



April 15, 2016

ADDENDUM NO. 1 TO ALL BIDDERS:

Invitation to Bid: ITB#16-01-09

Description: WESTOVER AVENUE DRAINAGE IMPROVEMENTS PROJECT

Dated: March 25, 2016

For Delivery to: Purchasing Division, City of Roanoke, Virginia

Bid Due: April 27, 2016

Addendum No. 1 shall be attached and made a part of the above referenced project dated March 25, 2016. Plans and Specifications for the project are hereby revised as follows:

1. **Reference, BID FORM, Replace:** The Bid Form previously provided with ITB# 16-01-09 is hereby replace with the attached “**Revised Bid Form**”. This revision was made due to change in the unit measurement and/or quantity for Asphalt Pavement Extension, Asphalt Paving, and Guardrail Replacement; and additional line items for Storm Drain Structures in the Bid Alternate Schedule to distinguish work related the Reinforced Concrete Pipe (RCP) and Polypropylene Pipe (PP).

All Bidders are hereby notified that the Revised Bid Form shall be included with bid submittals to this ITB. All references to Bid Form shall also hereby to “Revised Bid Form”.

2. **Reference, Technical Specification, SECTION 01200 – MEASUREMENT AND PAYMENT, Replace:** Due to the Bid Form replacement, Section 01200 - Measurement and Payment provided with ITB# 16-01-09 is hereby replaced with the attached “**Section 01200 – Revised Measurement and Payment**”. All references to Measurement and Payment shall also refer to “Revised Measurement and Payment”.

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Note: A signed acknowledgment of this addendum should be received at the location indicated on the ITB either prior to the due date and hour or attached to your response. Signature on this addendum does not substitute for your signature on the original bid document. The original bid document must be signed.

Very truly yours,

Monica Cole
Senior Buyer
Phone: 540-853-2871

Name of Firm

Signature/Title

Date

CITY OF ROANOKE, VIRGINIA

REVISED BID FORM

DATE: _____

SUBMITTED BY: _____
(Exact Legal Name of Bidder)

NOTE: ALL PAGES OF THE BID FORM ARE TO BE INCLUDED IN THE COMPLETED BID. ALSO, BIDS CONTAINING ANY CONDITIONS, OMISSIONS, UNEXPLAINED ERASURES, ALTERATIONS OR ITEMS NOT CALLED FOR IN THE BID, OR IRREGULARITIES OF ANY KIND, MAY BE REJECTED BY THE CITY AS BEING NON-RESPONSIVE. NO CHANGES ARE TO BE MADE TO THE BID FORM. ANY CHANGES TO A BID AMOUNT MUST BE INITIALED BY THE AUTHORIZED PERSON SIGNING THE BID FORM.

The undersigned hereby proposes and agrees, if this bid is accepted by the City of Roanoke, to enter into a Contract with the City of Roanoke, Virginia, (hereafter - City or Owner) to furnish all equipment, materials, labor, and services necessary to perform the **Westover Avenue Drainage Improvements Project, ITB Bid No. 16-01-09**, in accordance with the Contract Documents as prepared by or for the City.

The Project and the work, services, and materials for such Project are subject to a Virginia Department of Transportation (VDOT or Department) Standard Project Administration Agreement dated September 9, 2013, as amended, between VDOT and the City (VDOT Agreement or Department Agreement) and various VDOT, local, State and/or Federal terms and provisions as set forth therein or referred to therein and in the bid documents and/or any resultant contract documents. The VDOT UPC number is 107954, U000-128-R82.

The Bidder, by submission of this bid, hereby certifies that such Bidder has read all of the bid documents and such Bidder is making the certifications contained in and/or referred to in the bid documents and agrees to be bound by such certifications. Such Bidder further agrees that Bidder, if awarded a contract for this Project, shall provide the work, services, materials, and any other items as required by the bid documents and in compliance with such bid documents, including, but not limited to, any VDOT documents, local, State, and/or Federal rules, regulations, and/or procedures contained in the bid documents and/or any resultant contract, or referred to therein. Furthermore, if there is any conflict in any of the documents, the more stringent provisions shall take precedence unless otherwise required by VDOT, Federal, and/or State documents, regulations, rules, and/or procedures, in which case they will take precedence in that order unless otherwise required by law.

The quantities of work to be done at the unit prices indicated are approximate only and are intended principally to serve as a guide in evaluating bids. Subject to the constraints of the General Conditions and other Contract Documents, the quantities of work to be done and

material furnished at the unit prices bid may be increased or decreased as considered necessary by the City to fully complete the Work as planned.

The bid form is separated into a Base Bid and Bid Alternate. Depending on the Contractor's pricing, the bid alternate may be awarded. The lowest responsive and responsible bidder shall be the bidder with lowest combined bid of Base Bid and Bid Alternate, if awarded. For instance, if only the Base Bid is awarded then the award is based on the Base Bid value only. If the Base Bid and Bid Alternate are awarded then the award is based on the combined Base Bid and Bid Alternate value.

The City reserves the right to award with or without Bid Alternate in its sole discretion.

BASE BID SCHEDULE

ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT PRICE	TOTAL AMOUNT
Mobilization	1	LS		
Construction Stakeout	1	LS		
Maintenance of Traffic and Work Area Protection	1	LS		
Demolition	1	LS		
Asphalt Milling	6,500	SY		
Asphalt Paving/Overlay, VDOT SM 12.5D (Non-polishing aggregate)	537	Ton		
Asphalt Paving/Overlay, VDOT SM 9.5D (Non-polishing aggregate)	272	Ton		
Erosion and Sediment Control	1	LS		
Rock Removal	200	CY		
Curb and Gutter (VDOT CG-6), including Edgewood Street east side curb and gutter connection from Westover Avenue to Maiden Lane	2,150	LF		
Handicap Ramp	3	EA		
Commercial Driveway Entrance	2	EA		
Residential Driveway Entrance	3	EA		
Concrete Sidewalk, Extension	500	SF		
Guardrail Replacement, VDOT Std. GR-2	1	150		

Pavement Markings, 4" Double Solid Yellow Pavement Striping	900	LF		
Pavement Markings, 4" Solid White Edge Line Pavement Striping	515	LF		
Water Meter Relocation and Adjustments	20	EA		
Asphalt Pavement Extension on Memorial Avenue and Westover Avenue				
Base Asphalt, VDOT BM-25.0	242	Ton		
Base Aggregate, VDOT 21A	339	Ton		
Akzo Nobel				
Clearing and Grubbing	1	LS		
Earthwork, Unclassified except for Rock	1	LS		
VDOT Class II Riprap	1,100	Ton		
VDOT EC-3, Type B Ditch	234	LF		
Burks Street				
Existing Pipe and Manhole Cleaning	1	LS		
Storm Drain Structure, Manhole	3	EA		
Storm Drain Structure, Drop Inlet	2	EA		
Storm Drain Pipe, 45"x29" Elliptical RCP	24	LF		
Storm Drain Pipe, 24" RCP	168	LF		
Storm Drain Pipe, 15" RCP	6	LF		
Westover Avenue				
Storm Drain Structure, Manhole	6	EA		
Storm Drain Structure, Drop Inlet	2	EA		
Storm Drain Structure, Curb Inlet	2	EA		
Storm Drain Combination Inlet	1	EA		
Storm Drain Pipe, 36" RCP	600	LF		
Storm Drain Pipe, 18" RCP	80	LF		
Storm Drain Pipe, 15" RCP	66	LF		
Edgewood Street				
Storm Drain Structure, Manhole	2	EA		

Storm Drain Structure, Drop Inlet	1	EA		
Storm Drain Structure, Curb Inlet	4	EA		
Storm Drain Pipe, 36" RCP	109	LF		
Storm Drain Pipe, 24" RCP	6	LF		
Storm Drain Pipe, 15" RCP	256	LF		
Memorial Avenue				
Storm Drain Structure, Curb Inlet	2	EA		
Storm Drain Pipe, 15" RCP	196	LF		
BASE BID TOTAL				

BID ALTERNATE SCHEDULE

ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT PRICE	TOTAL AMOUNT
Burks Street				
Storm Drain Structure Diff, Manhole	3	EA		
Storm Drain Structure Diff, Drop Inlet	2	EA		
Storm Drain Pipe Diff, 24" PP	168	LF		
Storm Drain Pipe Diff, 15" PP	6	LF		
Westover Avenue				
Storm Drain Structure Diff, Manhole	6	EA		
Storm Drain Structure Diff, Drop Inlet	2	EA		
Storm Drain Structure Diff, Curb Inlet	2	EA		
Storm Drain Pipe Diff, 36" PP	600	LF		
Storm Drain Pipe Diff, 18" PP	80	LF		
Storm Drain Pipe Diff, 15" PP	66	LF		
Edgewood Street				
Storm Drain Structure Diff, Manhole	2	EA		
Storm Drain Structure Diff, Drop Inlet	1	EA		

Storm Drain Structure Diff, Curb Inlet	4	EA		
Storm Drain Pipe Diff, 36" PP	109	LF		
Storm Drain Pipe Diff, 24" PP	6	LF		
Storm Drain Pipe Diff, 15" PP	256	LF		
Memorial Avenue				
Storm Drain Structure Diff, Curb Inlet	2	EA		
Storm Drain Pipe Diff, 15" PP	196	LF		
BID ALTERNATE TOTAL				

BASE BID + BID ALTERNATE TOTAL	
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The undersigned hereby acknowledges the receipt of the following addenda to the Contract Documents:

Addendum Number _____	Dated _____
Addendum Number _____	Dated _____
Addendum Number _____	Dated _____

The undersigned hereby agrees, if this bid is accepted by the City, to commence work with an adequate force and equipment on the date stipulated in the written "Notice to Proceed" from the City and to substantially complete the work within Three Hundred (300) consecutive calendar days from the date stipulated in the written "Notice to Proceed", and to achieve Final Acceptance with Thirty (30) consecutive calendar days thereafter, and to pay as liquidated damages the sum of Five Hundred Dollars (\$500) per day to the City of Roanoke for each consecutive calendar day in excess of the time indicated to substantially complete the work as indicated above and then to reach Final Acceptance as set forth above to fully and satisfactorily complete the Work. (See Section 21 of the General Conditions.)

By submitting a bid, the undersigned agrees it will not withdraw its bid during the time period provided for in the Invitation to Bid, except as provided for therein.

The undersigned agrees that if this bid is accepted by the City, the failure or refusal of the undersigned to execute the Contract with the City and furnish to the City the required bonds and certificates of insurance within fourteen (14) consecutive calendar days from receipt of the Contract Documents may result in a payment of the Bid Security to the City as liquidated damages.

The attention of each bidder is directed to Code of Virginia, Sections 54.1-1100, et. seq., which requires certain licenses for contractors, tradesmen, and others. Each bidder is required to determine which license, if any, it is required to have under such sections. Complete the following:

Bidder _____ does have _____ does not have a Virginia Contractor's License. (Check appropriate blank.)

If bidder has a Virginia Contractor's License, circle the class bidder has and list the number.
Licensed "Class A", "Class B", or "Class C" Virginia Contractor Number _____
Identify Specialty _____

If bidder has another type of Virginia License, please list the type and number:
Type _____ of _____ license: _____ Number: _____

Bidder is a ___ resident or ___ nonresident of Virginia. (Check appropriate blank. See Code of Virginia, Sections 54.1-1100, et. seq.)

The attention of each Bidder/Offeror is directed to Virginia Code Section 2.2-4311.2, which requires a bidder or offeror organized or authorized to transact business in the Commonwealth of Virginia pursuant to Title 13.1 or Title 50 of the Code of Virginia, as amended, or as otherwise required by law, shall include in its bid or proposal the Identification Number issued to such bidder or offeror by the Virginia State Corporation Commission (SCC). Furthermore, any bidder or offeror that is not required to be authorized to transact business in the Commonwealth of Virginia as a domestic or foreign business entity under Title 13.1 or Title 50 or as otherwise required by law shall include in its bid or proposal a statement describing why the bidder or offeror is not required to be so authorized. Please complete the following by checking the appropriate line that applies and providing the requested information:

- A. _____ Bidder/Offeror is a Virginia business entity organized and authorized to transact business in Virginia by the SCC and such bidder's/offeror's Identification Number issued to it by the SCC is _____.
- B. _____ Bidder/Offeror is an out-of-state (foreign) business entity that is authorized to transact business in Virginia by the SCC and such bidder's/offeror's Identification Number issued to it by the SCC is _____.
- C. _____ Bidder/Offeror does not have an Identification Number issued to it by the SCC and such bidder/offeror is not required to be authorized to transact business in Virginia by the SCC for the following reason(s):

Please attach additional sheets of paper if you need more space to explain why such bidder/offeror is not required to be authorized to transact business in Virginia.

The undersigned states that it has made a best or good faith effort to seek the participation of and utilize local, Small, Minority-Owned, Women-Owned, and Service Disabled Veteran-Owned Businesses as suppliers and subcontractors whenever possible for this Project.

State the complete legal name of the bidder, exactly as it is recorded with the State Corporation Commission, if recorded there.

LEGAL NAME _____

BY _____ TITLE _____
(TYPED NAME: _____)

SIGNED NAME _____

DELIVERY ADDRESS _____

MAILING ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

CONTACT _____ EMAIL _____ ADDRESS _____

TELEPHONE _____ FAX _____

ESCROW ACCOUNT REQUESTED (if applicable): YES _____ NO _____

DELIVERY OF BIDS: See Section 7.1 of the Instructions to Bidders.

Monica Cole, Senior Buyer
Purchasing Division
215 Church Avenue, S.W.
Room 202, Noel C. Taylor Municipal Building
Roanoke, Virginia 24011

Place in lower left-hand corner of envelope the project title and ITB No. as indicated below.
Place in the upper left-hand corner of the envelope the bidder's name and mailing address.

WESTOVER AVENUE DRAINAGE IMPROVEMENTS PROJECT
ROANOKE, VIRGINIA
BID NO. 16-01-09

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Section 01200

Revised Measurement and Payment

1. General

1.1. Unit Prices

1.1.1. Unit prices on the Bid Form shall include the cost and profit of providing all labor, materials, testing, tools and equipment necessary to perform all work in accordance with contract documents. No separate payment shall be made for incidental work relating to Bid Items.

1.2. Basis of Payment

1.2.1. The Contract is based on the unit prices listed on the Bid Form. The estimated quantities listed on the Bid Form are for the purpose of bid comparisons. All bid item payments shall be made based on actual provided quantities measured and accepted in place.

1.2.2. Include the cost for items not listed in the Bid Form, which are mentioned in the specifications, indicated on the drawings, or normally a part of the work described by the Contract Documents, in the cost of the appropriate items which are listed in the Bid Form.

1.2.3. No separate payments shall be made for work, material, equipment, or other expense which is not part of construction items listed in the Bid Form.

1.2.4. Payment can only requested for in-place materials. Payment for stored materials, on-site or off-site, can not be requested.

2. Payment for Work

2.1. Pay requests shall be submitted in tabular form including all pay items listed on the bid form and the unit price for each pay item along the total completed quantity for each item. The form shall have signature lines for the Contractor, City of Roanoke Project Manager, and City of Roanoke Inspector. Pay requests are to be limited to one per thirty (30) calendar days.

3. Products – Not Used

4. **Execution** - Each bid item shall include full compensation for performing the work specified in the bid items and furnishing all materials, labor, tools, equipment, profit and incidentals as required. Each bid item shall be paid on a percentage completed for that bid item unless otherwise noted.

- 4.1. **Mobilization** – This bid item shall be paid at a lump sum price. This bid item shall include the performance of construction preparatory operations, including the movement of personnel and equipment to the project site, installation of project signs, material carrying costs, exploratory underground utility work on the storm drain alignment, payment of permits, payment of performance and payment bond, bond for Right of Way Excavation permit, and other insurance premiums and for establishment of facilities necessary to begin work on a substantial phase of the contract. The first payment of 50% of the lump sum price may be requested on the first estimate following partial mobilization and initiation of construction work. The second and final payment request may be requested on the next estimate following completion of substantial mobilization.
- 4.1.1. No additional payment shall be made for demobilization or remobilization due to shutdowns, removal of E&S devices, and temporary stop work orders due to seeding windows, suspensions of work or for other mobilization activities.
- 4.2. **Construction Stakeout Survey** - This bid item shall be paid on lump sum basis. Pay request may be made based on the percentage of completion. This bid item shall include staking out all proposed improvements, checking elevations at utility crossings and connections, checking and adjusting curb elevations and heights, storm drain structures and pipe slopes, all grades to ensure positive drainage, and all other survey services necessary to complete the Work. The unit cost shall also include As-built Plans for all storm drain pipes and structures installed. The Contractor shall be responsible to provide As-built plans.
- 4.3. **Maintenance of Traffic and Work Area Protection** – This bid item shall be paid on a lump sum basis. The lump sum price shall include furnishing and installing all materials, removal and installation of existing signs, detour signs, and manpower in accordance with VDOT RBS for the entire project and for curb and gutter work on Edgewood Street connecting existing curb and gutter on Westover Avenue and Maiden Lane. The lump sum price shall also include maintaining the work area in accordance with Virginia Work Area Protection Manual. Pay requests may be made for this item based on a percentage of completion for the project. All traffic control shall be subject to approval by the City Traffic Engineer (Transportation Department 540-853-2385). Changes to the traffic control plan, as directed by the City Traffic Engineer, shall not be a basis for additional compensation. The Contractor shall submit a traffic control plan for review and approval prior to mobilization. All lane and street closures and detours shall be coordinated with the Transportation Division. Note that the Stormwater and Transportation Divisions are separate divisions in the Public Works Department.
- 4.4. **Demolition** – This bid item shall be paid on a lump sum basis. Payment for this item is for the proper removal and disposal of all items, including but not limited to culvert under Edgewood Street, storm drain structures, guardrail, asphalt berm and surface treatment, trees, shrubs, and work related to the relocation of traffic sign posts and mailboxes. Pay requests may be made on a percentage of completion.

- 4.5. **Asphalt Milling** – This bid item shall be paid on a square yard (SY) basis. The bid item shall include all work required to mill to a depth of 1 ½ inches in accordance with the Contract Documents and VDOT RBS.
- 4.6. **Asphalt Paving/Overlay** – This bid item shall be paid on a tonnage (Tons) basis for the type specified. The price shall include cost of delivery, placing, and compacting each course in accordance with Contract Documents. Also included in the price shall be the work to accommodate all utility openings in the pavement, all prime coat and tacking activities. This includes valve boxes, existing/new manhole opening, etc. Contractor shall note that aggregate in asphalt shall be non-polishing.
- 4.7. **Erosion and Sediment Control** – This bid item shall be paid on a lump sum (LS) basis for controls as shown and specified on Plans. Pay request may be made based on the percentage of completion.
- 4.8. **Rock Removal** – Shall be paid on a cubic yard basis. The unit price shall include excavation, blasting (if allowed and required), transporting, and disposal of excess or unsuitable material. Pay request may be made for this item based on the in place measurement of exposed by undisturbed rock including required over-excavation for bedding by person authorized by City project manager.
- 4.9. **Curb and Gutter (City Standard)**
- 4.9.1. This bid item shall be measured in linear feet along the face of curb, complete in place. No additional compensation shall be allowed for radial curb.
- 4.9.2. This bid item shall include excavation; backfill and compaction of VDOT 21A Aggregate; forming using steel forms in good condition (including face form), placement, finishing, curing, and hot/cold weather protection of concrete; expansion and crack control joints, neat saw-cutting of existing pavement; and asphalt restoration in front of the curb and gutter system.
- 4.9.3. This bid item shall include demolition of existing concrete, demolition to provide a neat, uniform tie-in, demolition of existing pavements and shoulder restoration behind the curb.
- 4.10. **Handicap Ramp (City Standard)** - Shall be measured and paid for per each, complete in place. The unit price shall include all labor and materials required for excavation; backfill and compaction of VDOT 21A aggregate, forming using steel forms in good condition (including face form), placement, finishing, curing, and hot/cold weather protection of concrete, length of gutter, neat saw-cutting of existing pavement and concrete, and asphalt restoration in front of the ramp. This item also includes demolition of existing concrete to provide a neat, uniform tie-in; demolition of

existing pavements, shoulder restoration and installation of a cast iron detectable warning plates. Minimum slab thickness shall be 7 inches.

- 4.11. **Commercial Driveway Entrance (City Standard)** - Shall be paid for per each, complete in place. The unit price shall include all labor and materials required for excavation; backfill and compaction of VDOT 21A Aggregate; forming using steel forms in good condition (including face form); placement, finishing, curing, and hot/cold weather protection of **high-early** concrete, length of gutter, expansion and crack control joints; neat saw-cutting of existing pavement and concrete and asphalt restoration in front of the entrance. This item also includes demolition of existing concrete, demolition to provide a neat, uniform tie-in, demolition of existing pavements, restoration of existing driveways to provide a smooth transition to existing grades and shoulder restoration. Minimum slab thickness shall be 7 inches. Entrance cost shall also include gutter pan construction as required to connect to curb and gutter systems.
- 4.12. **Residential Driveway Entrance (City Standard)** - Shall be paid for per each, complete in place. The unit price shall include all labor and materials required for excavation; backfill and compaction of VDOT 21A aggregate; forming using steel forms in good condition (including face form); placement, finishing, curing, and hot/cold weather protection of **high-early** concrete, length of gutter, expansion and crack control joints; neat saw-cutting of existing pavement and concrete, and asphalt restoration in front of the entrance. This item also includes demolition of existing concrete, demolition to provide a neat, uniform tie-in, demolition of existing pavements, restoration of existing driveways to provide a smooth transition to existing grades and shoulder restoration. Minimum slab thickness shall be 7 inches. Entrance cost shall also include gutter pan construction as required to connect to curb and gutter systems.
- 4.13. **Concrete Sidewalk, Extension** - This bid item shall be measured in square feet, complete in place. No additional compensation shall be allowed for radial walk. The unit price shall include all labor and materials required for excavation; backfill and compaction of VDOT 21A aggregate, forming using steel forms in good condition; welded wire fabric reinforcement, placement, finishing, curing, and hot/cold weather protection of concrete, expansion and crack control joints. This item also includes necessary concrete steps to connect new and existing sidewalk, demolition of existing concrete, demolition to provide a neat, uniform tie-in, and shoulder restoration.
- 4.14. **Guardrail Replacement, VDOT Std. GR-2** – Shall be paid on linear foot basis for the type specified in accordance with Virginia Department of Transportation Road and Bridge Standards and Specifications. The unit price shall include cost of furnishing, equipment, labor and material for replacement of the existing guardrail system at two locations on Edgewood Street near Westover Avenue and Maiden Lane. Guardrail shall be relocated approximately one (1) foot behind curb.

- 4.15. **Pavement Markings** – This bid item shall be paid on linear foot basis for the replacement of any existing pavement markings. Payment shall include all markings, constructed as VDOT Type B, Class I (thermoplastic), as specified in VDOT Road and Bridge Specifications, Section 246.
- 4.16. **Water Meter Relocation and Adjustment** – This bid item shall be paid on a unit basis per location and as listed on the Bid Form. This bid item shall include labor, equipment and all materials necessary to relocate and adjust/raise water meter to match finish grade in accordance with Plans and Western Virginia Water Authority (WVWA) specifications.
- 4.17. **Base Asphalt, VDOT BM-25.0** – This bid item shall be paid on a tonnage (Tons) basis for the type specified. The price shall include cost of delivery, placing, and compacting each course in accordance with Contract Documents. This bid item is only related to asphalt pavement extension for on-street parking on Memorial Avenue and Westover Avenue. See Sheet M2 of the plan drawings for cross section details.
- 4.18. **Base Aggregate, VDOT 21A** – This bid item shall be paid on a tonnage (Tons) basis for the type specified. The price shall include cost of delivery, placing, and compacting each course in accordance with Contract Documents. This bid item is only related to asphalt pavement extension for on-street parking on Memorial Avenue and Westover Avenue. See Sheet M2 of the plan drawings for cross section details.
- 4.19. **Clearing and Grubbing** – This bid item shall be paid on a lump sum basis. Payment for this item is for necessary removal and disposal of vegetation and dead trees to establish a laydown and stockpile area, and installation of erosion and sediment control measures on Akzo Nobel property. Pay requests may be made based on the percentage of completion.
- 4.20. **Earthwork, Unclassified Except for Rock** – Shall be paid on lump sum basis. The lump sum price shall include excavating, placement of fill, transporting, compacting, fine grading, topsoil preparation, borrow, and disposal of excess or unsuitable material on Akzo Nobel property. Contractor is responsible in figuring out all the earthwork volumes involved in the construction of this project. Pay requests may be made for this item based on the percentage of completion.
- 4.21. **VDOT Class II Riprap** – Shall be paid on a tonnage (Tons) basis, complete in place. The unit price shall also include all labor, equipment, materials, geo-textile fabric, and clearing and grubbing required for the complete installation of the riprap ditch in accordance with the plan drawings.
- 4.22. **VDOT EC-3, Type B Ditch** – Shall be paid for per linear feet, complete in place. The unit price shall include all labor, equipment, materials, grading, clearing, and grubbing required for the complete installation of the storm water ditch and matting in accordance with the plan drawings.

- 4.23. **Existing Pipe and Manhole Cleaning** – Shall be paid on a lump sum basis. The lump sum price shall include all work, labor and equipment necessary to completely clean pipes, manholes and outfall structure located at the Apartment Complex on Burk Street and Akzo Nobel property. Portion of the pipe is halfway filled with sediment and debris. The pipe is 36” in diameter.
- 4.24. **Storm Drain Structures** – This bid item shall be paid on a unit basis. Storm drain structures shall be counted individually, including manholes, end wall, drop inlets and curb inlets. The unit price shall include the cost of excavating and disposal of material, furnishing and installing the structure along with bedding and backfill material. The unit price for each structure shall also include grading around storm drain structures, labor and material for reinforced concrete pipe (RCP) to concrete structure connections, connecting existing pipe to new structure, concrete gutter in front of structure, and any required accessories such as inlet shaping and core-drilling.
- 4.25. **Storm Drain Structures Diff** – This bid item shall be paid on a unit basis for the difference in pipe/structure connections from RCP in the base bid to PP. Manhole size may change depending on the type of connection. Contractor is responsible in figuring out the size change and includes associated cost to the unit price. Storm drain structures shall be counted individually, including manholes, end wall, drop inlets and curb inlets. The unit price shall include the cost of excavating and disposal of material, furnishing and installing the structure along with bedding and backfill material. The unit price for each structure shall also include grading around storm drain structures, labor and material for polypropylene pipe (PP) to concrete structure connections, connecting existing pipe to new structure, concrete gutter in front of structure, and any required accessories such as inlet shaping and core-drilling.
- 4.26. **Storm Drain Combination Inlet** – Shall be paid on a unit basis. This unit price shall include all labor, material and equipment required for the complete installation of the cast-in-place structure as shown on plan drawings. The work includes excavation, backfill and compaction as required, preparation, formwork, reinforcement, ties, placement, finishing, pipe/manhole joint connections, curing, and hot/cold weather protection of concrete, expansion and crack control joints, joint sealant, as required by the specification and plan drawings. Any concrete which will be exposed to view after all fill is placed shall have a Class B finish. Any concrete which will not be exposed to view after all fill is placed shall have a Class D finish.
- 4.27. **Storm Drain Pipe** – This bid item shall be paid on linear foot basis. Storm drain pipe shall be measured in linear foot along the centerline of the pipe for the size and type of pipe specified from end of pipe to end of pipe. The unit cost shall include the cost of saw-cutting asphalt pavement, excavating and disposal of material, furnishing, trenching, and installation of the pipe along with bedding material, backfill material and VDOT BM-25 installation. Before requesting payment for this line item, the BM-25 top layer must be installed. The unit price shall also include core-drilling new and existing manholes.

4.28. **Storm Drain Pipe Diff** – This bid item shall be paid for on a linear foot basis for the difference in pipe to convert from a reinforced concrete pipe (RCP) in the base bid to a polypropylene pipe (PP). A negative bid number shall indicate a reduction in the price whereas a positive number shall indicate a price increase. Storm drain pipe shall be measured in linear foot along the centerline of the pipe for the size and type of pipe specified from end of pipe to end of pipe. The unit cost shall include the cost of saw-cutting asphalt pavement, excavating and disposal of material, furnishing, trenching, and installation of the pipe along with bedding material, backfill material and VDOT BM-25 installation. Before requesting payment for this line item, the BM-25 top layer must be installed. The unit price shall also include core-drilling new and existing manholes.

End of Section