.

The cleaning method required shall be power tool cleaning (SSPC-SP-3). This is Method 3 in Section 411.

LOCATIONS

Work areas will be determined by the Engineer.

MEASUREMENT AND PAYMENT

Miscellaneous Coatings will be measured in units of square foot of surface area and will be paid for at the contract unit price. This price shall include costs of any necessary staging for access, equipment required, labor, environmental protection, proper disposal of material offsite, and any incidentals required to complete the work.

The minimum square footage payment for an individual work location shall be 30 square feet. An individual work location shall be defined as a single bridge span.

Payment for MOT required at individual work locations shall be paid for in accordance with the individual Electronic arrow, Group 2 channelizing devices and Truck mounted attenuator bid items listed in Section 512.

Payment will be made under:

Pay Item	Pay Unit
Miscellaneous Coatings	Square Foot

SPECIAL PROVISION
CONCRETE CURB

DESCRIPTION

This work shall consist of removing and replacing sections of Hydraulic Cement Concrete Curb.

MATERIALS

ITEM	VDOT SECTION
Hydraulic Cement Concrete Curb	502

LOCATIONS

Curb Replacement		
Location	Type	Approximate Length (FT)
B37	CG-2	100
B57	CG-3	10

Other locations for curb replacement may be determined by the Engineer.

PROCEDURES

Contractor shall inspect each location to determine the limits of work and shall submit plans to Engineer for approval prior to commencing work. Curb to be replaced shall be sawcut and removed in the designated area, then disposed of in an approved disposal area. New curb shall be installed in accordance with VDOT Specification 502 and shall match the profile of the existing curb.

MEASUREMENT AND PAYMENT

Curb shall be measured in linear feet and will be paid for at the contract unit price per linear foot. This price shall include the removal and disposal of the existing curb, repair of any adjacent damage to pavements, sidewalks, landscaping or turf areas; in addition to all equipment, labor, material, and incidentals required to complete the new installation. No additional payment will be made on the basis of varying curb shapes.

Payment will be made under:

Pay Item	Pay Unit
Standard 6" Curb, CG-2	Linear foot
Standard 4" Curb, CG-3	Linear foot

SPECIAL PROVISION
CLEARING AND GRUBBING

DESCRIPTION

This work shall consist of clearing, grubbing, removing, and disposing of vegetation, bushes, trees 14 inches or less diameter at breast height, (DBH), stumps, debris, and other objects within the areas defined by the engineer except for vegetation and objects that are designated to be preserved, protected, or removed in accordance with the requirements of other provisions of these specifications.

PROCEDURES

The Contractor shall clear and grub areas designated by the engineer. The Contractor shall install erosion and siltation control devices prior to beginning clearing or grubbing operations and such devices shall be functional before upland land-disturbing activities take place.

The area disturbed by the clearing, grubbing, stripping topsoil, and excavation activities shall be limited to the area designated by the engineer. Grubbing of root mat and stumps shall be confined to that same area. The top of stumps left in place shall be not more than 6 inches above the existing ground surface.

Vegetation, structures, or other items outside the designated area shall not be damaged. Trees and shrubs in ungraded areas shall not be cut without the approval of the Engineer.

Combustible cleared and grubbed material shall be disposed of in accordance with the following:

(a) Trees, limbs, and other timber having a diameter of 3 inches and greater shall be disposed of as saw logs, pulpwood, firewood, or other usable material; however, treated timber shall not be disposed of as firewood. Not more than 2 feet of trunk shall be left attached to grubbed stumps.

When specified that trees or other timber is to be reserved for the property owner, such material shall be cut in the lengths specified and piled where designated, either within the limits of the right of way or not more than 100 feet from the right-of-way line. When not reserved for the property owner, such material shall become the property of the Contractor.

(b) **Material less than 3 inches in diameter** shall be processed into chips having a thickness of not more than 3/8 inch and an area of not more than 6 square inches and may be stockpiled out of sight of any public highway for use as mulch.

(c) **Stumps and material less than 3 inches in diameter** that are not processed into wood chips shall be handled in accordance with the requirements of VDOT Section 106 and Section 107.

LOCATIONS

Locations for the clearing and grubbing work will be identified by the engineer.

Measurement and Payment

Clearing and grubbing will be measured in acres, computed to the nearest 1/100 of an acre, and paid for at the contract unit price, which shall include all labor, equipment, materials, and incidentals necessary to complete the work. The price shall also include the disposal of material and all erosion and siltation control devices in accordance with this specification. Individual trees within the clearing and grubbing areas will not be measured separately. The work to be paid for will be the number of acres actually cleared and grubbed.

Tree Removal will be measured for each isolated tree greater than 3 inch DBH up to 14 inch DBH which is not included in a clearing and grubbing area, and paid for at the contract unit price, which shall include all labor, equipment, materials, and incidentals necessary to complete the work. The price shall also include the disposal of material and all erosion and siltation control devices in accordance with this specification.

Pay Item	Pay Unit
Clearing and grubbing	Per Acre
Tree Removal	Each

SPECIAL PROVISION
BRIDGE DECK SEALING

DESCRIPTION

This work shall consist of furnishing and applying a concrete sealant to Bridges 36, 61, 63, 64, 65, 66, 67 and 68 decks including all lanes and shoulders and other areas as directed by the Engineer.

LOCATION

Bridge	Approx. Quantity
B36 Maplewood Ave over DTE Connector	543 S.Y.
B61 WB DTE over 12th Street	545 S.Y.
B63 WB DTE over Virginia St & S 14th St	3,154 S.Y.
B64 Ramp from SB I-95 to WB DTE over E Cary St	2,343 S.Y.
B65 Ramp from NB I-95 to WB DTE over NS & CXS RR	4,151 S.Y.
B66 EB DTE over Virginia St and S 14th St	6,751 S.Y.
B67 Ramp from EB DTE to NB I-95 over E Cary St	4,885 S.Y.
B68 Ramp from EB DTE to SB I-95 over E Byrd St	1,696 S.Y.

MATERIAL

Contractor shall apply Chem-Crete Pavix CCC100 concrete sealant or Engineer approved equal.

SURFACE PREPARATION

The deck surface shall be cleaned by pressure washing only, to remove oils, dirt, curing compounds, weak surface mortar and other contaminants. Alternative cleaning methods shall require approval of the Engineer. Contractor shall make sure the deck surface is free of any sealers, which may impede absorption of the product.

No vehicle traffic will be allowed on the prepared surface prior to applying the concrete sealant. In the event the lane must be opened to traffic; the surface shall be cleaned again to the approval of the Engineer.

The Contractor shall be aware that the bridges received a full deck overlay one year ago. Extra care shall be taken not to damage any of the recently installed contrast pavement markings, snow-plowable raised pavement markers, and bridge deck joint sealant. Any damage to existing components shall be repaired at the Contractors expense, to the approval on the Engineer and with no extension in contract time.

APPLICATION

The contractor shall follow all the manufacturer's recommendation for applying the concrete sealant. The concrete substrate shall be at least 40 °F prior to application. The Contractor shall use an application rate at a minimum of 150 square feet per gallon to a maximum of 200 square feet per gallon.

The contractor shall use a truck or trailer mounted low pressure sprayer to apply the sealant in an expeditious manner. The sealant shall cure for a minimum of one hour or per manufacturer's recommendations whichever is greater at an air temperature of 75 ˚F before opening the lane to traffic.

During the drying process the Contractor will be required to remain inside the lane closure until the lane is opened to traffic.

MEASUREMENT AND PAYMENT

Concrete Bridge Deck Sealant will be measured in square yards and paid for at the contract unit price, which shall be full compensation for, surface preparation, furnishing and applying the concrete sealant, any additional cleanup required, and all equipment, labor and incidentals required to complete the work. MOT will be paid as per Maintenance of Traffic special provision SP-B.

Pay Item	Pay Unit
Concrete Bridge Deck Sealant	S.Y.

SPECIAL PROVISION
DRAINAGE STRUCTURE REPAIRS

DESCRIPTION

This work shall be performed in accordance with Section 302 and 510 of the Specifications and VDOT 2016 Road and Bridge Standards for drainage structures. The work shall consist of repairing and adjusting existing drainage inlets and manholes and installation of metal nosing.

MATERIALS

All materials shall conform to section 302.02 of the Specifications. Concrete shall be Class A3.

MEASUREMENT AND PAYMENT

REPAIRING EXISTING DROP INLET or MANHOLE TOP shall be measured and paid for in units of each, complete in place, which price shall include removal of portions of existing structure, forming, furnishing and placing all Class A3 concrete, reinforcing steel, resetting manhole frame and cover, labor, tools, equipment and all incidentals necessary to complete the work.

Pay Item	Pay Unit
REPAIR EXISTING DROP INLET or MANHOLE TOP	Each

SPECIAL PROVISION
PAVEMENT LINE MARKINGS

DESCRIPTION

This work shall consist of applying new Pavement Message Mark and Eradication of Existing one. The Contractor shall install pavement message mark per the manufacturer's recommendations.

MATERIALS

ITEM	VDOT SECTION
Pavement. Message Mark (EZPASS)	704*

*Note: Contractor shall comply with the VDOT 2016 Road and Bridge Specification Revisions in "Division 7 – Traffic Control Devices"

Materials shall be delivered to the job site in the manufacturer's original sealed containers. Each container shall be marked with the manufacturer's name and lot number. Materials will be accepted based on the manufacturer's certification, subject to the storage and handling requirements of the manufacturer. The Contractor shall use an approved inventory tracking system for all materials received from the manufacturer. Shipment of materials from such inventory shall be accompanied by a signed form C-85 containing the following certification statement:

Material shipped under the certification has been tested and approved by VDOT as indicated by Laboratory test numbers listed hereon.

PROCEDURES

The Contractor shall submit an MOT plan (7) days prior for approval of the Engineer and the RMTA. The Contractor shall refer to the Maintenance of Traffic Special Provision (SP-B) for allowable lane closure times.

Prior to installation of any pavement markings the Contractor and Engineer shall drive the site and be in mutual agreement on which markings are being removed / installed. Unless directed by the Engineer, no hatch markings are to be installed. The Contractor shall make sure that the surface is clear of any debris, by removing it with compressed air.

In general, the Contractor shall match all markings in their current location unless directed by the Engineer. The Contractor shall have a Certified Pavement Marking Technician present during pavement marking operations. All pavement marking shall be installed per the Manufacturers recommendations or as approved by the Engineer.

The Contractor shall use extreme caution not to damage any of the loops during eradication and installation of the Type B pavement markings in the ORT Zones. The Contractor shall not perform any work in an ORT Zone unless the Engineer is present in the ORT zone. Hand tools shall be the only method of removal for the existing pavement markings. Power tools, including hand drills / and sanders shall not be used at any time, unless approved by the Engineer. Grinding for inlaid pavement markings will not be used for these repairs.

LIQUIDATED DAMAGES

The RMTA reserves the right to charge liquidated damages for the Contractor's failure to partially remove, remove, partially install or complete installation of the pavement markings in the ORT Zones with damage to any of the loops or the loop sealant. Liquidated damages shall be established as:

- Ten Thousand Dollars ($10,000) per damaged loop (There a minimum of 9 loops per ORT zone)
- Full reimbursement for MOT devices and services required to close specific lanes with damaged loops until loops can be replaced, tested, and certified by the toll provider.

Assessment of Liquidated damages will stop when the loops have been reinstalled, tested, and the toll provider has certified that they are in complete working order AND all MOT devices have been removed and all lanes have been safely reopened to traffic. Any liquidated damages assessed in the Special Provision will be in addition to those listed in Section 108.

LOCATIONS

Pavement Marking		
Location	Message Type	Quantity
Powhite North	EZPASS	2
Powhite South	EZPASS	4

Other locations for pavement markings may be determined by the Engineer.

MEASUREMENT AND PAYMENT

Maintenance of Traffic items for Pavement Markings will be paid for as per MOT Special Provision SP-B and the supplemental specifications.

Reapplication of any existing E-ZPass symbols, shall include eradication of the existing if recommended based on the type of existing and proposed marking. The cost of eradication will not be measured and will be incidental to applying the new marking.

Pavement Message Mark. will be measured by each and paid at the contract price. This price shall be full compensation of for delivery of materials per this specification; climate controlled storage until application; surface preparation; eradication of existing markings; all equipment, labor, tools and incidentals required to complete the work.

Eradication of Existing Pavement Message Mark will not be measured and will be incidental to applying the new marking.

Pay Item		Pay Unit
Pavement Message Mark.	"E-ZPass"	EA

SPECIAL PROVISION
CONCRETE BARRIER DELINEATORS

DESCRIPTION

This work shall consist of installing delineators along existing concrete barrier walls or bridge parapet walls in locations determined by the engineer. In areas where delineators will be installed after the barrier has received a coating, the coating must be dry as determined by the Engineer. The Contractor shall install all delineators per the manufacturer's recommendations and to the approval of the Engineer.

The Contractor shall refer to *Section 3F.04 Delineator Placement and Spacing* on pages 426-427 of the Manual for Uniform Traffic Control Devices for additional guidance.

Any costs for removing and disposing offsite of existing delineators shall be incidental to this work. This shall include any required disposal permits.

MATERIALS

ITEM	VDOT SECTION
Concrete Barrier Delineators	702*

*Note: Contractor shall comply with the VDOT 2016 Road and Bridge Specification Revisions in "Division 7 – Traffic Control Devices"

Materials shall be delivered to the job site in the manufacturer's original sealed containers. Each container shall be marked with the manufacturer's name and lot number. Materials will be accepted based on the manufacturer's certification, subject to the storage and handling requirements of the manufacturer. The Contractor shall use an approved inventory tracking system for all materials received from the manufacturer. Shipment of materials from such inventory shall be accompanied by a signed form C-85 containing the following certification statement:

Material shipped under the certification has been tested and approved by VDOT as indicated by Laboratory test numbers listed hereon.

PROCEDURES

Delineators shall be installed in accordance with the latest editions of the "Manual on Uniform Traffic Control Devices" (MUTCD) and the 2016 Road and Bridge Standards.

The Contractor shall, unless otherwise directed by the Engineer, remove old delineators and install new delineators during the same lane closure. Delineators shall always be visible to motorists once traffic is allowed back on the ramp. The Contractor shall refer to Maintenance of Traffic Special Provision SP-B for allowable lane closure times.

The Contractor and the Engineer shall first agree on the delineator spacing and layout prior to the installation of and removal of any existing delineators.

MEASUREMENT AND PAYMENT

Barrier Delineators will be measured by each and be paid for at the contract price. This price shall be full compensation for removing of existing delineators and disposal offsite, and permits or fees required for disposal, furnishing and installing delineators per manufacturer's recommendations, all equipment, labor, materials, and incidentals required to complete the work. Maintenance of Traffic items for Concrete Barrier Delineators will be paid for as per MOT Special Provision SP-B and the supplemental specifications.

Pay Item	Pay Unit
Bridge 4	6 Each
Bridge 8S	85 Each
Bridge 8N	85 Each
Bridge 36	6 Each
Miscellaneous	50 Each

SPECIAL PROVISION
PARAPET WALL COATINGS

DESCRIPTION

This work shall consist of cleaning, patching and coating the inside face, top and backside walls of the parapet. The intent of this work is to provide a properly prepared concrete surface that is suitable for application and adhesion of the specified protective coating system.

MATERIALS

All cleaned surfaces shall receive the following coating system, or Engineer approved equal:

A. PPG Amercoat 385 Polyamide Epoxy at 3.0 -8.0 mils DFT. A multi-purpose high build epoxy compatible with a wide range of substrates and surface preparations that cures down to 40°.
B. PPG Amercoat 114A Epoxy Filler Compound for bug holes and surface cracks in concrete.

PROCEDURES

Contractor shall repair all delamination, spalls and significant cracks and allow proper curing as per manufacturer's recommendations before applying coating. All delineators shall be removed prior to cleaning. Surface Preparation will be in accordance with SSPC SP-13 guidelines with minimum high-pressure water cleaning of 3000 PSI. Detergent water cleaning and steam cleaning may be used to remove oils and grease from concrete. After pressure cleaning the surface of the parapet wall must dry for a minimum of 24 hours before applying the coating.

Coating application must be in accordance with the approved manufactures recommendation. Application will be by brush and roller only. No spraying will be permitted. A minimum of two coats will be necessary to achieve adequate film-build. One coat application will not be allowed.

QUANTITIES

Bridge: No.	Parapet Wall Coatings (SY)
4	308
8N	2,979
8S	2,979
36	247

MEASUREMENT AND PAYMENT

Parapet Wall Coating will be measured by square yards and paid for at the contract price. This price shall be full compensation for any necessary patching/crack sealing, surface preparation, environmental protection, proper disposal of waste material offsite, furnishing and installing coatings per manufacturer's recommendations, all equipment, labor, materials, and incidentals required to complete the work.

Maintenance of Traffic items for Parapet Wall Coatings will be paid as per MOT Special Provision SP-B and the Supplemental Specifications.

Payment will be made under:

Pay Item	Pay Unit
Parapet Wall Coating	Square Yards

SPECIAL PROVISION
REPAIRING ASPHALT CONCRETE PAVEMENT CRACKS

DESCRIPTION

This work includes repairing pavement cracks in asphalt pavement. The repair consists primarily of filling the joint with hot poured liquid asphalt and applying a detack liquid over top to remove surface tack.

LOCATIONS

A table of currently identified locations of Asphalt Concrete Pavement Cracks is presented below. This table is provided for informational purposes only. The estimated quantities below are provided for planning purposes only and are in no way a guarantee of actual quantities. The RMTA reserves the right to add or delete locations to the scope of work. The Contractor is responsible to inspect these locations prior to bidding. No adjustments in unit price shall be made as a result of the addition or deletion of work locations from the scope of work.

Asphalt Concrete Pavement Cracks	
Location	**Area (lf)**
Powhite Parkway	20,000

MATERIALS

Asphalt shall conform to VDOT Spec. Section 210. Detack shall be manufactured by Crafco or Engineer approved equal.

Contractor shall submit product data or information sheet to the Engineer for review a minimum of 7 calendar days prior to starting work.

PROCEDURES

Joints shall be prepared by blowing loose debris from them with compressed air. Compressors shall be of sufficient capacity to clean the crack opening with relative ease. Hot liquid asphalt shall then be poured into the crack to a level 3/16" ± 1/16" below the existing asphalt surface (horizontal) and as per Manufacturers Recommendations. Immediately after asphalt application apply Detack over hot liquid asphalt.

MEASUREMENT AND PAYMENT

Repair of asphalt pavement cracks shall be measured and paid by the linear foot which shall include joint preparation, hot liquid asphalt, detack, and all labor, equipment, and incidentals necessary to complete the work.

Pay Item	Pay Unit
Repair Asphalt Concrete Pavement Cracks	Linear Foot

SPECIAL PROVISION
DEBRIS REMOVAL

DESCRIPTION

This work shall consist of accessing, removing, and disposing of accumulated river debris around the piers of the Powhite Parkway Bridge over the James River (VA 76) and the Boulevard Bridge (RTE 161).

Prior to beginning work, the Contractor shall submit proposed method of removal and the maintenance of traffic plan to the Engineer for approval.

PROCEDURES

Powhite Bridge over the James River (VA 76)

The contractor shall remove all accumulated river debris from the James River within the limits of 30 linear feet in all directions of all piers or as directed by the Engineer. This area exists between both the North and South banks of the James River. Lane closures and other applicable maintenance of traffic items will be required to perform this operation. Once the debris is removed, it must be disposed of off-site and according to applicable laws.

No self-propelled equipment will be allowed in the river nor will any causeway or structure be allowed within the banks of the river. Equipment allowed for use by contractor personnel located in the river shall be limited to chain saws or other hand held cutting devices, hand tools, boats and rigging equipment.

Cranes, or similar equipment, used for lifting debris from the river up to the bridge deck shall have rubber tires with non-scarring load distribution plates on the outriggers. All equipment is subject to the approval of the Engineer. The Contractor shall submit the proposed method of debris removal and the maintenance of traffic plan to the Engineer for **REVIEW AND APPROVAL** no less than two weeks prior to beginning this work.

Boulevard Bridge (VA 161)

The contractor shall strategically make relief cuts in the accumulated debris that is in contact with the bridge piers or within 10 feet upstream form the bridge piers or as directed by the Engineer.

No self-propelled equipment will be allowed in the river nor will any causeway or structure be allowed within the banks of the river. Equipment allowed for use by contractor personnel located in the river shall be limited to chain saws or other hand held cutting devices, hand tools, boats and rigging equipment.

The contractor will not be allowed to interrupt pedestrian and/or vehicular traffic using the Boulevard Bridge.

MEASUREMENT AND PAYMENT

Debris Removal will be measured and paid for at the contract Lump Sum bid price for the Boulevard Bridge and Powhite Bridge over the James River. This price shall include all materials, labor, tools, equipment, maintenance of traffic and disposal of debris.

This price shall also include any fees for submittals, preparation of plans, drawings, schedules, and narratives necessary for describing the Contractor's means and methods required to perform the work. The Lump Sum price shall include any requirements to remain in compliance with all environmental laws and regulations for work near or in the James River.

Pay Item	Pay Unit
Debris Removal – Boulevard Bridge	Lump Sum
Debris Removal – Powhite Bridge B8	Lump Sum

SPECIAL PROVISION
EQUIPMENT PURCHASE AND DELIVERY

DESCRIPTION

This work shall consist of purchasing new fully assembled and installed equipment for and delivery to the RMTA. Presented below are a list of items to be purchased and their minimum specification are contained herein. The tractor cab shall be delivered and installed no later than September 1, 2017 and the lawn mower shall be delivered no later than 60 days after notice to proceed.

1. Tractor Cab
2. Lawn Mower

The Contractor shall submit specifications certified by the manufacturer to the Engineer for approval prior to purchase of equipment. If the Contractor finds a similar product not meeting the minimum specifications, the Contractor may submit all applicable documents in writing for the Engineer to review. Alternate products not meeting minimum specification shall be substituted only with Approval by both the RMTA and the Engineer.

Once items have been approved, the Contractor shall submit a time for delivery to the Engineer and RMTA for approval. The Contractor shall be aware that delivery times shall take place typically between the hours of 8 A.M. to 5 P.M. Monday through Friday. All equipment shall be delivered to the SB Powhite Parkway Storage Yard.

All manuals, warranty information, registration information, and other paperwork shall be neatly organized in a binder when delivered. Additionally, all equipment shall be tested and have all fluids topped off, including, but not limited to fuel, oil, hydraulic fluid, etc.; so that each piece of equipment can be used in the manner it was intended for once it was delivered. All completed units shall comply and be tested in accordance with all applicable O.S.H.A. ANSI, FMVSS, etc. standards and regulations.

ITEMS FOR PURCHASE

1. Tractor Cab

Tractor cab manufacturer must have an authorized dealer and service center located within 40 miles of Richmond, Virginia.

Manufacturer

- Curtis Cab

Features

- Pin-hinged doors
- Powder coated 16-gauage steel frame, roof and doors
- Safety glass windshield, rear panel and sliders
- Venting windshield
- Front wiper
- Locking doors

Accessories

- Heater
- Exterior work lights
- Side view mirrors

Additional Requirements

- Function — Shall be compatible with a L3301 Kubota Tractor. Equipped with a LA525 Front End Loader.
- Inspection — The actual tractor will be available for inspection by successful bidder and/or tractor cab manufacturer before ordering.

2. Lawn Mower

Lawn mower manufacturer must have an authorized dealer and service center located within 40 miles of Richmond, Virginia.

- Manufacturer — Dixie Chopper
- Year — +2015
- Engine — 27 HP
- Cutting Deck — 60”
- Warranty
  - +5 years full manufacturer warranty
  - +2 years labor warranty
  - +5 years parts warranty

MEASUREMENT AND PAYMENT

Acquisition and Delivery of Tractor Cab will be measured per lump sum and paid for at the contract unit price. The price shall include; purchasing for the RMTA, delivering equipment to the RMTA, all labor and equipment to connect the cab to the tractor, any testing and break-in procedures, organization of all paperwork neatly in a binder, and all equipment, labor and incidentals required to complete the work.

Acquisition and Delivery of Lawn Mower will be measured per lump sum and paid for at the contract unit price. The price shall include; purchasing for the RMTA, delivering equipment to the RMTA, any testing and break-in procedures, additional costs associated with filing required reservoirs (fuel, oil, Hydraulic fluid, etc.), organization of all paperwork neatly in a binder, and all equipment, labor and incidentals required to complete the work.

Pay Item	Pay Unit
Acquisition and Delivery of Tractor Cab	L.S.
Acquisition and Delivery of Lawn Mower	L.S.