



**CITY OF HARRISONBURG  
DEPARTMENT OF FINANCE  
AND PURCHASING  
409 SOUTH MAIN STREET,  
THIRD FLOOR  
HARRISONBURG, VA 22801**

**INVITATION TO BID (ITB) COVER PAGE**

<b>ISSUE DATE:</b> April 6, 2016	<b>INVITATION TO BID NUMBER:</b> 2016033-PW-B	<b>FOR:</b> East Market Street Stormwater Improvements Grant #: SLAF 15-10
<b>DEPARTMENT:</b> Public Works	<b>DATE/TIME OF CLOSING:</b> April 27, 2016 at 3:00pm local time	<b>CONTRACT ADMINISTRATOR:</b> Thanh Dang
<b>DATE/TIME LAST DAY FOR QUESTIONS:</b> April 20, 2016 at 12:00pm (noon) local time	<b>DATE/TIME PRE-BID MEETING:</b> April 13, 2016 at 2:00pm local time	<b>PRE-BID MEETING MANDATORY:</b> __ Yes <input checked="" type="checkbox"/> No __ N/A

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

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

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

VENDOR INFORMATION

Name of Vendor: \_\_\_\_\_ Telephone #: \_\_\_\_\_  
 Address: \_\_\_\_\_ Federal Employer Identification #: \_\_\_\_\_  
 \_\_\_\_\_ State Corporation Commission #: \_\_\_\_\_  
 Contact Name: \_\_\_\_\_ Contact Email Address: \_\_\_\_\_

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

\_\_\_\_\_  
**VENDOR'S LEGALLY AUTHORIZED SIGNATURE** \_\_\_\_\_  
**DATE**  
 \_\_\_\_\_  
**PRINT NAME** \_\_\_\_\_  
**TITLE**

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

- City of Harrisonburg Website     eVA Website     Bid Room (Please List) \_\_\_\_\_  
 The Daily News Record Newspaper     Notified by City Directly  
 Other (Please List) \_\_\_\_\_

***\*This document must be completed & returned with bid submission.***

**PROJECT MANUAL**  
**FOR**  
**CITY OF HARRISONBURG, VIRGINIA**

**EAST MARKET STREET STORMWATER IMPROVEMENTS**

**PROJECT:**  
**SLAF 15-10**

**CITY OF HARRISONBURG, VIRGINIA**  
**DEPARTMENT OF PUBLIC WORKS**

**April 6, 2016**

Prepared by

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

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## Table of Contents

<b>0001 Invitation to Bidders</b> .....	1
<b>0100 Instructions to Bidders</b> .....	2
<b>0300 Bid Form</b> .....	8
<b>0301 Bid Security</b> .....	15
<b>0302 Contractor Eligibility and Registration</b> .....	16
<b>0303 State Corporation Commission Form</b> .....	17
<b>0304 Non-Collusion Affidavit</b> .....	18
<b>0400 Terms &amp; Conditions for the City of Harrisonburg, VA</b> .....	19
<b>0401 Escrow Account Election &amp; Agreement</b> .....	27
<b>0501 Agreement</b> .....	32
<b>0502 Notice to Proceed</b> .....	37
<b>0800 Contractor’s Application for Payment</b> .....	38
<b>0900 State Requirements</b> .....	41
<b>1000 Supplemental Specifications</b> .....	46

SECTION 0001  
INVITATION TO BIDDERS

1. PROJECT

East Market Street Stormwater Improvements for the City of Harrisonburg, VA

2. DESCRIPTION OF WORK

Construction of stormwater improvement retrofits to portions of the existing roadway median on East Market Street (US-33) between Chestnut Ridge Drive and Country Club Road. Project includes construction of: a Dry Swale in the median immediately west of the intersection of Chestnut Ridge Drive; and a Regenerative Stormwater/Step-Pool Conveyance Channel starting west of the intersection of Evelyn Byrd Avenue and extending to the eastern entrance of the Kohl's parking lot. Construction to include utility relocations and incidental items required to complete the work. Anticipated start to work date is May 9, 2016. Entire project must be completed by October 30, 2016.

3. DOCUMENTS

Bid documents are available for viewing on the internet at [www.harrisonburgva.gov/bids-proposals](http://www.harrisonburgva.gov/bids-proposals) and also on the eVA website at [www.eva.virginia.gov](http://www.eva.virginia.gov). Bid documents are available for purchase at DTS Reprographics 4803 South Valley Pike, Harrisonburg VA, 22801, (540) 433-8373.

4. PRE-BID CONFERENCE (OPTIONAL)

April 13, 2016 at 2:00 PM EST at the City Hall, 409 South Main Street, Room 11 and 12, lower level. Attendance is optional, however, bidders are highly encouraged to attend. Questions will be received up until April 20, 2016 at 12:00pm EST and posted as addenda on the City's website at [www.harrisonburgva.gov/bids-proposals](http://www.harrisonburgva.gov/bids-proposals) as well as on the eVA website at [www.eva.virginia.gov](http://www.eva.virginia.gov).

5. BID BOND

Bids shall be accompanied by a 5% bid security. Bid bond must be in the form of a cashier's check, certified check or a bid bond issued by a surety.

6. BIDS DUE

April 27, 2016 at 3:00 PM EST at the City of Harrisonburg, Department of Purchasing, 409 South Main Street, Third Floor Harrisonburg VA, 22801.

7. BID OPENING

Bids will be opened and read publicly at City Hall, 409 South Main Street, Room 11.

8. OWNER

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

9. CONTRACT ADMINISTRATOR

Thanh Dang, 320 East Mosby Road, Harrisonburg, VA 22801.

SECTION 0100  
INSTRUCTIONS TO BIDDERS

1. SECURING DOCUMENTS

Bid documents are available for viewing at the following Harrisonburg locations: Department of Public Works, 320 East Mosby Road.

Bid documents are available for viewing on the internet at [www.harrisonburgva.gov/bids-proposals](http://www.harrisonburgva.gov/bids-proposals) and also on the eVA website at [www.eva.virginia.gov](http://www.eva.virginia.gov).

Bid documents are available for purchase at DTS Reprographics 4803 South Valley Pike, Harrisonburg VA, 22801, (540) 433-8373.

2. BIDDER ELIGIBILITY

A. Bids

Bids will only be accepted from Contractors who are experienced in and actively engaged in the type of construction of the item(s) called for in the bid. No bid will be accepted from or contract awarded to any person, firm, or corporation that is in arrears or is in default to the City upon any debt or contract, or that is a defaulter, as surety or otherwise, upon any obligation to said City or had failed to perform faithfully any previous contract with the City. Where an installation or assembly is to be performed by a subcontractor, the bidder must name the subcontractor, and the City reserves the right to determine whether the named subcontractor is fit and capable to perform the required work.

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

C. Bidders must certify in the bid form that they are not currently barred from bidding on contracts by any agency of the Commonwealth of Virginia or any federal agency.

3. BID FORM AND SUBMISSION

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

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

B. Address bids to the Owner, and deliver to the address specified in the invitation to bid on or before the day and hour set for opening the bids. Enclose each bid in an opaque sealed envelope, or box bearing the title of the Work, the project number(s), the ITB number, the name of the bidder, Virginia contractor registration number and the date and hour of the bid opening. Submit only the original signed copy of the bid. The City of Harrisonburg is not responsible for delays in the delivery of the mail by the

U.S. Postal Service, private couriers, or the inter-office mail system. It is the sole responsibility of the bidder to see that his bid is received on time. No faxed or emailed bid will be considered. No bids received after the time fixed for receiving them will be considered. Late or incomplete bids may be returned to the bidder. All expenses for making bids to the City shall be borne by the bidder.

- C. Indicate receipt of issued addenda. All Bidders are cautioned to check at [www.harrisonburgva.gov/bids-proposals](http://www.harrisonburgva.gov/bids-proposals) or at [www.eva.virginia.gov](http://www.eva.virginia.gov) to assure that all Addenda have been received and that the cost consequences thereof have been included in the bid.
- D. Although the bid is based upon unit prices, many items are to be priced under lump sum designations. It is the bidder's responsibility to verify the exact scope of work for all items in order to establish a bid price.
- E. The following documents fully completed and signed where appropriate are required for a responsive bid:
  - i) Signed Cover Sheet
  - ii) Bid Form (0300-1 to 0300-5)
  - iii) Bid Security (0301)
  - iv) Contractor Eligibility and Registration (0302)
  - v) State Corporation Commission Registration (0303)
  - vi) Non-Collusion Affidavit (0304)
  - vii) Insurance Requirements for the City of Harrisonburg
  - viii) Signed Addenda, if applicable

#### 4. BONDS

- A. Bid security in the amount stated in the Invitation to Bid must accompany each bid. The successful bidder's security will not be returned until he has signed the Contract and has furnished the required Certificates of Insurance.
- B. The Owner reserves the right to retain the security of all bidders until the successful bidder enters into the Contract or until 90 days after bid opening, whichever is sooner. Other bid security will be returned as soon as practicable. If any bidder refuses to enter into a Contract, the bid security may be forfeited.
- C. Prior to signing the Contract, the Owner will require the successful bidder to secure and post a Labor and Materials Payment Bond and a Performance Bond, each in the amount of 100% of the Contract Sum. Such Bonds shall be issued by a Surety acceptable to the Owner.

#### 5. EXAMINATION OF DOCUMENTS AND SITE OF WORK

Before submitting a bid, each bidder shall examine the Drawings carefully, shall read the Project Manual and all other proposed Contract Documents, and shall visit the site of the Work. Each bidder shall fully inform himself prior to bidding as to existing conditions and limitations under which the Work is to be performed, and shall include in his bid a

sum to cover the cost of items necessary to perform the Work as set forth in the proposed Contract Documents. No allowance will be made to a bidder because of lack of such examination and knowledge. The submission of a bid will be considered as conclusive evidence that the bidder has made such examination.

## 6. INTERPRETATION OF CONTRACT DOCUMENTS PRIOR TO BIDDING

If any person contemplating submitting a bid for construction of the Work is in doubt as to the true meaning of any part of the proposed Contract Documents, or finds discrepancies on or omissions from any part of the proposed Contract Documents, they shall submit a written request to Ms. Pat Hilliard, Procurement Manager, by email to [Purchasing@harrisonburgva.gov](mailto:Purchasing@harrisonburgva.gov) or by fax to 540-432-7779. Oral questions will not be permitted. All questions must be received by April 20, 2016 at 12:00 PM EST. The person submitting the request shall be responsible for any other interpretations of the proposed Contract Documents. Questions will be answered in Addendum format and posted as outlined in the invitation to bid, at [www.harrisonburgva.gov/bids-proposals](http://www.harrisonburgva.gov/bids-proposals) and at [www.eva.virginia.gov](http://www.eva.virginia.gov). It is the responsibility of all bidders to ensure that they have received all addenda and to include signed copies of any and all addenda with their bid submission.

## 7. AWARD OF CONTRACT

The Contract, if awarded, will be awarded to the lowest responsive and responsible bidder, meeting all specifications, subject to the Owner's right to reject any or all bids and to waive informality and irregularity in the bids and in the bidding. If the bid from the lowest responsive, responsible bidder exceeds available funds, the Procurement Manager, or designee, may negotiate with the apparent low bidder to obtain a contract price within available funds.

## 8. EXECUTION OF AGREEMENT

- A. The form of the Agreement which the successful bidder will be required to execute is included in the Project Manual.
- B. The bidder to whom the Contract is awarded shall, within ten (10) calendar days after notice of award and receipt of Agreement forms from the Owner, sign and deliver required copies to the Owner.
- C. At or prior to delivery of the signed Agreement, the bidder to whom the Contract is awarded shall deliver to the Owner those Certificates of Insurance and Endorsement required by the Contract Documents and such Labor and Materials Payment Bonds and Performance Bond and City Business License, as are required by the Owner.
- D. Bonds and Certificates of Insurance shall be approved by the Owner before the successful bidder may proceed with the Work. Failure or refusal to provide Bonds or Certificates of Insurance and Endorsement in a form satisfactory to the Owner shall subject the successful bidder to loss of time from the allowable construction period equal to the time of delay in furnishing the required material.

## 9. CONSTRUCTION TIME AND LIQUIDATED DAMAGES

- A. The Agreement includes a stipulation that all Work be completed by a specified date (see section 0501). Any work not completed by the specified date will be assessed Liquidated Damages at the rate of \$1,000.00 per each consecutive calendar day until the work is substantially completed. The contractor is not to begin work until the receipt of the Owner's Notice to Proceed which will be effective upon receipt.

## 10. INSURANCE REQUIREMENTS

**This form must be signed and returned with your bid submission.**

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

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

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

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

With all policies listed above, the insurer or agent of the insurer must issue a certificate of insurance to show evidence of coverage.

### BIDDER/OFFEROR STATEMENT

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

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

Name: \_\_\_\_\_ Title \_\_\_\_\_  
(Print)

Name of Firm: \_\_\_\_\_

## 11. CITY BUSINESS LICENSE

- A. City of Harrisonburg Business License is required for successful award of this project. At or prior to delivery of the signed Agreement/Contract, the bidder to whom the Contract is awarded shall deliver to the Owner a copy of their City Business License. The bidder shall ensure that the Business License indicates a basis amount equal to or greater than the awarded Contract value. For information on City Business Licenses contact the Harrisonburg Commissioner of Revenue office at 540-432-7704.

## 12. STANDARD SPECIFICATIONS AND STANDARDS

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

## 13. CONSIDERATION OF PROJECT COMPLEXITIES

- A. In preparing this bid, Contractor shall understand and account in his costs for the complexities involved in administrating the construction required by this Contract. Contractor shall be aware that the project area receives heavy vehicular and pedestrian traffic. Contractor shall accommodate such traffic through and around the work area in a safe and well-marked manner.
  
- B. Submission of a bid shall be an affirmation that the Contractor understands these complexities and difficulties associated with this project, that he has included in his bid a sufficient dollar amount to compensate for the additional time and effort these complexities and difficulties will require on his part, and that he understands that the Owner will not accept any claim for time extension or additional costs associated with them.

END INSTRUCTIONS TO BIDDERS

**0300 BID FORM**



Mr. James Baker  
Director  
Department of Public Works  
320 East Mosby Road  
Harrisonburg, Virginia 22801

Dear Sir:

The undersigned, having visited and examined the site and having carefully studied the drawings and project manual for the City of Harrisonburg, East Market Street Stormwater Improvements, hereby proposes to furnish all plant, labor, equipment, materials, and services and to perform all operations necessary to execute and complete the work required for the project in strict accordance with the drawings dated April 6, 2016 and the project manual dated April 6, 2016 subject to the terms and conditions of the Agreement for the following sums of money:

**BASE BID PROPOSAL (PARTS A and B)**

All labor, material, services and equipment necessary for the completion of the work shown on the Drawings and in the Project Manual and in the Addenda (if issued).

\_\_\_\_\_ (\$ \_\_\_\_\_)

This bid submitted by (name of firm): \_\_\_\_\_

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

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

Or

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

Contractors shall indicate a unit price for each item listed in the Pay Items Summary which follows. The listed pay items are to contain all necessary costs required for completion of the work. It is understood that all quantities listed below are estimated quantities and the Owner reserves the right to raise, lower or eliminate any quantity or item. Unit prices shall be used in determining partial and full payment.

**EAST MARKET STREET STORMWATER IMPROVEMENTS  
PART A -- RSC CHANNEL**

<b>ITEM #</b>	<b>SPEC.#</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>EST. QUANTITY</b>	<b>UNIT PRICE (\$)</b>	<b>AMOUNT(\$)</b>
1001	513	MOBILIZATION/DEMOLITION	LS	1		
1002	517	CONSTRUCTION STAKEOUT / AS-BUILT DRAWINGS	LS	1		
1003	502	MAINTENANCE OF TRAFFIC MEASURES	LS	1		
1004	301	CLEARING AND GRUBBING	LS	1		
1005	510	REMOVE RIPRAP WITH OFFSITE DISPOSAL	SY	1,847		
1006	510	REMOVE/RECONSTRUCT RIPRAP	SY	573		
1007	303	REGULAR EXCAVATION (UNCLASSIFIED)	CY	1,755		
1008	02350	IMPERMEABLE LINER (30 MIL PVC)	SY	3,022		
1009	501	PERF. PIPE UNDERDRAIN – 6” PVC SCH 40	LF	867		
1010	302	SOLID PIPE UNDERDRAIN - 6” PVC SCHEDULE 40	LF	49		
1011	02630	PVC CLEANOUT WITH CONC. COLLAR	EA	6		
1012	02530	PVC OBSERVATION WELL WITH CONC. COLLAR	EA	1		
1013	302	VDOT EW-12 ENDWALL	EA	1		
1014	02350	ENGINEERED FILTER MEDIA MIX	CY	757		
1015	02300	BOULDERS WITH FILTER FABRIC	TON	661		
1016	02300	COBBLES (d50 = 9 INCH) WITH FILTER FABRIC	TON	788		
1017	510	DRY RIPRAP (CLASS 1, 24”) WITH FILTER FABRIC	SY	57		
1018	00270	CONSTRUCTION ENTRANCE (CE)	EA	3		
1019	303	TEMPORARY SILT FENCE (SF)	LF	1,893		
1020	02270	TEMPORARY DIVERSION FENCE WITH DEWATERING (DV)	LF	915		
1021	303	REGULAR EXCAVATION FOR DIVERSION FENCE (UNCLASSIFIED) AND BACKFILL	CY	220		
1022	507	TEMPORARY SAFETY FENCE	LF	300		
1023	603	TEMPORARY SEEDING AND MULCHING	EA	1		
5001	604	SOD	SY	2,195		
5002	605	BED PREPARATION	UNIT	361		
5003	605	RED SPRUCE (6’ – 7’)	EA	3		
5004	605	TAMARACK (6’-7’)	EA	3		
5005	605	FRASIER FIR (6’-7’)	EA	3		

5006	605	WESTERN HEMLOCK (6'-7')	EA	3		
5007	605	CATAWBA ROSEBAY (18"-24" HEIGHT)	EA	25		
5008	605	MOUNTAIN LAUREL (18"-24" HEIGHT)	EA	24		
5009	605	COMPACT INKBERRY HOLLY (18"-24" HEIGHT)	EA	18		
5010	605	WINTERBERRY HOLLY (MALE) (18"-24" HEIGHT)	EA	19		
5011	605	CHRISTMAS FERM (5"H X 8"W)	EA	312		
5012	605	ALLEGHENY SPURGE (PLUG)	EA	475		
5013	605	MULCHING	UNIT	163		
5014	605	WATERING	UNIT	1		
5015	605	TREE TUBE (STAKING AND GUYS)	EA	12		
<b>PART A – RSC CHANNEL SUBTOTAL =</b>						

**EAST MARKET STREET STORMWATER IMPROVEMENTS  
PART B – DRY SWALE**

<b>ITEM #</b>	<b>SPEC #</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>EST. QUANTITY</b>	<b>UNIT PRICE (\$)</b>	<b>AMOUNT(\$)</b>
2001	513	MOBILIZATION/DEMOLIZATION	LS	1		
2002	517	CONSTRUCTION STAKEOUT/AS-BUILT DRAWINGS	LS	1		
2003	502	MAINTENANCE OF TRAFFIC MEASURES	LS	1		
2004	301	CLEARING AND GRUBBING	LS	1		
2005	510	REMOVE/RESET SIGNS	EA	1		
2006	701	CONDUIT (SCH 80 – 1 INCH)	LF	54		
2007	701	CONDUIT (SCH 80 – 2 INCH)	LF	218		
2008	701	CONDUIT (SCH 80 – 3 INCH)	LF	54		
2009	701	JB-S2 JUNCTION BOX	EA	1		
2010	303	REGULAR EXCAVATION (UNCLASSIFIED)	CY	380		
2011	02350	IMPERMEABLE LINER (30 MIL PVC)	SY	748		
2012	501	PERF. PIPE UNDERDRAIN – 6” PVC SCH 40	LF	194		
2013	302	SOLID PIPE UNDERDRAIN - 6” PVC SCHEDULE 40	LF	52		
2014	02630	PVC CLEANOUT WITH CONC. COLLAR	EA	2		
2015	02630	PVC OBSERVATION WELL WITH CONC. COLLAR	EA	1		
2016	302	VDOT EW-12 ENDWALL	EA	1		
2017	02920	ENGINEERED SOIL (BIOFILTER SOIL MIX)	CY	195		
2018	02360	CHECK DAM	EA	8		
2019	02920	RIVER STONE (1” - 3”) WITH FILTER FABRIC	SY	10		
2020	414	DRY RIPRAP (CLASS A1, 18”) WITH FILTER FABRIC	SY	118		
2021	02270	CONSTRUCTION ENTRANCE (CE)	EA	1		
2022	303	TEMPORARY SILT FENCE (SF)	LF	245		
2023	02270	TEMPORARY DIVISION FENCE WITH DEWATERING (DV)	LF	254		
2024	507	TEMPORARY SAFETY FENCE	LF	100		
2025	603	TEMPORARY SEEDING AND MULCHING	EA	1		
2026	604	SOD	SY	384		
2027	605	BED PREPARATION	UNIT	79		
2028	605	CHEROKEE CHIEF DOGWOOD (6’ – 7’)	EA	2		

2029	605	“SHADBLOW” SERVICEBERRY (6’ – 7’ CLUMP)	EA	3		
2030	605	EASTERN REDBUD ( 6’ – 7’)	EA	2		
2031	605	CATAWBA ROSEBAY (18” – 24” HEIGHT)	EA	6		
2032	605	MOUNTAIN LAUREL (18” – 24” HEIGHT)	EA	9		
2033	605	“STEWARTSONIAN” AZALEA (18” – 24” HEIGHT)	EA	6		
2034	605	PACIFIC BLUE JUNIPER (5”H x 8”W)	EA	100		
2035	605	BLUE STAR JUNIPER (5”H x 8”W)	EA	92		
2036	605	ALL GOLD JUNIPER (5”H x 8”W)	EA	88		
2037	605	ALLEGHENY SPURGE (PLUG)	EA	628		
2038	605	MULCHING	UNIT	45		
2039	605	WATERING	UNIT	0.5		
2040	605	TREE TUBE (STAKING AND GUYS)	EA	7		
<b>PART B -- DRY SWALE SUBTOTAL =</b>						

### 0301 BID SECURITY

We are properly equipped to execute work of the character and extent indicated by the bidding documents and so covered by this bid and will enter into agreement for the execution and completion of the work in accordance with the drawings and project manual and this bid; and we further agree that if awarded the contract, we will commence the work on the date stated in the "Notice to Proceed" document and prosecute the work and all obligations by the specified completion dates.

Enclosed herewith is the following security, offered as evidence that the undersigned will enter into agreement for the execution and completion of the work in accordance with the drawings and project manual.

Certified check or Cashier's check for the sum of

\$ \_\_\_\_\_

\_\_\_\_\_  
Name of Bank

Bidder's Bond in the amount of

\$ \_\_\_\_\_

\_\_\_\_\_  
Bond issued by

The undersigned further agrees that in case of failure on his part to execute the said agreement within the ten consecutive calendar days after written notice being given on the award of the contract, the monies payable by the security accompanying this bid shall be paid to the City of Harrisonburg, Virginia as bid bond shall be forfeited for such failure, otherwise, the security accompanying this bid shall be returned to the undersigned.

This bid is subject to acceptance within a period of 30 days from this date.

Respectfully submitted,

\_\_\_\_\_  
Company Name

By \_\_\_\_\_  
Signature of Authorized

Printed Name \_\_\_\_\_

Date \_\_\_\_\_

## 0302 CONTRACTOR ELIGIBILITY AND REGISTRATION

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

Check one:

\_\_\_\_\_ I am currently registered as a contractor in the Commonwealth of Virginia.

\_\_\_\_\_ My registration number is \_\_\_\_\_

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

\_\_\_\_\_  
Contractor

[SEAL]

\_\_\_\_\_  
Address

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Attest

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

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

## 0303 State Corporation Commission Form

**Virginia State Corporation Commission (“SCC”) registration information:**

**The undersigned Offeror:**

is a corporation or other business entity with the following SCC identification number:

\_\_\_\_\_ **-OR-**

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

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

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

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

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

**Name:** \_\_\_\_\_  
Print

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

**Name of Firm:** \_\_\_\_\_

**0304 NON-COLLUSION AFFIDAVIT**

Under oath, I hereby affirm under penalty of perjury:

- (1) That I am the bidder or a partner of the bidder, or an officer or employee of the bidding corporation with authority to sign on its behalf;
- (2) That the attached bid or bids have been arrived at by the bidder and have been arrived at and submitted without collusion or any design to limit bidding or competition;
- (3) That the contents of the bid or bids have not been communicated to any person not an employee or agent of the bidder on any bid furnished with the bid or bids, and will not be communicated to any such person prior to the official opening of the bid or bids; and
- (4) That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed \_\_\_\_\_

Title \_\_\_\_\_

Firm Name \_\_\_\_\_

CITY / COUNTY OF \_\_\_\_\_

STATE OF \_\_\_\_\_, to wit:

I, \_\_\_\_\_, a Notary Public, do certify that

\_\_\_\_\_ whose name is signed to the foregoing has

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

Given under my hand this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

My Commission expires \_\_\_\_\_.

\_\_\_\_\_  
Notary Public

**0400 GENERAL TERMS AND CONDITIONS OF THE CITY OF HARRISONBURG, VA**

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

**TABLE OF CONTENTS**

DEFINITIONS

CONDITIONS OF BIDDING

- Bid Price Currency
- Bid/Proposal Acceptance Period
- Cancellation of Solicitations
- City Hall Closure
- Clarifications of Terms
- Conflict of Interest/Collusion
- Debarment Status
- Discrimination Prohibited
- Errors in Bids
- Ethics in Public Contracting
- Excusable Delay
- Licenses, Permits & Fees
- Mandatory Use of City Forms & T&C for ITB's & RFP's
- Modification & Withdrawal of Bids/Proposals
- Public Inspection of Certain Records
- Revisions to the Official ITB/RFP
- Taxes

AWARD

- Contract Award
- Negotiation with the Lowest Bidder
- Precedence of Terms
- Qualifications of Bidders/Offerors
- Selection Process/Award

CONTRACT PROVISIONS

- Anti-Discrimination
- Antitrust
- Applicable Laws & Courts
- Assignment of Contract
- Changes to the Contract
- Contract Execution
- Contractual Disputes
- Cooperative Procurement
- Default
- Drug-Free Workplace
- Immigration Reform & Control Act of 1986
- Indemnification
- Insurance
- Liability & Litigation
- Non-Discrimination of Contractors
- Payment
- Safety & OSHA Standards
- State Corporation Commission (SCC) ID Number
- Termination

SPECIFICATIONS

- Condition of Items
- Formal Specifications
- Use of Brand Names

DELIVERY

- Defects or Improprieties
- Testing & Inspection
- Transportation & Packaging

**DEFINITIONS**

- ADDENDUM/ADDENDA:** Addition(s) or supplement(s) to a solicitation to clarify, modify or support information which becomes part of the contract.
- BID:** The offer of a prospective vendor/supplier to an Invitation To Bid to provide specific goods or services at specified prices and/or other conditions specified in the solicitation.
- BIDDER/OFFEROR:** Any individual, company, firm, corporation, partnership or other organization who submits a response to an Invitation to Bid or a Request for Proposal and offering to enter into a contract with the City.
- COLLUSION:** A secret agreement or cooperation between two or more parties to accomplish a fraudulent, deceitful, or unlawful purpose.
- CONFLICT OF INTEREST:** An actual or potential situation in which the personal interests of a vendor, employee or public official are, or appear to be, in conflict with the best interests of the City.
- CONTRACTOR:** The entity that has a direct contract with the City to furnish goods, services or construction for a certain price.
- CITY or OWNER:** City of Harrisonburg, Virginia.
- DAY(S):** Defined as calendar days unless otherwise specified as business days.
- INFORMALITY:** A minor defect or variation of a bid or proposal from the exact requirements of the Invitation to Bid or Request for Proposal which does not affect the price, quality, quantity or delivery schedule for the goods, services or construction being procured.
- INVITATION TO BID (ITB):** A formal request which is made to prospective suppliers (bidders) for their quotation on goods, services, or construction desired by the City. The issuance of an ITB will contain or incorporate by reference the specifications and contractual terms and conditions applicable to the procurement.

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

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

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

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

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

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

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

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

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

### **CONDITIONS OF BIDDING**

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

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

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

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

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

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

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

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

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

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

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

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

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

**MODIFICATION & WITHDRAWAL OF BIDS/PROPOSALS: 2.2-4330**

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

If a bid contains both clerical and judgment mistakes, a bidder may withdraw his bid from consideration if the price bid would have been substantially lower than the other bids due solely to the clerical mistake, that was an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of a bid that shall be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the bid sought to be withdrawn.

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

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

**REVISIONS to the OFFICIAL ITB/RFP:** No bidder/offeror shall modify, revise, edit or make any unauthorized change(s) to the original official ITB/RFP. The official solicitation document and the Addenda(um) are the documents posted on the City of Harrisonburg's web site, [www.harrisonburgva.gov/bids-proposals](http://www.harrisonburgva.gov/bids-proposals). Any such violation as stated above may result in rejection of the ITB/RFP response. In addition, violations may result in the debarment of the bidder/offeror by the City of Harrisonburg.

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

## **AWARD**

### **CONTRACT AWARD**

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

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

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

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

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

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

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

**SELECTION PROCESS/NOTICE OF AWARD:** Upon the award or the announcement of the decision to award a contract as a result of this solicitation, the Purchasing office will publicly post such notice and/or will notify all responsive bidders/offerors. The City posts all Notice of Awards on its website at [www.harrisonburgva.gov/bids-proposals-award-notifications](http://www.harrisonburgva.gov/bids-proposals-award-notifications) and also on eVA at [www.eva.virginia.gov](http://www.eva.virginia.gov).

## **CONTRACT PROVISIONS**

**ANTI-DISCRIMINATION: 2.2-4311** By submitting their bids/proposals, bidders/offerors certify to the City that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment

Contracting Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act.

In every contract over \$10,000 the provisions below apply:

1. During the performance of this contract, the contractor agrees as follows:
  - a. The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
  - b. The contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer.
  - c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting these requirements.
2. The contractor will include the provisions of 1. above in every subcontract or purchase order over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

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

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

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

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

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

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

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

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

**COOPERATIVE PROCUREMENT:** **2.2-4304** Except as prohibited by the current Code of Virginia 2.2-4304, all resultant contracts will be extended, with the authorization of the contractor, to other public bodies to permit their ordering of supplies and/or services at the prices and terms of the resulting contract. If any other public body decides to use the final contract, the Contractor must deal directly with that public body concerning the placement or orders, issuance of the purchase order, contractual disputes, invoicing and payment. The City acts only as the "Contracting Officer" for these public bodies. Any resulting contract with other public bodies shall be governed by the laws of that specific entity. It is the Contractor's responsibility to notify the public bodies of the availability of the contract. The City shall not be held liable for any costs or damage incurred by another public body as a result of any award extended to that public body by the Contractor.

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

**DRUG-FREE WORKPLACE:** **2.2-4312** During the performance of this contract, the contractor agrees to: (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

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

**INDEMNIFICATION:** Contractor agrees to indemnify, defend and hold harmless the City, its officers, agents, volunteers, and employees from any claims, damages and actions of any kind or nature, whether at law or in equity, arising from or caused by the use of any materials, goods, or equipment of any kind or nature furnished by the contractor/any services of any kind or nature furnished by the contractor, provided that such liability is not attributable to the sole negligence of the using agency or to failure of the using agency to use the materials, goods, or equipment in the manner already and permanently described by the contractor on the materials, goods or equipment delivered.

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

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

**NONDISCRIMINATION OF CONTRACTORS: 2.2-4343.1H** A bidder, offeror, or contractor shall not be discriminated against in the solicitation or award of this contract because of race, religion, color, sex, national origin, age, disability, faith-based organizational status, any other basis prohibited by state law relating to discrimination in employment or because the bidder or offeror employs ex-offenders unless the state agency, department or institution has made a written determination that employing ex-offenders on the specific contract is not in its best interest. If the award of this contract is made to a faith-based organization and an individual, who applies for or receives goods, services, or disbursements provided pursuant to this contract objects to the religious character of the faith-based organization from which the individual receives or would receive the goods, services, or disbursements, the public body shall offer the individual, within a reasonable period of time after the date of his objection, access to equivalent goods, services, or disbursements from an alternative provider.

**PAYMENT: 2.2-4352 – 2.2-4354**

1. **To Prime Contractor:**

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

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

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

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

2. **To Subcontractors:**

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

Notify the City and the subcontractor(s), in writing, of the contractor's intention to withhold payment and the reason.

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

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

**STATE CORPORATION COMMISSION IDENTIFICATION NUMBER:** Pursuant to Code of Virginia **2.2-4311.2** subsection B, a bidder/offeror organized or authorized to transact business in the Commonwealth pursuant to Title 13.1 or Title 50 is required to include in its bid/proposal the identification number issued to it by the State Corporation Commission (SCC) and shall not allow the identification number to lapse, be revoked or cancelled at any time during the term of the contract. Any

bidder/offeror that is not required to be authorized to transact business in the Commonwealth as a foreign business entity under Title 13.1 or Title 50 or as otherwise required by law is required to include in its bid/proposal a statement describing why the bidder/offeror is not required to be so authorized. A link to the SCC site is at <http://www.scc.virginia.gov>.

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

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

### **SPECIFICATIONS**

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

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

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

### **DELIVERY**

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

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

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

**0401 ESCROW ACCOUNT ELECTION**

**ELECTION OF ESCROW ACCOUNT PROCEDURE FOR RETAINAGE**

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

\_\_\_\_\_

Write "Yes" or "No" on above line

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

Company\_\_\_\_\_

Authorized Signature\_\_\_\_\_

0401 ESCROW AGREEMENT  
CITY OF HARRISONBURG, VIRGINIA

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

I.

The City and the Contractor have entered into a contract dated \_\_\_\_\_ with respect to City of Harrisonburg ITB No. \_\_\_\_\_, for \_\_\_\_\_ ("Contract"). This Agreement is pursuant to, but in no way amends or modifies, the Contract. Payments made hereunder or the release of funds from escrow shall not be deemed approval or acceptance of performance by the Contractor. Payments should be made to \_\_\_\_\_ and mailed to \_\_\_\_\_ (Name and Address of Escrow Agent).

II.

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

III.

The City shall from time to time pursuant to the Contract pay to the Escrow Agent amounts retained by it under the Contract. Except as to amounts actually withdrawn from escrow by the City, the Contractor shall look solely to the Escrow Agent for the payment of funds retained under the Contract and paid by the City to the Escrow Agent.

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

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

IV.

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

## V.

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

- (1) United States Treasury Bonds, United States Treasury Notes, United States Treasury Certificates of Indebtedness or United States Treasury Bills,
- (2) Bonds, notes and other evidences of indebtedness unconditionally guaranteed as to the payment of principal and interest by the United States,
- (3) Bonds or notes of the Commonwealth of Virginia,
- (4) Bonds of any political subdivision of the Commonwealth of Virginia, if such bonds carried, at the time of purchase by the Escrow Agent or deposit by the Contractor, a Standard and Poor's or Moody's Investor Service rating of at least "A", and
- (5) Certificates of deposit issued by commercial Banks located within the Commonwealth of Virginia, including, but not limited to, those insured by the Escrow Agent and its affiliates.
- (6) Any bonds, notes, or other evidences of indebtedness listed in Sections (1) through (3) may be purchased pursuant to a repurchase agreement with a bank, within or without the Commonwealth of Virginia having a combined capital, surplus and undivided profit of not less than \$25,000,000, provided the obligation of the bank to repurchase is within the time limitations established for investments as set forth herein. The repurchase agreement shall be considered a purchase of such securities even if title, and/or possession of such securities is not transferred to the Escrow Agent, so long as the repurchase obligation of the bank is collateralized by the securities themselves, and the securities have on the date of the repurchase agreement a fair market value equal to at least 100% of the amount of the repurchase obligation of the bank, and the securities are held by a third party, and segregated from other securities owned by the bank.

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

## VI.

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

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

## VII.

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

VIII.

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

IX.

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

X.

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

**SIGNATURE PAGE TO FOLLOW**

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

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

\_\_\_\_\_

\_\_\_\_\_  
Typed Name of Contractor

\_\_\_\_\_  
President/Vice-President;  
Partner or Owner (Seal

Attest:

\_\_\_\_\_  
Bank Officer

\_\_\_\_\_  
Typed Name of Escrow Agent

\_\_\_\_\_  
Vice President

Witness:

\_\_\_\_\_

\_\_\_\_\_  
Typed Name of Surety Company

By: \_\_\_\_\_  
Attorney-In-Fact

Attest:

City of Harrisonburg, Virginia

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
City Manager/Deputy City Manager

Approved as to form:

\_\_\_\_\_  
City Attorney

Approved as to execution:

\_\_\_\_\_  
City Attorney

## **0501 AGREEMENT**

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

### **ARTICLE 1. WORK**

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents for the project titled City of Harrisonburg, Virginia, East Market Street Stormwater Improvements. The Work is generally described as follows:

Construction of stormwater improvement retrofits to portions of the existing roadway median on East Market Street (US-33) between Chestnut Ridge Drive and Country Club Road. Project includes construction of: a Dry Swale in the median immediately west of the intersection of Chestnut Ridge Drive; and a Regenerative Stormwater/Step-Pool Conveyance Channel starting west of the intersection of Evelyn Byrd Avenue and extending to the eastern entrance of the Kohl's parking lot. To include utility relocations and incidental items required to complete the work.

### **ARTICLE 2. CONTRACT ADMINSTRATOR**

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

### **ARTICLE 3. CONSTRUCTION TIME AND LIQUIDATED DAMAGES**

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

All work shall be completed by October 30, 2016.

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

3.3 Liquidated Damages shall be in accordance with Section 0100 of the Instructions to Bidders.

### **ARTICLE 4. CONTRACT PRICE**

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

## **ARTICLE 5. PAYMENT PROCEDURES**

CONTRACTOR shall submit Applications for Payment in accordance with Virginia Department of Transportation's Road & Bridge Specifications. Applications for Payment will be processed by CONTRACT ADMINISTRATOR as provided in the Virginia Department of Transportation's Road & Bridge Specifications.

5.1 Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by CONTRACT ADMINISTRATOR, on or about the 1<sup>st</sup> day of each month during construction as provided below. All Progress Payments will be on the basis of the progress of the Work measured by the schedule of values established in Virginia Department of Transportation's Road & Bridge Specifications.

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

95% of the Work completed, and

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

5.1.2 Upon substantial completion, OWNER shall pay amount sufficient to increase total payments to CONTRACTOR to 98% of the Contract Price, less such amount as CONTRACT ADMINISTRATOR shall determine in accordance with Virginia Department of Transportation's Road & Bridge Specifications.

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

## **ARTICLE 6. INTEREST**

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

## **ARTICLE 7. CONTRACTOR'S REPRESENTATIONS**

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

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

7.2 CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the

Work which were relied upon by CONTRACT ADMINISTRATOR in the preparation of the Drawings and Specifications and which have been identified in the Supplementary Conditions.

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

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

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

## **ARTICLE 8. CONTRACT DOCUMENTS**

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

- 8.1 This Agreement (pages 1 to 5, inclusive)
- 8.2 Performance and Payment bonds
- 8.3 Certificate of Insurance and Endorsement
- 8.4 Notice of Award
- 8.5 Notice to Proceed
- 8.6 Project Manual entitled "East Market Street Stormwater Improvements"
- 8.7 Drawings, consisting of a cover sheet and sheets numbered 1 through 32
- 8.8 Signed Addenda
- 8.9 Contractor's Bid
- 8.10 City of Harrisonburg Standard General Terms and Conditions
- 8.11 Documentation submitted by Contractor prior to Notice of Award.
- 8.12 Any modifications or change orders, duly delivered after execution of Agreement.

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

#### **ARTICLE 9. MISCELLANEOUS**

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

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

**ARTICLE 10. OTHER PROVISIONS**

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

This Agreement is effective: \_\_\_\_\_  
Date

OWNER: City of Harrisonburg

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

Signature \_\_\_\_\_

Signature \_\_\_\_\_

Name & Title: Kurt Hodgen, City Manager

Name & Title: \_\_\_\_\_

Attest \_\_\_\_\_

Attest \_\_\_\_\_

Address for giving notices:

Address for giving notices:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

License No. \_\_\_\_\_

END OF AGREEMENT

**0502 NOTICE TO PROCEED**

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

**TO:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Re: City of Harrisonburg**

**PROJECT TITLE:** \_\_\_\_\_

**PROJECT NO:** \_\_\_\_\_

In accordance with the Contract between the City of Harrisonburg and Contractor you are notified that the Time for Completion under the above Agreement will commence to run on \_\_\_\_\_, 20 \_\_\_\_\_. By that date, you are to start performing your obligations under the Contract Documents. In accordance with the Contract between Owner and Contractor, the Work shall be substantially completed within \_\_\_\_\_ calendar days from and after the said date, which is \_\_\_\_\_, 20\_\_\_\_\_.

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

By \_\_\_\_\_  
Owner Authorized Signature

\_\_\_\_\_  
Name & Title (Print)

## 0800 APPLICATION FOR PAYMENT

1. Applications for progress payment shall be made on forms identical/similar to those shown on pages 0800-2 and 0800-3. The following application for payment is an excel spreadsheet and will be made available for the contractor's use.
2. A draft of the application for progress payment shall be emailed to the Project Manager and Project Coordinator for review. After review and approval by the City, the contractor shall **mail two signed applications** for progress payment to: 320 East Mosby Road, Harrisonburg, VA 22801.
3. The Contractor shall submit daily quantities for review to the Project Manager and Project Coordinator no later than 10:00 AM on the following day. After reviewing, the City will sign-off on the submitted quantities and return to the Contractor.
4. Any quantity issues will be handled by the inspector an/or Project Manager and will be discussed with the Contractor. Any change in quantities, based on their final decision, will be noted on the submitted quantity sheet and returned to the Contractor.

**0800 APPLICATION AND CERTIFICATE FOR PAYMENT**

To Owner: City of Harrisonburg Project: Application No.:  
 320 E. Mosby Rd. Period To:  
 Harrisonburg, VA 22801 Contract Date:

From Contractor:

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

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

Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Printed Name \_\_\_\_\_ Title \_\_\_\_\_

State of \_\_\_\_\_ County of \_\_\_\_\_  
 Before me this \_\_\_ day of \_\_\_\_\_, 20\_\_\_ personally appeared \_\_\_\_\_ known to me, who being duly sworn, did depose and say that he/she is the \_\_\_\_\_ of the contractor above mentioned, that he/she executed the above application for payment on behalf of said contractor and that all of the statements contained herein are true, correct and complete.  
 Notary Public \_\_\_\_\_ Registration No. \_\_\_\_\_  
 My Commission Expires \_\_\_\_\_

APPLICATION NO.:

PERIOD TO:

PROJECT:

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

**SECTION 0900**  
**FEDERAL AND STATE REQUIREMENTS**  
**INDEX**

VDOT SSs, SPs, SPCNs	42
Personnel Requirements for Work Zone Traffic Control	42
Submission and Disposition of Claims	43

**(c100113-0116) VDOT SUPPLEMENTAL SPECIFICATIONS (SSs), SPECIAL PROVISIONS (SPs) AND SPECIAL PROVISION COPIED NOTES (SPCNs)**

Where Virginia Department of Transportation (VDOT) Supplemental Specifications, Special Provisions and Special Provision Copied Notes are used in this contract, the references therein to “the Specifications” shall refer to the Virginia Department of Transportation Road and Bridge Specifications, dated 2007 for both imperial and metric unit projects. References to the “Road and Bridge Standard(s)” shall refer to the Virginia Department of Transportation Road and Bridge Standards, dated 2008 for both imperial and metric unit projects. References to the “Virginia Work Area Protection Manual” shall refer to the 2011 edition of the Virginia Work Area Protection Manual with Revision Number 1 incorporated, dated April 1, 2015 for imperial and metric unit projects. References to the “MUTCD” shall refer to the 2009 edition of the MUTCD with Revision Numbers 1 and 2 incorporated, dated May 2012; and the 2011 edition of the Virginia Supplement to the MUTCD with Revision Number 1 dated September 30, 2013 for imperial and metric unit projects. Where the terms “Department”, “Engineer” and “Contract Engineer” appear in VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes used in this contract and the VDOT publication(s) that each references, the authority identified shall be in accordance with the definitions in Section 101.02 of the Virginia Department of Transportation Road and Bridge Specifications, dated 2007. Authority identified otherwise for this particular project will be stated elsewhere in this contract. VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes used in this contract and the VDOT publication(s) that each reference are intended to be complementary to the each other. In case of a discrepancy, the order of priority stated in Section 105.12 of the Virginia Department of Transportation Road and Bridge Specifications, dated 2007 shall apply. VDOT Special Provision Copied Notes in this contract are designated with “(SPCN)” after the date of each document. VDOT Supplemental Specifications and Special Provision Copied Notes in this contract are designated as such above the title of each document. The information enclosed in parenthesis “( )” at the left of each VDOT Special Provision Copied Note in this contract is file reference information for VDOT use only. The information in the upper left corner above the title of each VDOT Supplemental Specification and VDOT Special Provision in this contract is file reference information for VDOT use only. The system of measurement to be used in this project is stated elsewhere in this contract. VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes containing imperial units of measure with accompanying expressions in metric units shall be referred to hereinafter as “dual unit measurement” documents. Such a “dual unit measurement” is typically expressed first in the imperial unit followed immediately to the right by the metric unit in parenthesis “( )” or brackets “[ ]” where parenthesis is used in the sentence to convey other information. Where a “dual unit measurement” appears in VDOT documents, the unit that applies shall be in accordance with the system of measurement as stated elsewhere in this contract. The unit shown that is not of the declared unit of measurement is not to be considered interchangeable and mathematically convertible to the declared unit and shall not be used as an alternate or conflicting measurement. Where VDOT Specifications are used for metric unit projects and only imperial units of measurement appear the document, the provision(s) in this contract for imperial unit to metric unit conversion shall apply.

6-10-15 (SPCN)

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

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

**PERSONNEL REQUIREMENTS FOR WORK ZONE TRAFFIC CONTROL**

Section 105 and 512 of the Specifications are amended as follows:

**Section 105.14—Maintenance During Construction** is amended to add the following:

The Contractor shall have at least one person on the project site during all work operations who is currently verified either by the Department’s Basic or Intermediate Work Zone Traffic Control training, or by the American Traffic Safety Services Association (ATSSA) Virginia Intermediate Traffic Control Supervisor (TCS) training by a

Department approved training provider. This person must have their verification card with them while on the project site. This person shall be responsible for the oversight of work zone traffic control within the project limits in compliance with the Contract requirements, the VWAPM, and the MUTCD. This person's duties shall include the supervision of the installation, adjustment (if necessary), inspection, maintenance, and removal when no longer required, of all work zone traffic control devices on the project. The Department's Intermediate Work Zone Traffic Control trained person or an ATSSA Virginia Intermediate TCS can oversee multiple/separate work locations but shall be on site within 60 minutes of notification to oversee changes made to temporary traffic control otherwise the Engineer will suspend that maintenance operation until that operation is appropriately staffed in accordance with the requirements herein. The Contractor shall have at least one person, at a minimum, on the project site who is verified in Basic Work Zone Traffic Control by the Department for each maintenance operation that involves installing, maintaining, or removing work zone traffic control devices. This person shall be responsible for the placement, maintenance and removal of work zone traffic control devices. In the event none of the Contractor's personnel on the project site have, at a minimum, the required Basic Work Zone Traffic Control verification, the Engineer will suspend that construction/maintenance operation until that operation is appropriately staffed in accordance with the requirements herein.

**Section 512.03 Procedures is amended to add (r) Work Zone Traffic Control as the following:**

(r) Work Zone Traffic Control: The Contractor shall provide individuals trained in Work Zone Traffic Control in accordance with the requirements of Section 105.14 of the Specifications.

**Section 512.04 Measurement and Payment is amended to add the following:**

Basic Work Zone Traffic Control – Separate payment will not be made for providing a person to meet the requirements of Section 105.14 of the Specifications. The cost thereof shall be included in the price of other appropriate pay items.

Intermediate Work Zone Traffic Control - Separate payment will not be made for providing a person to meet the requirements of Section 105.14 of the Specifications. The cost thereof shall be included in the price of other appropriate pay items.

11-24-15a (SPCN)

**105.19 - Submission and Disposition of Claims (City Revision 1-21-15)**

Early or prior knowledge by the City of Harrisonburg of an existing or impending claim for damages could alter the plans, scheduling, or other action of the City of Harrisonburg or result in mitigation or elimination of the effect of the act objected to by the Contractor. Therefore, a written statement describing the act of omission or commission by the City of Harrisonburg or its agents that allegedly caused damage to the Contractor and the nature of the claimed damage shall be submitted to the Project Manager at the time of each and every occurrence, but in no event later than 30 days, that the Contractor feels gives it the right to make a claim or prior to the beginning of the work upon which a claim and any subsequent action will be based. The written statement shall clearly inform the City of Harrisonburg that it is a "notice of intent to file a claim." If such damage is deemed certain in the opinion of the Contractor to result from his acting on an order from the Project Manager, he shall immediately, take written exception to the order. In the event that the City does not take action on a claim within 30 days, the claim shall be deemed denied. Submission of a notice of intent to file a claim as specified shall be mandatory. Failure to submit such notice of intent shall be a conclusive waiver to such claim for damages by the Contractor. An oral notice or statement will not be sufficient nor will a notice or statement after the event.

In addition, at the time of each and every occurrence that the Contractor feels gives it the right to make a claim or prior to beginning the work upon which a claim and any subsequent action will be based, the Contractor shall furnish the Project Manager an itemized list of materials, equipment, and labor for which additional compensation will be claimed. Only actual cost for materials, labor and equipment will be considered. The Contractor shall afford the Project Manager every facility for keeping an actual cost record of the work. The Contractor and the Project Manager shall compare records and bring them into agreement at the end of each day. Failure on the part of the Contractor to afford the Project Manager proper facilities for keeping a record of actual costs will constitute a waiver of a claim for such extra compensation except to the extent that it is

substantiated by the City of Harrisonburg's records. The filing of such notice of intent by the Contractor and the keeping of cost records by the Project Manager shall in no way establish the validity of a claim.

Upon completion of the Contract, the Contractor may, within 60 days after the final payment date established by the City of Harrisonburg pursuant to Virginia Code, §2.2-4363, deliver to the City of Harrisonburg a written claim, which must be a signed original claim document along with three legible copies of the claim document, for the amount he deems he is entitled to under the Contract. For the purpose of this Section, the final payment date shall be that date set forth in a letter from the City of Harrisonburg to the Contractor sent by certified mail and shall be considered as the date of notification of the City of Harrisonburg's final payment. Regardless of the manner of delivery of the claim, the City of Harrisonburg must receive and have physical possession of the Contractor's written claim within the 60 day period that commences with the final estimate date. Submittals received by the City of Harrisonburg either before the final payment date or after the 60 day period shall not have standing as a claim. The claim shall set forth the facts upon which the claim is based. The Contractor shall include all pertinent data and correspondence that may substantiate the claim. Only actual cost for materials, labor and equipment will be considered. If the Contractor makes a claim, the City of Harrisonburg shall have the right, at its expense, to review and copy all of the Contractor's project files and documents, both electronic and paper, for use in analyzing the claim. Within 90 days from the receipt of the claim, the City of Harrisonburg will make an investigation and notify the Contractor by certified mail of its decision. However, by mutual agreement, the City of Harrisonburg and Contractor may extend the 90-day period for another 30 days.

If the Contractor is dissatisfied with the decision, he shall notify the City Manager in writing within 30 days from receipt of the City of Harrisonburg's decision that he desires to appear before him, whether in person or through counsel, and present additional facts and arguments in support of his claim. The City Manager will schedule and meet with the Contractor within 30 days after receiving the request. However, the City Manager and Contractor, by mutual agreement, may schedule the meeting to be held after 30 days but before the 60th day from the receipt of the Contractor's written request. Within 45 days from the date of the meeting, the City Manager will investigate the claim, including the additional facts presented, and notify the Contractor in writing of his decision. However, the City Manager and Contractor, by mutual agreement, may extend the 45-day period for another 30 days. If the City Manager deems that all or any portion of a claim is valid, he shall have the authority to negotiate a settlement with the Contractor subject to any approvals required by the *Code of Virginia* and Harrisonburg City Code. Any monies that become payable as the result of claim settlement after payment of the final estimate will not be subject to payment of interest unless such payment is specified as a condition of the claim settlement.

The Contractor shall submit a certification with any claim using the following format:

Pursuant to *Code of Virginia*, I hereby certify that this contract claim submission for City of Harrisonburg Project in County, Virginia is a true and accurate representation of additional costs and/or delays incurred by (name of Contractor) in the performance of the required contract work. Any statements made, and known to be false, shall be considered a violation of the Virginia Governmental Frauds Act §18.2-498.1 to 18.2-498.5, punishable as allowed by the Virginia Code for a Class 6 Felony.

(Company)

By:

As officer or duly appointed agent of (Company)

Title:

Date:

State Of:

City/County of, To-Wit:

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

Given under my hand this day of , 20 .

Notary Public:

My commission expires:

Claims submitted during the statutory period for submitting contract claims and submitted without the certification described above shall not have standing as a claim and shall not be considered by the City of Harrisonburg.

END FEDERAL AND STATE REQUIREMENTS

# SUPPLEMENTAL SPECIFICATIONS

## EAST MARKET STREET (US-33) City of Harrisonburg, Virginia April 6, 2016



Prepared By:

**A. Morton Thomas and Associates, Inc.**  
100 Gateway Centre Parkway, Suite 200  
Richmond, Virginia 23235  
Phone: 804-276-6231 Fax: 804-276-6233  
[drissmeyer@amtengineering.com](mailto:drissmeyer@amtengineering.com)

Submitted To:

(Ms.) Thanh H. Dang  
Transportation & Environmental Planning Manager  
**City of Harrisonburg - Department of Public Works**  
320 East Mosby Road, Harrisonburg, Virginia 22801  
Phone: 540-434-5928 Fax: 540-434-2695  
[Thanh.Dang@harrisonburgva.gov](mailto:Thanh.Dang@harrisonburgva.gov)



**KEEP IT CLEAN,  
HARRISONBURG**  
STOP POLLUTED RUNOFF

# SUPPLEMENTAL SPECIFICATIONS

## TABLE OF CONTENTS

### Section

	<u>DIVISION 1 – GENERAL REQUIREMENTS</u>
01000	Project Requirements
01010	Standards & Abbreviations
01300	Submittal Procedures
01400	Quality Control
01500	Temporary Facilities
01700	Project Closeout
	<u>DIVISION 2 – SITE WORK</u>
02050	Demolition
02100	Site Preparation
02200	Earthwork
02270	Erosion and Sediment Control
02300	Drainage – Rock
02350	Drainage – RSC
02360	Pressure Treated Lumber
02630	Storm Drainage
02920	Landscaping (Trees, Shrubs, Seedlings and Plugs)

## SECTION 01000 - PROJECT REQUIREMENTS

### PART 1 - GENERAL

#### 1.01 WORK REQUIRED BY THIS SECTION

- A. General: This Section pertains to the provision of all general project requirements necessary to coordinate, administer, and properly produce the complete Project.

#### 1.02 SPECIAL REQUIREMENTS

- A. Applicable Codes and Regulations: The Work shall be constructed in accordance with all applicable codes and regulations, latest editions, in force for the Commonwealth of Virginia and the City of Harrisonburg.
- B. Fire Protection: Provide and maintain an adequate number of hand fire extinguishers at convenient locations during construction. Avoid all accumulations of flammable debris by removing rubbish promptly and supervise closely the storage of paint materials and other combustible products. Take all other precautions necessary to prevent fires.
- C. Accident Prevention and Safety: Comply with all applicable laws, ordinances, rules, regulations and orders of governing authorities having jurisdiction for the safety of persons and property to protect them from damage, injury or loss. Erect and maintain, as required by conditions and progress of the Work, all necessary safeguards for safety and protection, including fences, railings, barricades, lighting, posting of danger signs and other warnings against hazards. Where prevention of construction accidents is not regulated by code or ordinances, comply with AGCA's "Manual of Accident Prevention in Construction." Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Project.
- D. Local Conditions: During the bidding period, the Contractor shall be responsible for having ascertained pertinent local conditions readily determined by inspection and inquiry, such as the location, accessibility and general character of the site, labor conditions, the character and extent of existing and proposed work within or adjacent thereto, and any other work being performed thereon at the time of the submission of the bid. The Contractor shall correlate personal observations resulting from inspection and inquiry with the requirements of the Contract Documents.
- E. Review of the Contract Documents: Contractor shall carefully study and compare the Contract Documents with existing conditions at the Job Site and shall at once report in writing to the City any error, inconsistency, or omission that may be discovered for any materials, systems, procedures, or methods of construction, either shown or specified, which is felt to be incorrect, inadequate, obsolete, unsuitable for the purpose intended, or which would not be satisfied to guarantee as specified. The Contractor shall not proceed with any work in such areas until written instructions are received from the City.
1. General: Before ordering any materials or doing any work, the Contractor shall verify all dimensions and check all site conditions in order to be sure that they properly reflect those of the Contract Documents. Any inconsistency shall be brought to the immediate attention of the City. In the event that discrepancies occur between ordered materials and actual conditions, of which the City was not notified beforehand, costs to correct such discrepancies shall be borne by the Contractor.

2. Existing Utilities: Before ordering any material or doing any work, the Contractor shall also locate and verify all underground lines and structures by utility test pits for each crossing. A written test hole report showing the depth, size, type and condition of each utility will be provided to the City to identify or verify relocation needs as a result.
- F. Concealed Work: Before backfilling, placing concrete or performing other work which will conceal utility lines and items, storm drain systems, underdrains, and other items to be concealed in the finished Project, the Contractor shall secure the inspection and approval by the City, the testing agency, and inspectors for other local authorities having jurisdiction. The Contractor shall also record exact locations of site utility work on the "Record Drawings" prior to backfilling (see PROJECT CLOSEOUT).
- G. Conduct of Operations: During the life of the Contract, the Contractor shall conduct operations in such a manner so as not to endanger, inconvenience or interfere with occupants of nearby buildings and facilities: this includes operations for all trucking to the site and all parking of worker vehicles, equipment and materials.
- H. Easements: Off-site construction shall be confined to the limits of available easements or rights-of-way, as described by the Contract Documents unless otherwise authorized. The Contractor shall fully restore all areas of work including offsite areas in accordance with the City's requirements.
- I. Coordination: The Contractor shall notify the Owner of such property upon which work is to be performed in advance of commencing work thereon, and in the event of the necessity of disrupting utility or other services to such property, the Contractor shall also notify the City and the utility Owner, and arrange for the disruption and restoration of such service in a manner which will result in a minimum inconvenience to parties involved.
- J. School Site: If work is on or near a school property additional safety requirements from the City may apply. Consult with the City prior to the work.
- K. Non-VDOT Pay Items: Several items of work for this project do not follow the Measurement and Payment procedures of VDOT. For these items of work the Measurement and Payment procedures are described in the Supplemental Specifications for each respective item of work.

### 1.03 DEFINITION OF TERMS

- A. General: In addition to definitions of various terms specified in the GENERAL CONDITIONS and as set forth elsewhere in the Contract Documents, the below-listed terms shall, as used throughout the Project Manual, be defined as specified below:
- B. "Drawings": The Drawings or Contract Drawings comprise the graphic documents consisting of sheets, or exact reproductions thereof, which show the locations, relationships, character, dimensions, and details of the Work including any amendments thereof permissible under the Contract and authorized by duly approved written orders. The word "Plans" may be used interchangeably with the word "Drawings."
- C. "Furnish": The term "Furnish" means to purchase, obtain, or otherwise secure at the Contractor's expense, complete with applicable taxes, insurance, delivery charges to the Job Site, and storage, unless specified otherwise in the Project Specifications.

- D. “Install”: The term “install” means to properly place, anchor or fasten, align, and completely finish specified items, equipment or materials into the Project at the expense of the Contractor in a superior workmanship manner in strict accordance with manufacturer’s instructions and specifications, unless specified otherwise in the Project Specifications.
- E. “Job Site”: Also referred to as “Site” or “Work Area,” consists of real property bounded by the limits or property lines indicated on the Drawings, or those buildings and other construction evidenced by the Contract Documents including such staging or access areas adjacent to said real property.
- F. “Owner”: Owner shall be used interchangeably with “the City” and shall refer to the City of Harrisonburg and its representatives for this Project.
- G. “Provide”: The term “provide” means to “furnish and install” (as defined hereinabove) all such items, equipment, and materials complete in all respects and be ready to place in service at the sole expense of the Contractor, unless specified otherwise in the Project Specifications.
- H. “Substantial Completion”: The term “Substantial Completion” shall be defined as the general completion of all Work required by the Contract in its finished or operational condition, exclusive of all final touch-ups, adjustments, or minor corrections. Completion of miscellaneous “punch list” items may be carried on after the Date of Substantial Completion in certain locations and under conditions which will not interfere with the daily, routine business operations conducted on the Premises, as determined by the City.
- I. The Words: “As directed,” “as permitted,” “as required,” or words of like effect shall mean that the direction, permission, or requirement of the City as intended; and similarly, the words “approved,” “acceptable,” “satisfactory,” or words of like import shall mean approved by or acceptable or satisfactory to the City, unless otherwise provided herein. The words “necessary,” “suitable,” “equal,” or words of like import shall mean necessary or equal in the opinion of the City.”
- J. “Contractor”: Wherever in the Specifications there appears a reference to the Contractor or to a subcontractor, or a reference to a contractor or supplier of a particular trade or for a particular type of work, such reference shall, as between the Owner and the City, regardless of the language thereof, be deemed a reference to the Contractor and shall not be construed as relieving the Contractor from the duty to perform all of the Work and other obligations provided for under the Contract. Moreover such references shall not be construed as an assumption by the City of any responsibility for the relations between the Contractor and his subcontractors or between various subcontractors, or as an attempt on the part of the City to deal directly with subcontractors, or to assign any particular portions of the Work to any one subcontractor except as specifically set forth in the Contract Documents.

#### 1.04 COORDINATION WITH GOVERNMENTAL AGENCIES & PUBLIC UTILITIES

- A. General: Contractor shall be responsible for making all necessary arrangements with governmental departments, public utilities, public carriers, service companies and corporations owning or controlling roadways, railways, water, sewer, gas, electrical, telephone, and communications facilities such as pavements, tracks, piping, wires, cables, conduits, poles, posts, guys, etc., including incidental structures connected therewith, that are encountered in the Work in order that such items may be properly shored, supported, protected or relocated at all times.

- B. Give all Proper Notices, comply with requirements of such parties in the performance of Work, permit entrance of such parties on the site in order that they may perform their necessary work, and pay all charges and fees required by such parties for this work, unless otherwise specified.
- C. Permits: Contractor shall obtain all permits required for the completion of the project, at no additional cost to the City. Contractor shall comply with all permit conditions in addition to the requirements of the Contract Documents.
- D. Scheduling: It is distinctly understood that the Contractor will have no claim whatsoever against the Owner for any delay caused during the construction of this Project due to coordination with third party governmental agencies and public utilities.

#### 1.05 GRADES, LINES, LEVEL & SURVEYS

- A. General: Contractor shall retain the services of a licensed (in the Commonwealth of Virginia) Professional Land Surveyor, or others acceptable to the City, to establish and maintain grades, lines, levels, and benchmarks necessary for the proper completion of the Project. Contractor shall review the figures shown on all available surveys before undertaking any construction work and shall be responsible for the accuracy of the finished Work. The surveys shall include, but not be limited to, the following:
  - 1. Provide and maintain all stakeout work including survey control and reference points with at least two (2) benchmarks.
  - 2. Rough grade stakes set in sufficient number to permit the Job Site to be cleared and graded as shown.
  - 3. Stakes for the construction of all rock structures, check dams, plantings, underdrains, storm sewer, utilities, and other appurtenances with appropriate cut sheets.
- B. Project Closeout: Upon completion of the project, the Contractor shall provide red line mark-ups of the actual as-constructed field conditions to the Owner and Owner's Engineer.

#### 1.06 AUDIO-VISUAL SURVEY

- A. General: Contractor shall perform an audio-visual survey of the project site and access routes using an appropriate digital recording device. Video display will show location and type of all existing structures and landscaping and shall include an audio description with the time, date, address and compass direction of travel and view. Footage shall correlate to plan relationship and stationing. Vulnerable, damaged, or deteriorated areas within the project limits will be shown in detail. Travel speeds shall be as necessary to clearly see the site area. Contractor shall provide a copy to the City at the preconstruction conference, and shall keep a copy.

#### 1.07 PROJECT MEETINGS

- A. General: Project meetings will be scheduled and held at the site or at Public Works every two (2) weeks under the direction of the Contractor. Contractor and each of the subcontractors shall have a competent representative in attendance to report in detail on the progress of the Work, answer questions, and receive instructions from authorized persons having jurisdiction over the project. When deemed necessary, the Contractor shall include the attendance of manufacturer's representatives and others involved in the project.

- B. Meeting Minutes: Public Works staff will take meeting notes, and will within seven (7) days after the close of each meeting transmit copies to each participant. Contractor shall be responsible for transmitting copies to his trade contractors, subcontractors, suppliers, and other affected parties as necessary.
  
- C. Preconstruction Conference: Upon approval of the Contract by the City, the Owner's Representative will schedule a preconstruction conference to be attended by the Contractor and the City.

END OF SECTION 01000

\* \* \* \*

## SECTION 01010 - STANDARDS AND ABBREVIATIONS

### PART 1 - GENERAL

#### 1.01 WORK REQUIRED BY THIS SECTION

- A. **General:** References to known “standard specifications” or herein called “standards” are made for the purpose of establishing minimum standards for quality of material and workmanship. The term “standards” used herein includes recognized industry-wide recommendations of good practice, manuals of standard practice, methods of procedures, and similar documents. Referenced “standards” shall include all amendments in effect for any particular edition in effect on the date of invitation to bid and shall form a party of this Specification to the extent required by references thereto. In case of conflict between the referenced “standard” and the Project Specifications, the Project Specifications shall govern.
- B. **Abbreviations:** The following list of technical societies, manufacturer’s organizations, etc., are referred to throughout these specifications with their abbreviations. Referenced “standards” hereinafter referred to by abbreviation and number may be followed by a date in abbreviated form using the last two digits of the year. Where dates of issue are not indicated, current editions, at the time of bidding, shall apply.

AA	Aluminum Association
AASHTO	American Assn. of State Highway & Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AGCA	Associated General Contractors of America
AI	Asphalt Institute
AIA	American Institute of Engineers
AIEE	American Institute of Electrical Engineers
AIMA	Acoustical and Insulating Materials Association
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
AMA	Acoustical Manufacturers Association
ANLA	American Nursery and Landscape Association
ANSI	American National Standards Institute
APA	American Plywood Association
ASTM	American Society for Testing and Materials
AVATT	Asphalt and Vinyl Asbestos Tile Institute
AWI	Architectural Woodwork Institute
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Institute of America
BOCA	Building Officials Conference of America, Inc.
CDA	Copper Development Association
CRI	Carpet and Rug Institute
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard of National Bureau of Standards (NBS)
CSI	Construction Specifications Institute
DCR	Virginia Department of Conservation and Recreation
SEQ	Department of Environmental Quality
FM	Factory Mutual Engineering Company

FS	Federal Specification of General Services Admin.
IEEE	Institute of Electrical & Electronics Engineering, Inc.
IES	Illuminating Engineering Society
MIA	Marble Institute of America
MLA	Metal Lath Association
MRDTI	Metal Roof Deck Technical Institute
MUTCD	Manual on Uniform Traffic Control Devices
NCMA	National Concrete Masonry Association
NEMA	National Electrical Manufacturers Association
NEII	National Elevator Industry, Inc.
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NKCA	National Kitchen Cabinet Association
NPA	National Particleboard Association
NSF	National Sanitation Foundation
NTMA	National Terrazo and Mosaic Association, Inc.
NWMA	National Woodwork Manufacturers Association
PCA	Portland Cement Association
PCI	Pre-stressed Concrete Institute
PS	Product Standards of National Bureau of Standards (NBS)
SDI	Steel Deck Institute
SDI	Steel Door Institute
SFPA	Southern Forest Products Association
SJI	Steel Joist Institute
SPIB	Southern Pine Inspection Bureau
SSPC	Steel Structures Painting Council
TCA	Tile Council of America
UL	Underwriters' Laboratories, Inc.
VDOT	Virginia Department of Transportation
WWPA	Western Wood Products Association

END OF SECTION 01010

\* \* \* \*

## SECTION 01300 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.01 WORK REQUIRED BY THIS SECTION

- A. This Section includes administrative and procedural requirements for the following:
  - 1. Shop Drawings.
  - 2. Product Data.

#### 1.04 SUBMITTAL PROCEDURES

- A. Contractor shall coordinate with performance of activities and the construction schedule for the preparation and processing of submittals as described below.
- B. Submittal Preparation: Contractor shall place a permanent label or title block on each submittal for identification. Indicate name of entity that prepared the submittal. Include the following information on the label as applicable:
  - 1. Project name.
  - 2. Date.
  - 3. Name and address of the Contractor.
  - 4. Name and address of subcontractor.
  - 5. Name and address of supplier.
  - 6. Name and address of manufacturer.
  - 7. Number and title of appropriate Specification Section.
  - 8. Drawing number and detail references, as appropriate.
- C. Submittal Transmittal Form: Contractor shall transmit each submittal to the City using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.
- D. Submittal Processing: Allow sufficient review time so installation will not be delayed because of time required to process submittals and re-submittals.
  - 1. Allow seven (7) days for each review. Allow additional time if processing will be delayed due to permit coordination with subsequent submittals. The City will promptly advise the Contractor when the submittal being processed must be delayed for coordination.
  - 2. No extension of the Contract Time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of performing the Work to permit their processing.
- E. Re-submittals: Identify all changes made since the previous submittal and follow the same instructions for submittal processing with all re-submittals.

#### 1.05 SCHEDULE OF SUBMITTALS

- B. Schedule: After development and acceptance of the Contractor's progress schedule, the Contractor shall prepare a complete schedule of submittals. Submit the schedule within ten (10) days of the date required for submitting the Contractor's progress schedule.

1. Coordinate the schedule of submittals with the list of subcontracts, the schedule of values, and the list of products as well as the Contractor's progress schedule.
  2. Prepare the schedule of submittals in chronological order. Provide the following:
    - a. Scheduled date for the first submittal.
    - b. Related Section number.
    - c. Submittal category (Shop Drawings or Product Data).
    - d. Submittal description or name
    - e. Scheduled date for the City's final release or approval.
- C. Schedule Updating: Revise the schedule of submittals after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each project meeting.

#### 1.06 SHOP DRAWINGS

- A. Shop Drawings shall be drawn to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce the Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a shop drawing. Include the following:
1. Label or title block.
  2. Dimensions established or verified by field measurements.
  3. Identification of products and materials to be used.
  4. Compliance with standards and specifications.
  5. Notation of coordination requirements.
  6. Sheet Size: Submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 36 by 48 inches (915 by 1220 mm).
  7. Submittal: Submit six (6) blue- or black-line prints for the A/E review and use. At least three (3) will be returned marked up and shall be maintained by the Contractor as a record document. If approved in writing by the City at the pre-construction meeting, the Contractor may submit electronically to the parties identified by the City for submittals.

#### 1.07 PRODUCT DATA

- A. Submit printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, manufacturer instructions and certificates, standard wiring diagrams, and performance curves within 10 days of receipt by the Contractor. Where Product Data must be specially prepared because standard printed data are not suitable for use, submit as a Shop Drawing.
- B. Mark each copy to show applicable choices and options. Where printed Product Data include information on several products, some of which are not required, mark copies to indicate applicable information. Include the following:
1. Label or title block.
  2. Manufacturer's printed recommendations.
  3. Compliance with recognized trade association standards.
  4. Compliance with recognized testing agency standards.
  5. Application of testing agency labels and seals.
  6. Notation of coordination requirements.
  7. Submittals: Submit six (6) copies of each required submittal or three (3) copies where required for maintenance manuals. At least three (3) will be returned marked

up and shall be maintained by the Contractor as a record document. If approved in writing by the City at the pre-construction meeting, the Contractor may submit electronically to the parties identified by the City for submittals.

END OF SECTION 01300

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## SECTION 01400 - QUALITY CONTROL

### PART 1 - GENERAL

#### 1.01 WORK REQUIRED BY THIS SECTION

- A. General: This Section pertains to the provision for the project to include independent testing, inspection, and related quality control services for the evaluation of materials, methods, and workmanship during construction on the following materials and/or systems:
  - 1. Earthwork testing and inspections
  - 2. Engineered soils
  - 3. Other testing required by the specifications
- B. Costs: For this project, The City shall retain the services of a competent, independent testing agency, laboratory or geotechnical engineer for quality control of the respective work and will pay all costs thereto. The Contractor shall accommodate the quality control work at all times, at no additional cost to the City.
- C. Extent of Work: The City reserves the right to expand testing or inspecting services as is deemed in the City's best interest.

#### 1.02 SPECIAL REQUIREMENTS

- A. Right of Access is to be provided at all times to the testing agency and the City including all places where fabrication work or concrete mixing is being performed, including offsite locations and staging areas.
- B. Contract Documents: The City will furnish the testing agency with sufficient copies of the Contract Documents as required for the performance of quality control work.

#### 1.03 RESPONSIBILITIES & DUTIES OF CONTRACTOR

- A. General: Contractor shall notify the testing agency and the City in advance of production and fabrication operations to allow for proper scheduling and completion of required inspections and tests, and for assignment of personnel. Contractor shall correct work which inspections or testing have indicated non compliance with the project specifications or contract requirements, to include replacing materials and workmanship at no additional cost to the City.
- B. Submittals: Contractor shall submit specified items including the results of any inspections and testing performed by the Contractor in timely manner as to not delay the Project. The City will also provide the Contractor with copies of any results.
- C. Contractor's Quality Control Procedures: Contractor shall maintain quality control procedures at all times. Inspections and testing performed by others shall not relieve the Contractor of the responsibility for quality control.

#### 1.04 AUTHORITY & DUTIES OF TESTING AGENCY

- A. General: The testing agency shall be responsible for the inspections and testing of earthwork, landscape materials, and laboratory facilities.

- B. Test Reports: Test reports shall be submitted to the City by the testing agency with a copy also submitted directly to the Contractor and Engineer at the same time after completion of each test or group of tests. Reports shall indicate all pertinent information including name of the Project, name of the Contractor, Date of Testing, and type of Testing.
- C. Promptly Notify the City and the Contractor of any observed, irregularities or deficiencies in products or work installed.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

- A. General: The testing agency shall furnish all services, materials, equipment, and accessories to provide for all tests and reports including delivery of all test specimens to or from the job site.

## PART 3 - EXECUTION

### 3.01 SOIL COMPACTION TESTING

- A. General: Contractor shall remove and stockpile all topsoil, or other organic soils. All compaction of backfill and existing soils shall also be subject to testing, inspection, and acceptance by the testing agency. Contractor shall cooperate with the testing agency in obtaining field samples of in-place materials after compaction, as directed by the testing agency based on field conditions at the time of testing. T

### 3.02 ENGINEERED SOILS

- A. General: Contractor shall comply with all quality control requirements as described in the specifications for engineered soils including a complete textural analysis of all sources of materials and the resulting mix prior to use on the project. Suppliers shall meet all applicable Virginia Stormwater Management Standards and Specifications for engineering soils.

### 3.03 REMEDIAL WORK

- A. General: If the testing results indicate that materials or workmanship do not meet the requirements of the Project, the City may require additional testing to be performed on remedial or replacement work.
- B. Costs: The expense for additional tests due to remedial work will be borne entirely by the Contractor.

END OF SECTION 01400

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## SECTION 01500 - TEMPORARY FACILITIES

### PART 1 - GENERAL

#### 1.01 WORK REQUIRED BY THIS SECTION

- A. General: This Section pertains to the provision, maintaining, and removal of all temporary facilities and work related thereto consisting of temporary field office, electric service, water service, sanitary facilities, heat for cold weather protection, temporary utility connections, security measures and traffic control devices.

#### 1.02 SPECIAL REQUIREMENTS

- A. Temporary Utility Connections shall be installed and maintained in accordance with all codes and ordinances of governing authorities having jurisdiction of the trades involved. Contractor shall coordinate and pay for all fees and permits pertaining thereto. When the temporary service lines are no longer required, they shall be removed prior to Final Inspection. Any part of the permanent service lines or grounds disturbed or damaged by the installation, use or removal of the temporary utility connections shall be restored to acceptable condition at no additional cost to the City.
- B. Temporary Field Office if used shall be installed and maintained in accordance with all codes and ordinances of governing authorities having jurisdiction. Contractor shall obtain and pay for all fees and permits pertaining thereto. When the temporary office is no longer required, it shall be removed prior to Final Inspection. Any part of the grounds disturbed or damaged by the installation shall be restored to acceptable condition at no additional cost to the City.

#### 1.03 TEMPORARY ELECTRIC AND LIGHTING

- A. General: Provide and maintain during the performance of the Work, adequate temporary light and electric power as is required for Contractor's use and for the use of all his subcontractors in connection with the Work. Temporary wiring shall include lighting the Field Office, proper illumination for all parts of the Work in progress, sufficient number of outlets to reach all work requiring power and light, operation of electric tools and machinery, testing of all electrical equipment, pumps, lamps, and all other devices necessary to provide adequate service and connections. Comply with applicable OSHA requirements.
- B. Cost: Electric bills or other utility costs for temporary electric and lighting facilities will be the responsibility of the Contractor.

#### 1.04 TEMPORARY WATER

- A. General: Contractor shall provide adequate temporary water for construction and fire protection as required. All temporary water supply lines shall be properly valved, maintained, protected, and kept tight and free from leaks and freezing conditions. Backflow prevention shall be provided as required.
- B. Temporary Drinking Water: Contractor shall provide adequate drinking water and paper cups on the Job Site with receptacles for cup disposal. Contractor shall keep premises free from waste cups and paper at all times.
- C. Cost: Water bills or other utility costs for temporary water facilities shall be the responsibility of the Contractor.

1.05 TEMPORARY SANITARY FACILITIES

- A. General: Contractor shall provide and maintain an adequate number of temporary dry chemical toilet facilities for use by workers, and to comply with all local health requirements and sanitary regulations. Toilets shall be located as approved by the City, kept in a sanitary condition, and removed when work is completed. Sanitary facilities shall be weathertight with shielded entry and approved by local Health Authorities having jurisdiction.
- B. Cost: Sewer bills or other utility costs for temporary facilities will be the responsibility of the Contractor.

1.06 SECURITY MEASURES

- A. General: Provide and maintain temporary fencing, gates, signage, barriers, and controls to prevent public entry to construction areas and to protect existing facilities from damage during construction. This includes controlling traffic in the immediate area of newly installed work to minimize damage and to prevent damage to lawns and landscaped areas.
- B. Cost: Costs for temporary security measures shall be the responsibility of the Contractor.

1.07 MAINTENANCE OF TRAFFIC

- A. General: Contractor shall provide and maintain all materials, equipment, labor and services necessary to temporarily control traffic in work zones, to maintain public and private entrances, to protect the traveling public, and to protect workers. All work zones shall be planned in accordance with the Manual of Uniform Traffic Control Devices and the Virginia Work Area Protection Manual. The City shall be given sufficient advanced notice of any scheduled work that will affect traffic patterns or safety, to permit review and approval of the proposed plan of work prior to construction. The Contractor shall use and maintain traffic control devices that are not damaged, defaced or dirty and that meet all VDOT standards and specifications and other applicable city requirements.
- B. Special Work Restrictions: The following special work restrictions will apply to this project:
  - 1. The plans for this project do not include a lane closure on East Market Street, however the City will consider allowing a temporary lane closure, if desired, on a case by case basis, based on an approved plan of work prior to construction.
  - 2. Construction work will be substantially limited during the academic school year for James Madison University (JMU) whose campus is in close proximity to this project site. Summer construction work is preferred to minimize traffic impacts.
- C. Cost: Costs for temporary maintenance of traffic measures will be the responsibility of the Contractor.

END OF SECTION 01500

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## SECTION 01700 - PROJECT CLOSEOUT

### PART 1 - GENERAL

#### 1.01 WORK REQUIRED BY THIS SECTION

- A. General: This Section pertains to the provision of all efforts necessary to keep the Premises free from accumulation of waste materials, rubbish and other debris including cleaning both during progress of the Work and at completion of the Project. Cleaning includes, but is not limited to sweeping, brushing, washing, and dust control; debris removal; removal of excess material, tools, equipment, and rigging; cleaning of all streets mudded by construction vehicles; and final cleaning operations.
- B. Classification: Specific cleaning and clean up requirements for particular work may also be specified under respective Sections pertaining to that work and should be executed in accordance with that Section also.

#### 1.02 SPECIAL REQUIREMENTS

- A. Pollution Control: Clean-up and disposal operations shall comply with all ordinances and anti-pollution laws and regulations. Burning is not allowed within the City limits. Burying or otherwise disposing of volatile fluid wastes (such as mineral spirits, oil, or paint thinner) including dumping into storm or sanitary sewer systems or waterways is specifically prohibited.
- B. Fire Protection: Volatile waste materials shall be stored in covered metal containers, and removed from premises daily.
- C. Accident Prevention: Clean up operations shall be performed regularly in such a manner as to prevent accidents to personnel, protect all work in place and to effect completion of the Project in any orderly and safe manner.

### PART 2 – PRODUCTS

#### 2.01 CLEANING MATERIALS

- A. General: Only cleaning materials recommended by manufacturers for surfaces to be cleaned shall be used and its use shall be limited to those specified surfaces. Where a manufacturer does not provide a recommendation or the recommendations are unclear, consult with the City for approval prior to cleaning surfaces in question.

### PART 3 – EXECUTION

#### 3.01 DURING CONSTRUCTION

- A. General: Contractor shall perform and oversee all cleaning operations and ensure that the entire Premises is maintained free from accumulations of waste materials, rubbish and other debris at reasonable intervals. At no time shall accumulations be allowed to become an unsightly or hazardous condition. General cleaning operations shall include at least “broom clean” conditions on a daily basis. If Contractor fails to clean up, the Owner may do so and the cost thereof shall be charged to the Contractor

- B. Handling of Waste Materials: All material accumulated as waste materials, rubbish, and debris shall be placed in sufficiently sized containers furnished and maintained by the Contractor. All such material shall become the property of the Contractor and shall be removed from the Job Site and legally disposed of by the Contractor on a regular basis. Contractor shall handle waste materials in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights without protective barricades, warning signs or devices, and in a manner that protects workmen and other persons at all times.
- C. Erosion and Sediment Control: Contractor shall install, routinely inspect, and maintain all erosion and sediment control devices regularly and in accordance with the Virginia Erosion and Sediment Control Regulations and all applicable permit conditions.
- D. Schedule: Contractor shall schedule cleaning operations so that dust and other contaminants resulting from the cleaning process will not damage work.

END OF SECTION 01700

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## SECTION 02050- DEMOLITION

### PART 1 - GENERAL

- 1.01 Furnish the necessary materials, equipment and labor required to perform the work for this Section.
- 1.02 SAFETY REQUIREMENTS: In addition to those requirements of the local ordinances and governing codes, safety requirements shall also include the Safety Requirements for Demolition by the American National Standards Institute, Document A10 Construction and Demolition Standards package, latest edition, hereinafter called ANSI.
- 1.03 Submittals shall be made to the City with information to indicate that the Contractor has planned the Work of this Section in sufficient detail to ensure that the work will be completed in safe and prudent manner. The responsibility for planning and effective implementation of the Work and safety to persons and property are the total responsibility of the Contractor, and this responsibility shall not transfer to the Owner, Engineer, or governing authorities. The Engineer's review shall not operate to imply the agreement of the Owner, Engineer, or governing authorities to the Contractor's planning as being appropriate or reasonable. The plan shall include demolition procedures and operational sequence and should consider permits and notices authorizing demolition, certificates of severance or relocation of utility services, method of traffic maintenance, permits for transport and disposal of debris, location of disposal areas and related work.
- 1.04 WORK UNDER THIS SECTION: Shall include, but shall not be limited to, the following:
- A. Tree and vegetation removals.
  - B. Protection of existing utilities and other items to remain.
  - C. Removal of abandoned/relocated utilities.
  - D. Removal of riprap.

### PART 2 - PRODUCTS

- 2.01 NOT APPLICABLE

### PART 3 - EXECUTION

- 3.01 All work shall be in accordance with the requirements of ANSI.
- 3.02 INSPECTION
- A. General: Verify that all equipment and other items required for demolition and reinstallation have been removed from the site. Verify that all materials for demolition have been removed and properly disposed of offsite. Verify that all resulting repairs have been made.
- 3.03 DEMOLITION WORK
- A. General: Before any work begins, the Contractor will coordinate the contract documents and site conditions, with the trades involved in the work.
  - B. Sequence of Work: Sequence and/or phases of the work shall be as called for in:

1. Contractor's demolition plan.
  2. Contractor's utility protection plans.
  3. Sequence of Construction
- C. Encountered But Unforeseen Utilities: All utilities which are encountered in conflict but which are not indicated shall not be disturbed until authorized. All work in that area shall cease and the City shall be notified for a rendering of a decision based on the Contractor's recommended plan of work. Work in that area shall not resume until a decision has been reached by the City.
- D. Noise: Shall be held to the minimum to avoid disturbance to the surrounding property.
- E. Sprinklering: All debris shall be sprinkled regularly to keep down dust. Do not use water to the extent to cause flooding, contaminated runoff, or icing.
- F. Demolition Debris: Shall be removed from the property as it accumulates. All demolished material shall be removed from the property and disposed of properly.
- G. Removing and Capping of Utilities: The utilities to be removed shall be removed complete down to the point of capping off as indicated and as specified for that utility normally. It is required that all work concerning utilities be performed by persons skilled in the trade of that particular utility involved, under this Section. Contractor shall coordinate this work with all affected parties.
- H. Removal of Trees: Shall be in accordance with VDOT Road and Bridge Specifications Section 301.
- I. Removal of Riprap: Shall be in accordance with VDOT Road and Bridge Specifications Section 510.
- J. Removal/Reconstruct Riprap: Shall be in accordance with VDOT Road and Bridge Specifications Section 510.

### 3.04 DISPOSAL

- A. Remove all demolition debris from the property and transport it to disposal areas approved by the governing authorities to receive each type of debris and as directed by the city. During and after disposal, perform all disposal site maintenance, grading, dressing, and stabilization as required by the governing authorities having jurisdiction over the disposal area and disposal operations. Pay all disposal fees.
- B. Do not store or bury debris at any time.
- C. Do not burn Debris within the city limits at any time.

### 3.05 CLEAN-UP

- A. The property shall be cleaned of all demolition debris as it occurs, and a final clean-up and inspection shall be required in all areas upon completion.

3.06 MEASUREMENT AND PAYMENT

A. Clearing and Grubbing (Trees)

1. Measurement and payment shall be lump sum in accordance with VDOT Road and Bridge Specifications, Section 301.

B. Remove Riprap

1. Measurement and payment per square yard, including offsite disposal, shall be in accordance with VDOT Road and Bridge Specifications, Section 510.

C. Remove/Reconstruct Riprap

1. Measurement and payment per square yard, including re-use onsite, shall be in accordance with VDOT Road and Bridge Specifications, Section 510.

D. Removal of Relocated Utilities

1. Measurement and payment for the removal of abandoned or relocated utilities will not be measured and paid separately but shall be included in the cost of new utility work.

E. Disposal

1. Shall be considered incidental to other items of work. No separate payment shall be made.

END OF SECTION 02050

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SECTION 02100 - SITE PREPARATION

PART 1 - GENERAL

1.01 PROVIDE THE WORK OF THIS SECTION as indicated and specified as follows:

- A. Clearing and grubbing
- B. Disposal of spoil material
- C. Protection of trees and other vegetation to remain
- D. Removal of trees and other vegetation, not to remain

PART 2 - PRODUCTS

2.01 NOT APPLICABLE

PART 3 - EXECUTION:

3.01 SPOIL:

- A. Spoil shall not be burned within the City limits at any time.
- B. All spoil not suitable for fill shall be disposed of at approved location offsite.

3.02 LIMITS OF DISTURBANCE: Disturbance limits should be minimized during construction. Should the removal of certain items be in doubt, the work in that area shall cease until the City can review the site and render a decision.

3.03 CLEARING AND GRUBBING:

- A. This work includes clearing, grubbing, removing and disposing of all vegetation, debris, and obstructions within the construction limits or right-of way except such objects as are designated to remain, or are to be otherwise removed in accordance with the Contract Documents.
- B. Remove completely all grass, stumps, roots, buried organic matter, loose stones and rubbish from the construction area and areas where a change in grade is indicated.
  - 1. Vegetation Removal: Remove trees and shrubs indicated to be removed.
  - 2. Clearing: Perform all clearing before other construction work in the same general area is started. This consists of clearing and removal of all trees, downed timber, logs, snags, brush, undergrowth, hedges, heavy growth of grass or weeds, fences, structures, debris and rubbish of any nature, natural obstructions or such material that is unsuitable for fill material.
  - 3. Grubbing: Grub and remove from the site all stumps, roots, root matter, buried logs, brush, grass, and other unsatisfactory materials.
    - a. Completely remove stumps, roots, and other debris protruding through ground surface to a depth of not less than 18 inches.

- b. Use only hand methods for grubbing inside the drip line of trees indicated to remain.
  - c. Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation is indicated.
- 4. Selective Clearing and Grubbing: Not required for this project.
- C. No trees, ornamental shrubs or landscaping of any size and description shall be cut, removed, or damaged unless designated by the City. Prior to the City's review, the Contractor shall lay out all of the major construction work that will affect the trees, ornamental shrubs, and landscaping.
- D. SALVAGE: All salvage, unless specified otherwise, shall become the property of the Contractor who shall remove it from the property.

3.04 PROTECTION FOR TREES AND SHRUBS:

- A. Contractors are hereby reminded and cautioned that care shall be exercised to protect trees, shrubs and landscaping which are to remain during the progress of the Project. Suitable barriers shall be provided at the drip line of all trees and shrubs that are to remain and which are in the construction work area. Construction equipment and materials shall not be allowed in tree protection areas. All damage to such trees and shrubs shall be repaired; broken limbs properly and neatly pruned and all trunk damage neatly dressed. Any trees and shrubs which are excessively damaged shall be replaced in like kind, size, and species by the Contractor at no additional cost to the City.
- B. All grading around remaining trees and shrubs shall be such that the root system shall not be disturbed. Earth shall not be temporarily or permanently piled within the drip line of trees or around shrubs, nor shall earth be graded to the trees and shrubs above the natural root depth for that particular species.
- C. Existing trees and shrubs which are in the way of new and/or renovation construction and which are in the material handling or staging areas shall be protected.
- D. UTILITIES: All utilities which are encountered shall not be disturbed, except as required by the Contract Documents.
- E. CLEAN UP: All trenches, ditches, and holes resulting from the work of this Section shall be filled with clean earth and compacted to the level of the surrounding elevations. Upon completion, the site shall be left clean with all unusable material removed.

END OF SECTION 02100

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## SECTION 02200 - EARTHWORK

### PART 1 - GENERAL

#### 1.01 DESCRIPTION

- A. **WORK INCLUDED:** Excavate and grade in the areas designated in the Contract Documents as shown on the plans and specified herein, which shall include but not be limited to the following:
1. Excavation, backfilling and compaction for earthwork/earth moving.
  2. Excavation and grading to establish grades for plantings and grassed areas.
  3. Dewatering or the addition of water, as required to perform earthwork.
  4. Finish grading.
- B. **REFERENCES:** All references to the “Virginia Department of Transportation Road and Bridge Specifications”, January 2007 edition.
- C. **GENERAL:** The work shall comply with the most recent standards as published at the date of the contract and as listed in this specification using the abbreviation shown for the ASTM standards referenced:
1. D 448: Standard classification for sizes of aggregate for road and bridge construction.
  2. D 698: Test method for laboratory compaction characteristics of soil using standard effort (12,400 ft-lbf/ft).
  3. D 1556: Standard test method for density and unit weight of soil in place by the sand-cone method.
  4. D 1557: Standard test methods for laboratory compaction characteristics of soil using modified effort (56,000 ft-lbf/ft<sup>3</sup>) (2,700 kN-m/m<sup>3</sup>).
  5. D 2216: Standard test method for laboratory determination of water (moisture) content of soil and rock by mass.
  6. D 2487: Standard classification of soils for engineering purposes (unified soil classification system).
  7. D 2922: Standard test method for density of soil and soil-aggregate in place by nuclear methods (shallow depth).
  8. D 2937: Standard test methods for density of soil in place by drive-cylinder method.
  9. D 3017: Standard test method for water content of soil and rock in place by nuclear methods (shallow depth).
  10. D 4318: Standard test method for liquid limit, plastic limit, and plasticity index of soils.

#### 1.02 DEFINITIONS

- A. **CONTROLLED FILL:** Controlled fill is earthwork required in all areas on which final grade is not placed on original, native, or undisturbed soil.
- B. **SATISFACTORY MATERIALS:** Materials classified by ASTM D 2487 as GW, GP, GM, GC, SW, SP, SM, SC, ML, and CL are satisfactory as fill for grading operations and are satisfactory in-situ.
- C. **UNSATISFACTORY MATERIALS:** Materials classified by ASTM D 2487 as OL, OH, MH, CH, and PT are unsatisfactory in-situ and as fill. Unsatisfactory materials also include

those materials containing roots and other organic matter, trash, debris, frozen materials, and stones larger than two (2) inches. Fill materials containing stones larger than two (2) inches may be allowed below the uppermost two (2) feet.

- D. **COHESIONLESS AND COHESIVE MATERIALS:** Cohesive materials include materials classified in ASTM D 2487 as GC, SC, ML, CL, MH, and CH. Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Materials classified as GM and SM will be identified as cohesionless only when the minus #40 fraction has a plasticity index of zero as classified by ASTM D 4318.
- E. **GEOTECHNICAL ENGINEER:** A representative of a commercial geotechnical testing agency will provide the required quality control testing described in these specifications.

### 1.03 SUBMITTALS

- A. **GENERAL:** Submittals shall be in accordance with Section 1300 – Submittal Procedures. Copies of all test results and field and office worksheets shall be furnished to the City within seventy-two (72) hours after the tests are complete.
- B. **TEST REPORTS:** The testing agency shall submit following reports as required by Section 01400 – Quality Control.
  - 1. Field density reports.
  - 2. One optimum moisture-maximum density curve for each type of soil used for controlled fill.
  - 3. Other reports of any testing deemed necessary by the City based on site conditions.
  - 4. A test location plan shall be kept and included with each submittal.

### 1.04 QUALITY ASSURANCE

- A. **INCLEMENT WEATHER:** When fill operations are ceased due to weather (rain, freezing, snow, etc.), construction shall not be resumed until the Geotechnical Engineer has verified soil strength has not been adversely affected. If soil strength has been decreased, the affected portion of fill shall be undercut, re-scarified, moistened, or dried as required and re-compacted to the specified density or replaced.
- B. **INSPECTION:** The Contractor shall coordinate the earthwork schedule with the City in advance. The Contractor shall coordinate work with other trades whose work will be affected on the site.

### 1.05 PROJECT CONDITIONS

- A. **TOPOGRAPHIC SURVEY:** Topographic survey information is shown on the plans. All proposed grading shall match existing grades at the limits of disturbance.
- B. **EXISTING UTILITIES:** Contractor shall be responsible for locating and protecting existing underground utilities that are to remain in place in areas of work during earthwork operations.

1. Should uncharted, incorrectly charted, unmarked in field, or incorrectly marked in the field, piping or other utilities be encountered during excavation, Contractor shall consult with the City immediately.
  2. Contractor shall demolish and completely remove existing underground utilities where indicated on the plans to be removed and shall coordinate with utility companies for shut-off of services if service interruptions are planned.
- C. **BLASTING:** Blasting and explosions are not allowed within the City limits at any time.
- D. **PROTECTION OF PERSONS AND PROPERTY:** Contractor shall barricade open excavations occurring as part of this work and post with warning lights and other safety measures at all times.
1. The Contractor shall protect structures, utilities, pavements, trees and other facilities from damage caused by earthwork due to settlement, lateral movement, undermining, washout or other hazards created.
  2. The Contractor shall protect, maintain and restore benchmarks, monuments, property markers, and other reference points affected by earthwork. If permanent reference points are displaced or destroyed, points shall be reestablished and markers reset by a licensed surveyor at the Contractor's expense.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

- A. **FILL MATERIALS:** All fill materials shall be free from mud, refuse, construction debris, organic material, rock or gravel greater than two (2) inches in any dimension, frozen or otherwise unsuitable material. Materials for fills shall be secured from excavation and after rejection of any unsuitable materials. Materials from other sources may be used upon approval and testing by the Geotechnical Engineer.
- B. **REDI-MIX CONCRETE:** Bags of dry, redi-mix concrete can be used as select backfill around posts and poles, as directed by the City.

## PART 3 - EXECUTION

### 3.01 EXCAVATION

- A. **EXCAVATION:** After topsoil has been removed, excavation of every description, regardless of material encountered, within the grading limits of the project shall be performed to the lines and grades indicated. Satisfactory excavation material shall be transported to and placed in fill areas within the limits of the work. All unsuitable material including any soil that is disturbed by the Contractor's operations and surplus material shall be disposed of at approved locations offsite. Contractor shall be responsible for providing an erosion and sediment control plan for all borrow or waste areas. Excavations carried below the depths indicated, shall, except as otherwise specified, be refilled to the proper grade with satisfactory material as directed. All additional work of this nature shall be at the Contractor's expense. Excavation and filling shall be performed in a manner and sequence that will provide adequate drainage at all times. Excavations shall be kept free from water while construction therein is in progress. If the Contractor fails to provide adequate drainage and any material becomes soft or otherwise unsuitable as a result, such material shall be removed and replaced with

satisfactory on-site material or borrow material from approved sources, or shall be dried and re-compacted as directed by the Geotechnical Engineer at no additional cost to the Owner. Fill areas and slopes may be adjusted to balance earthwork quantities if approved by the City. Excavated material required for fills in excess of that produced by excavation within the grading limit shall be obtained from borrow areas approved by the City in advance, at the Contractor's expense.

- B. **DITCHES, GUTTERS, AND CHANNEL CHANGES:** Ditches, gutters, and channel changes shall be cut accurately to the cross sections and grades indicated. All roots, stumps, rock and foreign matter in the sides and bottom of ditches, gutters, and channel changes shall be trimmed and dressed or removed to conform to the slope, grade, and shape of the section indicated. Excessive ditch and gutter excavation shall be backfilled to grade either with compaction to specified densities or with suitable stone or cobble to form an adequate gutter paving as directed. All ditches and gutters excavated under this section shall be maintained until permanent stabilization and final acceptance of the work. Satisfactory material excavated from ditches and channel changes shall be placed in fill areas. Unsuitable and excess material shall be disposed of in offsite waste areas secured by the Contractor and approved by the City at the Contractor's expense.
  
- C. **UNAUTHORIZED EXCAVATION**
  - 1. Unauthorized excavation consists of removal of materials beyond indicated sub-grade elevations or dimensions without specific instruction from the City or the Geotechnical Engineer in advance.
  - 2. Contactor shall backfill and compact unauthorized excavations as specified for authorized excavations, unless otherwise directed by the City or the Geotechnical Engineer at the Contractor's sole expense.
  
- D. **STABILITY OF EXCAVATIONS:** Maintain sides and slopes of excavations in a manner such that the excavation provides safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction at all times.

### 3.03 FILL

- A. **PREPARATION OF GROUND SURFACE FOR FILL:** All vegetation such as roots, brush, heavy sods, heavy growth of grass, and all decayed vegetative matter, rubbish, and other unsatisfactory material within the area upon which fill is to be placed, shall be stripped, cleared, grubbed, or otherwise removed before the fill is started. In no case will unsatisfactory material remain in or under the fill area. The areas shall then be scarified to depth of at least six (6) inches, moistened or aerated as required and compacted with vibratory rollers, pneumatic rollers, sheepsfoot rollers other mechanical means acceptable to the Geotechnical Engineer. Sloped ground surfaces steeper than one vertical to three horizontal on which fill is to be placed shall be plowed, stepped, benched, or broken up, as directed, in such manner that the fill material will bond with the existing surface. Prepared surfaces on which compacted fill is to be placed shall be wetted or dried as may be required to obtain the desired moisture content and density.
  
- B. **FILLS AND EMBANKMENTS:** Fills and embankments shall be constructed at the locations and to lines and grades indicated. The completed fill shall conform to the grading plan indicated. Approved material obtained during excavation may be used in forming required fill. Fill shall be satisfactory material and shall be free from roots or organic material. No frozen material will be permitted in the fill. Stones having a dimension greater than 2 inches shall not be permitted in the upper two (2) feet of fill or horizontal embankment. The material

shall be placed in successive horizontal layers of eight (8) inches in loose depth for the full width of the cross section and shall be compacted as specified. Each layer shall be compacted before the overlaying lift is placed. Moisture content of the fill or backfill material shall be adjusted by wetting or aerating as necessary to provide the moisture content specified.

3.04 **COMPACTION:** Each layer of the fill shall be placed in successive uniform layers not more than eight (8) inches in thickness before compaction. Earth fills and utility trench backfills shall be compacted to a minimum of 90% of maximum density within +/- 3 percentage points of optimum moisture as determined by ASTM Standard D-698, and as described in Chapter 6 of the Public Street Facilities Construction Standards for the City of Harrisonburg.

A. **GENERAL:** All areas covered by the project, including excavated and filled sections and adjacent transition areas, shall be uniformly smooth-graded. The finished surface shall be reasonably smooth, compacted, and free from irregular surface changes. The degree of finish shall be that ordinarily obtainable from blade grade operations, except as otherwise specified. Ditches and gutters shall be finished to permit adequate drainage.

3.05 **PROTECTION**

A. **SITE PRESERVATION:** The Contractor shall protect newly graded areas from traffic and from erosion, and any settlement or washing away that may occur from any cause, prior to acceptance, shall be repaired and grades re-established to the required elevations and slopes. All work shall be conducted in accordance with Section 02270- Erosion and Sediment Control.

B. **SEEDING:** All areas disturbed by work in this project shall be stabilized in accordance with the "Virginia Erosion and Sediment Control Handbook" (VESCH).

3.06 **FIELD QUALITY CONTROL**

A. **TESTING:** Testing shall be performed by an approved Geotechnical Engineer qualified to perform such tests as directed by the City. Tests conforming to ASTM D 698, shall be made by the Geotechnical Engineer or his representative on each soil type found in the areas prepared to receive fill and in the soil to be used for fill. Field Density tests shall be made by the Geotechnical Engineer or his representative in accordance with ASTM D 1556, ASTM D 2922 or ASTM D 3017 on the areas prepared to receive fill and on each layer of compacted fill. When ASTM D 2922 is used, the calibration curves shall be checked and adjusted if necessary by the procedure described as ASTM D 2922, paragraph "Adjusting Calibration Curve". ASTM D 2922 results in a wet unit weight of soil and when using this method, ASTM D 3017 shall be used to determine the moisture gauges along with density calibration checks as described in ASTM D 3017. ASTM D 2937 shall be used only for soft, fine-grained, cohesive soils. At least one test shall be performed on the compacted backfill. More tests shall be performed if in the judgment of the Owner or Geotechnical Engineer the compactive effort of the Contractor will not result in the specified density.

B. **TESTING FREQUENCY:** The following submittals are required.

1. A minimum of one moisture-density test shall be performed for each soil classification of fill material and existing sub-grade material.
2. One Atterberg limits test and one gradation analysis is required for every six field density tests.

3. Field density tests shall be performed as follows: a minimum of one test per lift per 500 cubic yards or fraction thereof is required for fill material and a minimum of one test per 1000 cubic yards or fraction thereof is required for subgrades prior to filling.
- C. VISUAL INSPECTION: Upon completion of excavation work, the Geotechnical Engineer shall visually inspect the sub-grade and all excavations. The visual inspection shall be conducted to assure that the data obtained from the test borings and used as a basis of design was representative of the site conditions. Upon completion of the inspection, the Geotechnical Engineer shall provide written notification to the Owner.
- D. PROOF ROLLING: Following visual inspection, the Contractor shall demonstrate to the Geotechnical Engineer that the exposed subgrade does not contain previously unidentified soft areas by proof rolling. Proof rolling shall consist of rolling the entire surface with approved mechanical equipment while observing the subgrade for displacement or deformation.

### 3.07 MEASUREMENT AND PAYMENT

- A. Regular Excavation (Unclassified)
  1. Regular Excavation (Unclassified) will be measured and paid in accordance with VDOT Road and Bridge Specifications, Section 303.
- B. Regular Excavation (Unclassified) (Diversion Fence)
  1. Regular Excavation (Unclassified) (Diversion Fence) will be measured and paid in accordance with VDOT Road and Bridge Specifications, Section 303.
  2. This contract unit price per cubic yard shall include: excavation; temporary pipe culverts; removal of temporary pipe culverts when no longer required; backfilling; and site restoration including re-grading and seeding.
- C. Dewatering
  1. Costs for dewatering are considered incidental to the excavation work. No separate payment shall be made

END OF SECTION 02200

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## SECTION 02270 - EROSION AND SEDIMENT CONTROL

### PART 1 - GENERAL

- 1.01 Provide the Work of this section as indicated and in accordance with the minimum standards and specifications of the latest edition of the “Virginia Erosion and Sediment Control Handbook”, applicable Storm Water Pollution Prevention Plans, and associated permits for land disturbance activities as required.
- 1.02 Work under this section shall be within the designated construction limits for the project and may include, but not be limited to, the following:
- A. Construction Entrance
  - B. Silt Fence
  - C. Diversion Fence
  - D. Riprap
  - E. Temporary and Permanent Seeding
  - F. Mulching
  - G. Tree Preservation and Protection
- 1.03 EROSION AND SEDIMENT CONTROL PERMIT
- A. The contractor shall apply for a Land Disturbance Permit as required by the City.
  - B. The contractor shall post an Erosion and Sediment Control bond as required by the City.
  - C. The contractor shall schedule a pre-construction meeting with the City prior to land disturbance.
- 1.04 VSMP REGISTRATION
- A. Prior to commencement of Work, the contractor shall register the site with the City per the requirements of the Virginia Stormwater Management Program (VSMP). The site must be registered prior to the start of construction.
  - B. Utilize the following process for registering the site:
    - 1. Complete the VSMP General Permit Registration Statement – Construction Activity Stormwater Discharges. A copy of this form and the instructions for completion can be obtained from the City.
    - 2. Utilizing the approved Erosion and Sediment Control Plan as a base, prepare the required Stormwater Pollution Prevention Plan (SWPPP). At a minimum, the information required in the SWPPP shall include:

- a. A description of any potential pollution sources such as vehicle fueling areas, storage of fertilizers and chemicals, and sanitary waste facilities. Identify the proposed location of these items on the site.
  - b. A description of the pollution prevention measures associated with these potential pollution sources.
  - c. The plan shall be labeled “Stormwater Pollution Prevention Plan”.
3. File the completed Registration Statement, Stormwater Pollution Prevention Plan and a registration fee with the City.
- C. During construction, the following requirements shall be met:
1. A copy of the Stormwater Pollution Prevention Plan (SWPPP) must be kept at the job site at all times.
  2. Amend the SWPPP as necessary to account for significant changes in design, construction or maintenance that would change the pollution potential of the site.
  3. The Responsible Land Disturber shall perform inspections of the erosion and sediment control measures every seven (7) calendar days and after each runoff producing event (0.25 inches in 24 hours). Inspection reports shall be filed as an appendix to the SWPPP and sent to the City.
- D. Following final acceptance of the site by the City, the Contractor shall file a Notice of Termination (NOT) with the City.

## PART 2 - PRODUCTS

- 2.01 **SUBMITTALS:** Furnish for Owner’s review all product literature and data on products proposed for use, including that specified, in sufficient detail to demonstrate that the products selected are in accordance with the requirements of this Section and the Virginia Erosion and Sediment Control Handbook, latest edition.
- 2.02 **COARSE AGGREGATE:** Coarse aggregate shall be in accordance with VDOT Road and Bridge Specification, Section 203.
- 2.03 **GEOTEXTILE FABRIC:** Geotextile fabric for use in silt fences and construction entrance shall be in accordance with VDOT Road and Bridge Specification, Section 245.
- 2.04 **RIPRAP:** Riprap shall be in accordance with VDOT Road and Bridge Specification, Section 204.
- 2.05 **GALVANIZED STEEL POST:** Galvanized steel post shall be in accordance with VDOT Road and Bridge Specifications, Section 242.
- 2.06 **CHAIN-LINK FENCE FABRIC:** Chain-link fence fabric shall be in accordance with VDOT Road and Bridge Specifications, Section 242.
- 2.07 **IMPERMEABLE LINER:** Impermeable liner shall be as specified in Section 02350 – Drainage – RSC.

- 2.08 SEEDING MATERIALS: Seed, lime and fertilizer materials shall be in accordance with VDOT Road and Bridge Specification, Section 244.
- 2.09 MULCH: Mulch shall be in accordance with VDOT Road and Bridge Specifications, Section 244.
- 2.10 TEMPORARY SAFETY FENCE: Temporary safety fence shall be in accordance with VDOT Road and Bridge Specifications, Sections 242.

### PART 3 - EXECUTION

- 3.01 SHIPPING: All products shall be properly prepared for and shipped in such a manner so as to prevent damage and contamination. Small items such as pegs and stakes shall be bagged, boxed, or tied in bundles.
- 3.02 STORAGE: Products shall be stored in a weatherproof building or enclosure. Sacks of grass seed, fertilizer, and lime shall not be allowed to become wet or caked and shall not be allowed to come in contact with wet surfaces. Store on pallets or the like above floors. Sacked products showing wet conditions shall not be accepted or used.
- 3.03 CONSTRUCTION ENTRANCE
  - A. Construction entrance shall be installed in accordance with VESCH, Chapter 3.02.
- 3.04 SILT FENCES
  - A. Silt fence shall be installed in accordance with VESCH, Chapter 3.05.
- 3.05 DIVERSION FENCE
  - A. Shall be graded to the profiles and sections indicated and in the location indicated. Slope all swales and ditches to drain to the diversion fence as indicated. Stabilize all diversions prior to the work commencing in those areas.
- 3.06 RIPRAP
  - A. Riprap shall be installed in accordance with VDOT Road and Bridge Specifications, Section 414.
  - B. An impermeable liner shall be installed as specified in Section 02350 – Drainage – RSC..
- 3.07 SEEDING
  - A. Over all disturbed areas except as specified elsewhere, prepare the seed bed by plowing, disking, and raking the area to loosen the soil for proper root penetration.
  - B. Sow grass seed at the rates indicated and of the types indicated in VESCH, Chapter 3.31.
  - C. Spread fertilizer and soil amendments in accordance with VDOT Road and Bridge Specifications, Section 603.
  - D. Apply erosion control matting or mulch over the seeded areas as specified for this Project.

3.08 MULCHING

- A. Mulch shall be installed in accordance with VDOT Road and Bridge Specifications, Section 605.

3.09 TREE PRESERVATION AND PROTECTION

- A. Temporary safety fence shall be installed around existing trees in accordance with VDOT Road and Bridge Specifications, Section 507.

3.10 MAINTENANCE OF TEMPORARY EROSION CONTROL MEASURES

- A. The Work of this section shall apply after all runoff producing events and shall include periodic reviews of the conditions of the erosion control measures and removal all soil sediment and debris as it accumulates in and around the sediment collection structures.
- B. The Work of this section shall include all necessary repairs to the erosion control measures to insure their proper operation and function throughout the duration of the Project.

3.11 REMOVAL OF TEMPORARY EROSION CONTROL MEASURES

- A. At the proper seeding time, permanent seeding will be performed over all disturbed areas where temporary seeding has been performed and where bare soil is evident. Landscape plantings and associated ground cover, including sod, shall also be required at this time.
- B. Prior to final acceptance of the project by the Owner, the Contractor shall inspect and maintain the growth of new grass and ground cover placement on all disturbed areas, except in rip-rap areas, and should ensure appropriate growth be in evident in all areas to include a full stand of grass cover or other similar erosion protection measures. Watering and overseeding may be required prior to final acceptance in accordance with applicable standards.
- C. Temporary erosion and sediment control measures shall be removed from the site and disposed offsite. All grassed areas disturbed as a result of this removal shall be redressed and stabilized as necessary.
- D. Grassed areas and landscape areas shall also meet the requirements of Specification 02920 and other specifications for this Project. When in conflict, the more stringent specifications shall govern except as approved in writing by the City.

3.12 MEASUREMENT AND PAYMENT

- A. Temporary Safety Fence
  - 1. Temporary safety fence will be measured and paid in accordance with VDOT Road and Bridge Specifications, Section 507.
- B. Construction Entrance
  - 1. Construction entrance shall be considered incidental to the work. No separate payment shall be made.

C. Diversion Fence

1. Diversion fence will be measured and paid for at the contract unit price per linear foot as complete in place.
2. This contract unit price per linear foot shall include: furnishing and installing the following items: galvanized steel post; chain-link fence fabric with wire ties; impermeable liner with wire ties; temporary grading; temporary seeding and mulching; maintenance; removal of diversion fence when no longer required; and site restoration including re-grading and seeding.

D. Dry Rip-rap

1. Dry rip-rap will be measured and paid for at the contract unit price per square yard as complete in place.
2. This contract unit price per square yard shall include: excavation; preparing the surface; disposal of surplus and unsuitable material; geotextile filter fabric including overlaps and repair work; riprap; and backfilling toe-ins.

E. Temporary and Permanent Seeding

1. Temporary and Permanent Seeding will be measured and paid in accordance with VDOT Road and Bridge Specifications, Section 603.

END OF SECTION 02270

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SECTION 02300 – DRAINAGE – ROCK

PART 1 - GENERAL

- 1.01 Furnish, transport, stockpile, maintain, and place cobbles, boulders and other rock materials for the Work.

PART 2 - MATERIALS

- 2.01 Boulder and footer boulders shall consist of angular, flat rocks of appropriate colors (e.g., green/gray, brown/gray, dark gray, and/or dark brown in color) obtained from an approved source. Concrete shall not be an alternative for rock unless otherwise approved in writing by the City.
- 2.02 Footer boulders consists of boulders placed below the invert of the proposed channel to provide support for the top boulders. The largest boulders shall be used as footer boulders. The dimensions of the footer boulders shall be a minimum of 3.0 feet along the major axis, a minimum of 2.0 feet along the intermediate axis, and a minimum of 2.0 feet along the minor axis unless otherwise noted in the detail structure table.
- 2.03 Boulder rock consists of boulders placed upon the footer boulders. The boulder rock shall comply with the following. The dimensions of the boulder rock shall be a minimum of 2.0 feet along the major axis, a minimum of 1.5 feet along the intermediate axis, and a minimum of 1.5 feet along the minor axis.
- 2.04 Cobble Gradation Table

<b>D50 MEDIAN STONE SIZE (inches)</b>	<b>% MATERIAL SMALLER THAN TYPICAL STONE</b>	<b>TYPICAL STONE EQUIVALENT DIAMETER (inches)</b>	<b>TYPICAL STONE WEIGHT (pounds)</b>
9	70 - 100	15	160
	50 - 70	12	85
	35 - 50	9	35
	2 - 10	3	1.3

- 2.05 Cobbles, Boulders and Footer Boulders shall have a minimum unit weight of 160 pounds per cubic foot.
- 2.06 Cobbles may come from the limits of grading of this Contract, with prior written approval by the City, provided that it meets the specified requirements and lies within the construction limits.
- 2.07 The Contractor shall locate potential sources for rocks. Rock sources can be Luckstone, Frazier Quarry, Rockydale Quarry, or others meeting the material requirements for this project. The City shall be invited to visit the supplier’s facility to help determine whether the available rocks meet the specified requirements for this project. Source of rock shall be from an approved mining operation with up-to-date permits. Rock shall not be harvested from streams or rivers outside of a commercial quarry operation.
- 2.08 The Contractor shall obtain from the quarry and submit to the Engineer a certificate verifying the following:
  - A. Rock Classification.
  - B. Unit Weight (pounds per cubic foot).

- C. Weight of rocks being supplied.
  - D. Samples shall be provided onsite for approval, prior to its use in the project.
- 2.09 Due to the anticipated quarry preparatory time, and/or demand for the rock as specified in the Contract, the Contractor shall make all necessary arrangements with the source of materials in a timely fashion, so that an adequate supply of rock material shall be secured and available for the work.
- 2.10 The Contractor shall not be granted an extension of time or extra compensation due to delay caused by sampling, testing, approval, or disapproval of rock material under the requirements of these Specifications.

PART 3 – EXECUTION

- 3.01 Install rock in accordance with the Contract Documents.

END OF SECTION 02300

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## SECTION 02350 – DRAINAGE – RSC

### PART 1 – GENERAL

- 1.01 Furnish, transport, excavate, install, and maintain RSC structures within the channel, as specified in the Contract Documents or as directed by the Engineer.

### PART 2 – MATERIALS

2.01 Footer Boulder

- A. Refer to SECTION 02300 – RSC ROCK for materials and dimensions.

2.02 Boulder

- A. Refer to SECTION 02300 – RSC ROCK for materials and dimensions.

2.03 Cobble Rock

- A. Refer to SECTION 02300 – RSC ROCK for materials and dimensions.

2.04 Other Rock

- A. Refer to SECTION 02300 – RSC ROCK for materials and dimensions.

2.05 Engineered Filter Media Mix (Sand/Wood Chip)

- A. The sand component of the sand/wood chip bed should meet the AASHTO M-6 or ASTM-C-33, 0.02 inches to 0.04 inches in size. Sand shall be a silica-based coarse aggregate. Substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No “rock dust” is acceptable.
- B. For woodchips, use aged, double shredded hardwood chips/mulch. The woodchips should be added to the sand mix, approximately 20 percent by volume, to increase the organic content and promote plant growth and sustainability.
- C. The wood chips used within the sand bed should consist of double-shredded or double ground hardwood mulch that is free of dyes, chromated copper arsenate and other preservatives.

2.06 Geotextile filter fabric: "Mirafi 140N" manufactured by Mirafi Incorporated, Charlotte, North Carolina, or approved equal.

- A. Quality: Free of defects or flaws, which affect strength or filtering properties.

2.07 Impermeable Liner: 30 mil PVC Geomembrane manufactured by Environmental Protection, Inc., ACF Environmental, or approved equal.

- A. Quality: Free of defects or flaws, which affect strength or filtering properties.

### PART 3 – EXECUTION

3.01 RSC construction shall follow.

- A. Construct the RSC according to the locations and elevations at the nodes as indicated in the Contract Documents. Construction of the RSC system shall begin at the downstream end and proceed upstream.
- B. The RSC channel shall be lined with an impermeable liner to prevent infiltration into the subgrade. The impermeable liner shall be placed over the native or compacted subgrade. Edges of impermeable liner shall be anchored by embedding into the surrounding soil. All seams shall be glued or welded to be watertight per manufacturer's recommendations.
- C. To ensure stability of unarmored sides of the pool, the pools shall be constructed with a minimum side slope of 3H:1V. The minimum width depth ratio for the pools is 10H:1V.
- D. Footer boulders shall be placed at the interface of the pools and riffles. Additional boulders shall be placed on top of the footer boulders at the weir elevation upstream of the footer boulders to form the riffle channel parabolic shape.
- E. Place footer boulders at a slope as shown in the detail. Firmly embed footer boulders into the channel bottom substrate. Footer boulders shall be embedded a minimum of two (2) feet below the pool minimum elevation. Each boulder layer shall abut the adjacent boulders to create a buttressing connection. Stack each layer of boulders with the same angle and ensure solid connections to the surrounding boulders. Boulders shall be stacked in a jagged manner for energy dissipation, boulder offset shall be two (2) to four (4) inches as shown in the drawing details.
- F. Construct the downstream portion of the RSC so that rocks perpendicular to the channel taper upstream in an arc formation with the center of the arc set in the thalweg of the channel. The boulders serve as the weir component of the riffle grade control structure. The boulders should be arranged in a curved manner as shown on the riffle/pool detail schematic. This arrangement is intended to encourage flow deflection to the center of the pool and the creation of ineffective flow areas near the channel banks. To achieve this, the boulders shall be arranged horizontally in the center of the channel and the arms on either side of the channel shall be extended parabolically, approximately at a 20 degree angle longitudinally to the center of the pool. The boulders should be at least three to four times heavier than the riffle channel cobbles at a minimum. Typically, the diameter of boulders shall not be less than 2 feet in length. The typical boulder size shall be designed and specified on the plans to best fit the channel shape, i.e., smaller cross-sections will require smaller boulders, while larger channel cross-sections may require larger boulders. The boulders should be tabular in shape to maximize interlocking.
- G. The footer boulders provide added stability to the boulders in the event that excessive erosion is experienced in the energy dissipation pools. The largest boulders shall be used as footer boulders and be adequately anchored (2 feet below the lowest elevation point in the pool). The footer boulders shall be equivalent in size or larger than the boulders and should be tabular in shape to allow for maximum interlocking. Further, all boulder weir structures shall be anchored by a minimum of 2 feet to existing soils in the bank on both sides.
- H. Install the outermost top boulder to extend a minimum of 2 feet into the existing ground or as shown on the Contract Documents. Orient the outermost top rock so that the boulder face follows the proposed grade. Backfill immediately behind the boulders with cobbles, then fill and chink all voids between the top and footer rocks with suitable fill material.

- I. Remove unsuitable and surplus rocks and excavated materials.
- J. Engineered Filter Media Mix (Sand/Wood Chip)
  - 1. The minimum depth of the sand/woodchip mix filter media below the invert of the pools, shall be 18 inches unless otherwise noted.
- K. Filter Fabric
  - 1. Storage of filter fabric or geotextile fabric shall be in accordance with manufacturer's recommendations.
  - 2. Placement including joining of multiple sections shall be in accordance with manufacturer's recommendations.
  - 3. Filter fabric shall be placed under all boulders. Refer to drawing details for placement location. To prevent undercutting, a continuous sheet of filter fabric shall be used along the cross-section. Filter fabric shall not be required in the pools
  - 4. Filter fabric shall be keyed under the footer boulders and a minimum of two (2) feet under the riffle channel cobbles.
- L. Impermeable Liner
  - 1. Storage of impermeable liner shall be in accordance with manufacturer's recommendations.
  - 2. Site preparation of surface to receive impermeable liner shall be in accordance with manufacturer's recommendations.
  - 3. Placement including field seaming using weld or glue shall be in accordance with manufacturer's recommendations to be watertight.
  - 4. Testing and repair of damaged areas shall be in accordance with manufacturer's recommendations to be watertight.
  - 5. All liner penetrations shall be constructed in accordance with manufacturer's recommendations or as specified.
- M. Erosion and Sediment Control/Bypass
  - 1. Under no circumstance can the RSC system be used as a sediment control device during construction. Upstream controls such as diversions or pump-arounds are required during construction so as not to contaminate the RSC system.
  - 2. The RSC system shall not be used until all upstream construction is complete and all disturbed areas stabilized and erosion and sediment control measures have been removed and disturbed areas fully stabilized, at the discretion of the City.

N. RSC Planting

1. As a temporary stabilization measure, seed and mulch (compost) the entire site with annual rye throughout construction, as needed.
2. Permanent stabilization will consist of the establishment of sod, hardwood mulch and other vegetation.
3. Vegetative stabilization must comply with the provided planting plan and specifications.

3.02 Measurement and Payment

A. Footer Boulder and Boulders

1. Footer Boulder and Boulders will be measured and paid for at the contract unit price per ton as complete in place.
2. This contract unit price per each shall include: furnishing and installing the following items: geotextile filter cloth including overlaps and repair work and footer boulders and boulders.

B. Cobbles

1. Cobbles will be measured and paid for at the contract unit price per ton as complete in place.
2. This contract unit price per each shall include: furnishing and installing cobbles, geotextile filter cloth including overlaps and repair work.

C. Engineered Filter Media Mix (Sand/Wood Chip)

1. Filter media will be measured and paid for at the contract unit price per cubic yard as complete in place.
2. This contract unit price per cubic yard shall include: furnishing and installing filter media.

D. Geotextile filter fabric

1. Geotextile filter fabric will not be measured and paid for separately but shall be included in the cost of other items.

E. Impermeable Liner

1. Impermeable Liner will be measured and paid for at the contract unit price per square yard complete in place unless otherwise indicated.
2. This contract unit price per square yard shall include: preparing the subgrade, furnishing and installing impermeable liner including field seaming, penetrations, testing and repair work.

END OF SECTION 02350 \*\*\*\*\*

## SECTION 02360 – Pressure Treated Lumber

### PART 1 - GENERAL

#### 1.01 SUMMARY

- A. This section is for pressure-treated lumber for the wood check dams.

#### 1.02 DEFINITIONS

- A. Timbers: Lumber of 6 inches by 6 inches in least dimension (5.5 inches actual dimension).
- B. Inspection agencies, and the abbreviations used to reference them, include the following:
  - 1. NHLA: National Hardwood Lumber Association
  - 2. NLGA: National Lumber Grades Authority
  - 3. SPIB: Southern Pine Inspection Bureau (The)
  - 4. WWPA: Western Wood Products Association
  - 5. ALSC: American Lumber Standard Committee

#### 1.03 SUBMITTALS

- A. Certificates of Inspection: Issued by lumber-grading agency for exposed timber not marked with grade stamp.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Schedule delivery of materials to avoid extended on-site storage and to avoid delaying the Work.
- B. Store materials under cover and protected from weather and contact with damp or wet surfaces. Provide for air circulation within and around stacks and under temporary coverings.

### PART 2 - PRODUCTS

#### 2.01 TIMBER

- A. Comply with DOC PS 20 and with grading rules of lumber-grading agencies certified by ALSC's Board of Review as applicable.
- B. Factory mark each item of timber with grade stamp of grading agency.
- C. Timber Grade: No. 2.
- D. Timber Species: Balsam fir, Douglas fir-larch, Douglas fir-larch (North), eastern hemlock tamarack (North), hem-fir, Southern Pine, or Western Hemlock, or equal.

- E. Timber Pressure Treatment: Stainable and Paintable finish, with a MCA Micronized Copper Azole treatment with a chemical retention of 0.15 pounds per cubic foot.
- F. Moisture Content: Provide timber with 19 percent maximum moisture content at time of dressing.
- G. Texture: Smooth
- H. Lumber Quality: Premium

## 2.02 TIMBER CONNECTORS

- A. Provide #4 round rebar, unless otherwise indicated complying with ASTM A575, Grade M 1020.

## 2.03 MISCELLANEOUS MATERIALS

- A. Wood Sealer: Transparent, colorless and penetrating wood sealer that is effective in retarding the transmission of moisture at cross-grain cuts and is compatible with indicated lumber.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. General: Erect timber railroad ties true and plumb. Provide temporary bracing to maintain lines and levels until permanent supporting members are in place.
- B. Fitting: Fit members by cutting and leveling surfaces to match specified surfacing and dimensions. Use minimum 2 foot length of stagger between joints for each row of timbers.
  - 1. Stack and pre-drill timbers for rebar.
- C. Install timbers as indicated.
  - 1. Embed rebar into compacted subgrade at depth shown on plans (24" minimum) to create stable, firm and plumb structures.
  - 2. Drive rebar until top is flush to the top of the timber without protruding.
  - 3. Coat exposed edges including the ends of each check dam with a wood sealer, prior to backfilling.

### 3.02 ADJUSTING

- A. Remove and replace (or repair) any damaged timber during installation, as required.

3.03 MEASUREMENT AND PAYMENT

A. Lumber

1. Lumber will not be measured and paid for separately but will be measured and paid for at the contract unit price per each check dam as a complete assembly.
2. This contract unit price per check dam shall include: excavation; foundation preparation; disposing of surplus and unsuitable material; temporary bracing; furnishing and installing of treated lumber; drilling of holes for rebar; furnishing and installing rebar; furnishing and installing 3- inch PVC pipes where specified; furnishing and installing sealant on all faces of check dam; and backfill and compaction along sides of check dams; and associated work.

END OF SECTION 02360

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## SECTION 02630 - STORM DRAINAGE

### PART 1 - GENERAL

#### 1.01 DESCRIPTION

- A. FURNISH the necessary materials, equipment and labor required to perform the work for this Section.
- B. WORK UNDER THIS SECTION: Shall be within the site area as indicated and shall include, but not be limited to, the following:
  - 1. Pipes and fittings
  - 2. Cleanouts
  - 3. Observation Well

#### 1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Virginia Department of Transportation (VDOT) "Road and Bridge Specifications", latest edition shall also apply to this Section.

1.03 ALL REFERENCED CONTRACTOR requirements and recognized and accepted standards and specifications shall be the latest edition unless specified otherwise and shall be used as they are applicable for products and craftsmanship incorporated in the Contract Drawings and this section only. The references to these standards and specifications do not imply acceptance of any and all products described in the standards and specifications.

1.04 THE CONTRACTOR SHALL REVIEW the use, details, and method of installation of all products as indicated in the Contract Documents and shall disclose to the City any and all deviations therein from the Contractor's recommended use and method of installation and shall also disclose to the City the Contractor's acceptance or rejection of the deviation, or his recommendation for an alternative use and method of installation of the product, still guaranteeing to achieve the intended purpose and result. Such disclosures shall be made as stipulated for submittals.

1.05 CLASSIFICATION OF EXCAVATION: All excavation is unclassified except as noted.

#### 1.06 SUBMITTALS

- A. Profile Coordination Drawings: Contractor shall review system piping in elevation view prior to the start of work, and shall be required to draw profiles where they differ from contract documents. Each profile shall indicate existing and proposed underground structures and piping. Profiles shall depict types, sizes, materials, and elevations of all utilities crossing storm drain piping and utility relocations or adjustments, as necessary. Material quantities shall also be measured and verified in the field prior to ordering.
- B. Manufacturer's Information: For each source and class of pipe, with manufacturer quality assurance certifications and testing is required for submittal to include all supporting calculations and certifications based on industry standards.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Handle drainage pipes and structures according to manufacturer's delivery and handling instructions including rigging, and in strict accordance with OSHA Regulations.
- B. Do not store plastic manholes, pipe, and fittings in direct sunlight at any time. Follow all manufacturer's recommendation for the storage and handling of materials.
- C. Protect all structures, pipes, pipe fittings, and seals from damage including any build-up of dirt or excessive stains.
- D. The Contractor is responsible for any problems associated with delivery, storage and handling of materials. Deficient or damaged materials will be replaced at the Contractor's expense if encountered on the project.

1.08 PROJECT CONDITIONS

- A. Existing Storm Drainage: Verify existing utility locations for structures and piping to be demolished, and for connections to existing storm drainage including pipe inverts and depths. Report any discrepancies immediately to the City.
- B. Condition: Report any damage or disrepair on existing storm drainage intended to remain in place immediately to the City with recommendations for repair or replacement.
- C. Existing Utilities: Do not interrupt utilities unless permitted by an approved plan in accordance with all project specifications and only after arranging to provide temporary service according to the project requirements. Investigate all existing utility crossings to verify depths and avoid conflicts prior to the work. Report any discrepancies immediately to the City. Provide, install, operate and maintain pumps and related equipment required to divert storm water during system construction.

PART 2 - PRODUCTS

2.01 PIPE AND FITTINGS:

- A. PVC pipe and fittings shall be used.
- B. PVC Pipe shall be Schedule 40 or better, and shall conform to the requirements of ASTM D 1785. Pipe cleanouts shall have continuous lengths without joints, with bell-and-spigot ends for solvent weld joints at the fittings.
  - 1. Pipe Fittings: ASTM D 2466-05, "Standard specifications for polyvinyl chloride (PVC) plastic pipe fittings, schedule 40" or better. Use sweep bends and tees.
  - 2. PVC pipe shall be white in color.

2.02 Miscellaneous Products: Underground Identification Tape: Manufactured by Allen Systems, Houston, Texas.

- A. Type: "Markline".
- B. Color: Precaution Blue.
- C. Tape Width: Three inches.

## PART 3 - EXECUTION

3.01 EARTHWORK: Excavation, trenching, and backfilling shall comply with these specifications.

### 3.02 PIPE INSTALLATION

- A. General: Pipes, fittings, and joining methods shall comply with VDOT Road and Bridge Specifications, latest edition, and will provide soil tight joints.
- B. Proposed Location and Arrangement: Drawing plans and details indicate general location and arrangement of underground storm drainage piping based on the design. Location and arrangement of piping shall be field verified by the Contractor taking into account existing storm drainage and other utilities and lines. Any discrepancies shall be reported to the City immediately with recommendations for any changes to location, alignment or grade.
- C. Start of Work: Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install fittings to manufacturer's written instructions to include the use of lubricants, cements, and other installation requirements.
- D. Structures: Install manholes, inlets, and junction boxes for changes in direction unless fittings are indicated otherwise. Use fittings for branch connections only as specified.
- E. Pipe Couplings: Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Use pipe collars or the following methods of pipe coupling for storm drainage work (non-pressure applications).
  - 1. Standard sleeve to join piping of same size.
  - 2. Increaser/ reducer-pattern, sleeve type to join piping of different sizes.
  - 3. Bushing type to join piping of different sizes where annular space between smaller piping's OD and larger piping's ID permits installation.
- F. Dissimilar Materials: Where two dissimilar pipe material types are to be connected or where proposed pipes connect to existing storm drainage, a pipe collar shall be used to ensure a soil tight joint, unless the City modifies this requirement based on actual site conditions. No work shall proceed in these areas until the Contractor has exposed the existing pipes and structures, and has reviewed site conditions and their recommendations for connection to existing with the City.
- G. End of Work: Terminate piping as indicated and to provide soil tight conditions.

### 3.03 PIPE JOINT CONSTRUCTION AND INSTALLATION

- A. PVC Pipe and Fittings: As follows:
  - 1. Joints shall conform to ASTM D 2672, the solvent cement to ASTM D 2564 and the primer to ASTM F 656.

### 3.04 CONNECTIONS TO EXISTING SYSTEM

- A. For structure construction over existing pipe, excavate and expose existing pipe at structure location indicated. Adjust structure location as directed by Owner's Representative in event existing pipe joint interferes with structure walls, at no additional cost of the City. Manually excavate below existing pipe prior to structure base placement. Place concrete base and construct

structure as specified. Neatly cut and remove upper half of existing pipe and construct invert flow channel.

- B. For pipe connections to existing structures, excavate and expose existing structure. Cut and remove portion of existing structure wall required for pipe connection. Install pipe, through existing structure wall, flush with interior wall surface. Remove portion of existing invert flow channel required for connection and reconstruct as specified. Fill joint between pipe and existing structure wall with cement mortar.

### 3.05 BACKFILL

- A. Polyvinyl Chloride (PVC) Pipe: Conduct backfill operations when pipe temperature is below 60 degrees Fahrenheit or during early morning hours to prevent excessive Contraction.
- B. Underground Identification Tape: Install during backfill operations. Tape shall be centered over pipe, located 12 inches above pipe.

### 3.06 FIELD QUALITY CONTROL

- A. Contractor shall clear interior of piping and structures of dirt and superfluous material as the work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed.
  - 1. In large, accessible piping, brushes and brooms may be used for cleaning instead.
  - 2. Place temporary plug in each end of incomplete piping at end of each day and when work stops temporarily at any time. Plugs shown on the plans shall be permanent and shall require a soil tight finish.
  - 3. Upon completion of the storm drain installation in each section, the Contractor shall also flush piping between manholes and cleanouts to remove debris, dirt and superfluous material, as necessary. Water shall be treated per Section 02270: Erosion and Sediment Control at the outlet end.
- B. If dewatering requires the Contractor to direct and maintain flow through the work area, temporary diversions, dams, pumps and hoses can be used to safely and completely divert runoff during construction. Contractor plans for diversions and dewatering shall be provided to the City for prior approval, and shall be followed except by written exception by the City. Any damage that occurs due to a lack of adequate diversion of runoff shall be at the Contractor's sole expense.
- C. If line displacement or other defects or damage has occurred the Contractor shall make repairs by replacing defective or damaged sections of pipe using next materials, and repeat cleaning and inspection procedures noted above. All costs for defects or damage shall be at the Contractor's expense.

### 3.07 MEASUREMENT AND PAYMENT

- A. Pipe (PVC Sch. 40 or 80)
  - 1. Pipe (PVC Sch. 40 or 80) will be measured and paid at the contract unit price per linear foot as a complete assembly as specified on the plans, at the indicated sizes.
  - 2. This contract unit price per linear foot shall include: excavation; foundation preparation; disposing of surplus and unsuitable material; sheeting; shoring; dewatering; furnishing and installing: bedding material, PVC pipe, PVC solvent cement and primer, PVC fittings including caps, and trench backfill; and site restoration.

B. Underdrain

1. Underdrain will be measured and paid at the contract unit price per linear foot as a complete assembly, as specified on the plans, at the indicated sizes.
2. This contract unit price per linear foot shall include: excavation; foundation preparation; disposing of surplus and unsuitable material; sheeting; shoring; dewatering; furnishing and installing: #57 stone aggregate, geotextile filter fabric including overlaps and repairs, perforated PVC pipe, PVC solvent cement and primer, and PVC fittings including caps.

C. PVC Cleanouts

1. PVC cleanout will be measured and paid at the contract unit price per each as a complete assembly.
2. This contract unit price per each: excavation; compacting; disposing of surplus and unsuitable material; furnishing and installing: PVC pipe, PVC solvent cement and primer, PVC fittings including cap and backfill; A3 concrete pad, and associated work.

D. PVC Observation Well

1. PVC observation well will be measured and paid at the contract unit price per each as a complete assembly.
3. This contract unit price per each: excavation; compacting; disposing of surplus and unsuitable material; furnishing and installing: perforated PVC pipe, geotextile filter fabric, PVC solvent cement and primer, PVC fittings including cap and backfill; A3 concrete pad and associated work.

END OF SECTION 02630

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## SECTION 02920 - LANDSCAPING (TREES, SHRUBS, SEEDLINGS AND PLUGS)

### PART 1 - GENERAL

- 1.01 Provide the Work of this section as indicated and in accordance with the minimum standards and specifications of the latest edition of the "Virginia Erosion and Sediment Control Handbook" and as shown on the plans.
- 1.02 Work under this section shall be within the designated construction limits for the furnishing and installing all plant materials.
- 1.03 References:
- Sodding, VESCH Chapter 3.33
- Mulching, VESCH Chapter 3.35.
- Trees, Shrubs, Vines and Groundcover, VESCH Chapter 3.37.

### PART 2 - PRODUCTS

- 2.01 SUBMITTALS: Furnish for Owner's review all literature and data on products proposed for use, including that specified, in sufficient detail to demonstrate that the products selected are in accordance with the requirements of this Section.
- 2.02 PLANT MATERIALS: All plant materials shall meet all the standards as set forth in the current ANLA standards. Plants shall be sound, healthy, vigorous plants free from diseases, insects, defects, disfiguring knots, sun scald injuries, frost cracks, bark abrasions, and similar problems.
- All plants shall be true-to-name and true-to-size per the landscape materials listed on the Landscape Plan. Substitutions in nomenclature, size or condition shall not be permitted without approval by the City, except in the case of substituting plants larger in size than those specified.
- Unless specified as container grown or bare root, all plant material shall be nursery grown and shall be freshly dug at time of delivery.
- Plants shall not be pruned before delivery. Plants shall not be cut back from a larger size to meet the specified size as indicated on the Landscape Plans.
- Container grown plants shall be neither root bound nor loose in the container, but will have a root system adequately developed to hold the container's soil together.
- Seedlings shall be bare root, well-branched, and have a complete root system.
- Trees shall have a single trunk and central leader unless specified otherwise on the plans.
- Plants to be planted in rows or groups shall be well matched in size and form.

- 2.03 STAKES AND GUYS: Sizes and methods as indicated on the Landscape Plan.
- 2.04 CEDAR POSTS: Posts shall be rot resistant, straight and uniformly sized with sufficient length to avoid splices or joints in each post.
- 2.05 SOD: Sod shall a Tall Fescue blend, with a minimum of 10% Kentucky Bluegrass.
- 2.06 BACKFILL SOIL: Soil shall be amended based on recommendations derived from soil samples.
- 2.07 FILTER MEDIA SOIL (Biofilter Soil): Engineered soils for the biofilter soil mix shall be in accordance with the latest standard and specification published by VA DEQ Stormwater Design Specification No. 9. Soil testing shall be in accordance with VA DEQ Stormwater Design Specification No. 9.
- 2.08 GEOSYNTHETICS: Geosynthetics including the non-woven geotextile, and 30 mil PVC liner shall meet all industry standards. Liners shall be joined at the seams for a water tight fit. Geotextiles shall be overlapped at the seams.
- 2.08 TOPSOIL: Loamy sand or sandy loam texture, with less than 20% clay content, a corrected pH of 6 to 7, at least 2% organic matter.
- 2.09 RIVER STONE: 1” to 3” sized river stone, with natural colors and materials similar to the boulders specified shall be used on this project.

### PART 3 - EXECUTION

- 3.01 SHIPPING: All products shall be properly prepared for and shipped in such a manner so as to prevent damage and contamination.
- 3.02 STORAGE: Plants and sod which are not installed within 24 hours after delivery shall be stored as follows, unless other methods of storage are requested by the Contractor and approved by the City. Plants shall not be stored on site for longer than 7 days. Plant materials damaged during storage shall be rejected and replaced at no additional cost to the City.

Storage location shall be shaded and sheltered from wind, traffic and construction activities. Fertilizers, lime, herbicides, insecticides, and other agricultural chemicals shall be stored in a shaded and sheltered location separately from the live plants.

Stored plants and sod shall be watered as necessary to prevent wilting or dying.

Plant materials which are delivered bare root or for which the root ball is substantially damaged shall be heeled-in in a moist hole or trench dug in the ground. The plants shall be planted in the trench with the roots spread in natural position and a gap of at least 2 inches between the roots of adjacent plants. The roots of the plants shall be covered immediately with moist, loose soil or other material approved by the City.

Plant materials which are delivered balled and burlapped shall be heeled-in with the root ball intact in a moist hole or trench dug in the ground. The roots of the plants shall be covered immediately with moist, loose soil or other material approved by the City.

Plant materials which are delivered in individual containers (pots) shall be placed in a way to prevent tipping over.

3.03 QUALITY ASSURANCE: Stakes, guys and posts shall be installed and maintained to keep plants level and plumb during the establishment period.

- A. Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the specialized work of this section.
- B. Use equipment adequate in size, capacity, and numbers to accomplish in the work of this section in a timely matter. Minimize impacts to traffic during delivery, handling and installation.

3.04 INSTALLATION

- A. In mixed planting areas, plant trees first, followed by large shrubs, low shrubs, then seedlings or plugs and finally ground cover.
- B. Dig planting holes as indicated on the Landscape Plans. Set plants in holes to proper grade and alignment. Set plants upright, plumb and faced to give the best appearance or relationship to each other and adjacent structures. Prune broken or bruised roots.
- C. Remove burlap, ropes, and wires from the tops of root balls.
- D. Spread exposed roots out in a natural position.
- E. Place backfill around roots to  $\frac{1}{2}$  the depth of the hole. Water thoroughly to settle air pockets. Finish filling to finish grade, tamping gently. Water again.
- F. In ground cover beds, level soil before installation. Space ground cover plants in accordance with the Landscape Plans. After installation, water thoroughly to settle all plants.
- G. For bare root seedlings, set seedlings in slits or holes opened in the ground by spades or similar tools. Slits or holes shall be deeper than the length of the roots. Spread roots out in the slit or hole and backfill by tamping the slit or hole shut. Seedlings shall be upright and plumb. Protect seedlings from mowers, wildlife or other hazards as shown on the plans.
- H. Sodding shall be in accordance with VESCH Chapter 3.33 or as indicated in the plans and specifications.
- I. Mulching shall be in accordance with VESCH Chapter 3.35 or as indicated in the plans and specifications.
- J. Water shall be potable and water plants thoroughly, and immediately after installation.

3.05 WARRANTY

- A. Warranty period is one (1) year from date of acceptance.
- B. Plants which are not alive or which in the City's opinion show significant signs or stress or deterioration in appearance during the warranty period shall be replaced by the Contractor within 30 days of notification with healthy materials similar to those originally specified, at

no cost to the City. Contractor may postpone installation until the preferred planting time for those plant materials, if approved by the City.

- C. Replacement plants shall likewise be warrantied one (1) year from date of acceptance.
- D. Warranty does not cover damage after final project completion due to vandalism, fire, theft, or improper maintenance.

### 3.06 MAINTENANCE

- A. Contractor shall maintain plant materials and planting beds as necessary to establish a uniform stand of plants until final project acceptance. Maintenance shall consist of watering, pruning, spraying, fertilizing, weeding cultivating, where erosion occurs, repair such area, and other work as required.
- B. Maintenance might also include re-setting settled plants to proper grade and position. Tighten and repairing guy wires and stakes, and other maintenance as required.
- C. Contractor shall water all plants thoroughly on the day they are planted and every two days thereafter, as weather dictates, for two weeks. Then twice a week for one month, as weather dictates. Watering of plant material is preferable in the morning. Allow water to soak in and not create excessive run-off. Any alternative plan for establishment shall be provided by the Contractor in writing for approval prior to final project acceptance.

### 3.07 MEASUREMENT AND PAYMENT

- A. Filter Media (Biofilter-Soil Mix)
  - 1. Engineered soil (Bio-Soil Mix) will be measured and paid for at the contract unit price per cubic yard as complete in place.
  - 2. This contract unit price per cubic yard shall include furnishing and installing engineered soil as specified by Virginia DEQ Stormwater Design Specification No. 9.
- B. Sod
  - 1. Sod will be measured and paid in accordance with VDOT Road and Bridge Specifications, Section 604.
- C. Plants
  - 1. Plants will be measured and paid in accordance with VDOT Road and Bridge Specifications, Section 605.
- D. Bed preparation
  - 1. Bed preparation will be measured and paid in accordance with VDOT Road and Bridge Specifications, Section 605.

- E. Mulching
  - 1. Mulching will be measured and paid in accordance with VDOT Road and Bridge Specifications, Section 605.
- F. Watering
  - 1. Watering will be measured and paid in accordance with VDOT Road and Bridge Specifications, Section 605.
- G. Tree tubes
  - 1. Tree tubes will be measured and paid in accordance with VDOT Road and Bridge Specifications, Section 606.
- H. River Stone (1" – 3")
  - 1. River stone will be measured and paid for at the contract unit price per square yard as complete in place.
  - 2. This contract unit price per square yard shall include: excavation; preparing the surface; disposal of surplus and unsuitable material; furnishing and installing: geotextile filter fabric including overlaps and repair work; and river stone placement.

END OF SECTION 02920

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