EXHIBIT B

Quince Orchard Boulevard

Shared Use Path

TECHNICAL SPECIFICATIONS AND REQUIREMENTS

GENERAL REQUIREMENTS, REFERENCES AND TECHNICAL SPECIFICATIONS

A. SUMMARY DESCRIPTION OF WORK

The intent of this contract is to repair Quince Orchard Boulevard and construct a Shared Use Path along the west side of the road. The project limits begin at the intersection of Quince Orchard Boulevard and Firstfield Road and end at the intersection of Quince Orchard Boulevard and Quince Orchard Road (MD 124). The project site is located within City right-of-way, with surrounding residential, commercial offices, and parks. Proposed improvements to this section of Quince Orchard Boulevard include reconstructing pavement and sidewalk; construction of a shared use path; removing and replacing existing street trees; installing SWM infrastructure; improving the storm drain network; and performing other roadway-related activities.

The Quince Orchard Boulevard Shared Use Path will be constructed along the west side of Quince Orchard Boulevard, and on a portion of Rabbitt Road, to accommodate a 10'- wide path by utilizing vertical elements and a two-foot buffer to separate the path from the roadway.

The Contractor will ensure the quality of work by employing qualified and experienced personnel, The Contractor will provide all necessary management, supervision, personnel, labor, tools, services, materials, and equipment for each of the unit prices bid. This is the means of payment and is intended to be the price inclusive of all Contractor costs. Where applicable, specifications shall apply in the following order of preference:

1. A specification provided in these Contract Documents.
2. A Montgomery County Department of Transportation Standard specification or detail.
3. The most recent version of the Maryland Department of Transportation, State Highway Administration's Standard Specifications for Construction and Materials and Supplemental Provisions.

B. REFERENCED STANDARDS AND SPECIFICATIONS

The following specifications and standards, including addenda, amendments, and errata, form a part of this specification to the extent required by the references thereto. The Contractor is responsible for adhering to these specifications and any newer versions of the referenced standards and specifications. The list below contains the most frequently used standards that are referenced but other references may be referenced in the standard specifications.

1. American Association of State Highway and Transportation Officials (AASHTO). Washington, D.C.<http://www.transportation.org/>, Referenced as "AASHTO."
2. American Concrete Institute (ACI), Farmington Hills, Michigan. <http://www.concrete.org/general/home.asp>. Referenced as "ACI."
3. ACI-318 – "Building Code Requirements for Reinforced Concrete."
4. ACI-350/350R – "Code Requirements for Environmental Engineering Concrete Structures and Commentary."
5. ACI SP-66-94 – "Detail and Detailing of Concrete Reinforcement." This standard replaced ACI 315-92. American National Standards Institute (ANSI), Washington D.C.
6. American Society of Testing and Materials International, Standards Worldwide. West Conshohocken, PA. <http://www.astm.org/Standard/index.shtml>, Referenced as "ASTM."
7. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice." Schaumburg, Illinois. <http://www.crsi.org/>. Referenced as "CRSI"
8. CRSI "Manual of Standard Practice," 27th edition.

9. CRSI 10PLACE “Placing Reinforcing Bars,” 8th edition,
10. International Code Council (ICC), International Building Code (IBC). Washington D.C. <http://www.iccsafe.org/, 2006>. Referenced as “International Building Code”
11. Maryland Department of the Environment (MDE), Water Management Administration in association with Soil Conservation Service and State Soil Conservation Committee, “1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control.” Baltimore, Maryland. 1994. Reference as “MDE Specifications for Soil Erosion and Sediment Control.”
12. Maryland Department of Transportation (MDOT), State Highway Administration (SHA), Hanover, Maryland. < http://www.mdot.state.md.us/>. Referenced as “MDOT SHA.” “Book of Standards for Highway and Incidental Structures,” and all revisions thereof, or additions thereto. Referenced as “MDOT SHA Standard Details.”
13. “Standard Specifications for Construction and Materials,” July 2024 and all revisions thereof, or additions thereto. Referenced as “MDOT SHA Standard Specifications for Construction and Materials.” https://roads.maryland.gov/ohd2/2024_Standard_Specifications_for_Construction_and_Materials.pdf
14. Montgomery County Department of Transportation (MCDOT), Rockville, Maryland. “Design Standards,” February 2001.
15. “Montgomery County Road Construction Code and Standard Specifications,” 1967.
16. “Work Zone Traffic Control Standards,” January 2002.
17. Montgomery County, Code of Montgomery County Regulations (COMCOR), Chapter 19.00.01, Stormwater Management
18. National Asphalt Pavement Association (NAPA), Lanham, Maryland. <http://www.hotmix.org/>.
19. “Design, Construction and Maintenance Guide for Porous Asphalt Pavements,” Information Series No. 131, 2003.
20. “Design, Construction, and Maintenance of Open-Graded Friction Courses,” Information Series 115, 2002.
21. NSF International, “NSF/ANSI Standard 61” (NSF 61). Ann Arbor, Michigan. <http://www.nsf.org/business/water_distribution/>.
22. Potomac Electric Power Company, Requirements and Specifications for High Voltage Customer Built Facilities, 1994.
23. United States Department of Agriculture (USDA), Natural Resources Conservation Service, “Maryland Conservation Practice Standard, Pond, Code 378 (MD-378),” January 2000. Washington D.C. Referenced as “NRCS MD-378.”
24. United States Department of Justice (USDJ), American Disabilities Act (ADA), “ADA Standards for Accessible Design.” Washington D.C. 1994. <http://www.ada.gov/>
25. United States Occupational Safety and Health Administration (OSHA), “Confined Spaces Standard.” Washington D.C. <http://www.osha.gov>.
26. Washington Suburban Sanitary Commission (WSSC). Laurel, Maryland. http://www.wsscwater.com
27. “General Conditions and Standard Specifications,” 2021. Referenced as “WSSC General Conditions and Standard Specifications.”
28. “Standard Details for Construction,” 2021. Referenced as “WSSC Standard Details.”

C. UNDERGROUND UTILITIES

The Contractor shall notify respective utility companies in accordance with state law, regarding possible presence of water, sewer, gas mains, electric wires, conduit, communication cables (both overhead and underground), poles and house service connections in the street or common areas in which the construction project is to be performed.

Prior to the start of any work on the project, the Contractor shall notify Miss Utility 48-hours in advance. For Locations of Utilities, call "MISS UTILITY", at 811 or 1-800-257-7777 or http://www.missutility.net and must:

1. Request a MISS UTILITY stakeout and possess a valid MISS UTILITY clearance ticket number for any underground work.
2. Contact all utilities within the limits of the Task Order who are not members of MISS UTILITY and obtain a stakeout of their respective facilities.

It is the Contractor's responsibility to locate and verify the elevation of all underground structures and utilities prior to commencing excavation activities of any kind.

The Contractor shall locate all existing utilities and be responsible for their safety. Should any existing utilities be damaged or destroyed due to the operations of the Contractor, the damages or destroyed components shall be immediately replaced or repaired as necessary to restore the utility to a satisfactory working condition. These repairs or replacements shall be at no additional expense to the City or the owner of the utility.

D. TECHNICAL SPECIFICATIONS

CATEGORY 100 – PRELIMINARY

ITEM 1001: MAINTENANCE OF TRAFFIC

GENERAL

The purpose of this item will be to provide for the safe and continuous maintenance of both vehicular and pedestrian traffic throughout the work zones and to minimize accidents and accident severity while at the same time minimizing inconvenience to the traveling public and the Contractor.

The work under this time shall be performed in accordance with all of the applicable provisions of the "Manual on Uniform Traffic control Devices," and the Maryland State Highway Administration, Standard "Specification for the Construction and Materials"' Section 104, 2008 and addenda and errata thereto.

The Contractor shall furnish, install, and maintain all necessary barricades, suitable and sufficient caution lights, danger signals, warning signals, arrow boards, traffic control devices, construction fencing and detour signs including any cold mix required for temporary patching of road cuts and utility adjustments. The Contractor shall take all necessary precautions for the protection of work and safety to the public. All barricades and obstructions shall be illuminated at night and all lights shall be kept burning from sunset to sunrise.

WORK RESTRICTION

The Contractor shall contact the adjacent property owners a minimum of 48-hours in advance of any work on the site, informing them of the scope and timing of construction.

Ingress and egress to adjacent properties shall be maintained at all times.

During non-working hours, all excavated materials shall be removed from the roadway; cuts shall be plated, as necessary and two-way traffic shall be maintained.

During working hours, the Contractor may utilize the roadway in accordance with the approved traffic control plan.

The noise levels shall not exceed those established by law and the Engineer reserves the right to impose additional restrictions should it be warranted.

The Contractor shall cooperate in every way with City officials in maintaining, as much as possible, normal vehicular and pedestrian access.

Vehicles parked in the general work area by the Contractor, or his employees must be in current or immediate use and must be essential to the completion of that phase of construction in progress. All other vehicles shall be parked or stored as directed by the Project Engineer.

Excavated material shall be stored away from the roadway whenever possible. Any earth or fill material, which might be dropped on the traveled surface of the roadway, should be removed to avoid slippery conditions. A water truck or other approved method shall be provided to be used as directed by the Project Manager to control dust in all areas of construction.

All traffic control devices not applicable to the actual situation shall be removed, covered, or turned away from the drivers view as soon as possible.

TRAFFIC CONTROL PLAN

The Contractor shall submit in writing, “A Traffic Control Plan,” described for purpose of this bid as a T.C.P. The T.C.P. for each street shall be submitted to the City Project Manager, for approval, two (2) weeks prior to implementation. No work shall begin without a written approval.

The T.C.P. should include the proposed method for providing the safe and continuous maintenance of vehicular and pedestrian traffic as previously described. The T.C.P. should indicate the types of and locations for all related signing, temporary stripping and/or any other applicable devices.

The option to detour daytime traffic should be considered in the development of the T.C.P. Since it is the intent to reconstruct the street in a systematic manner, properly signed and well-planned daytime detours may be approved for certain streets where traffic flow will be severely impeded.

FIELD PERSONNEL

In accordance with MDOT SHA Specification Section 104.18, the Contractor shall name in writing a Traffic Manager to implement Traffic Control Plans and this person shall be readily available at the worksite during all working hours. The Traffic Manager shall be familiar with the traffic control plan and have received training on the implementation of Part VI of the MUTCD. Flag persons for any nighttime work must wear retro-reflective clothing. This clothing must show the outline of a human form.

CONSTRUCTION REQUIREMENT

The Contractor shall provide for the safe and expeditious movement of all traffic thought the work zone in accordance with the approved T.C.P., special provisions and as directed by the Engineer.

MEASUREMENT AND PAYMENT

Maintenance of Traffic will not be measured but will be paid for on a lump sum basis. This price shall include all materials, labor and work of any kind incidental to this item.

NOTICE TO BIDDER

A qualified Traffic Control Manager shall be in charge of setting up all traffic control devices at the beginning of the day, as well as removing all unnecessary signage at the close of the day.

ITEM 1002: CLEARING AND GRUBBING

GENERAL

This item shall be in accordance with Subsection 101 of "MDOT SHA Standard Specifications for Construction and Materials" and as directed by the Project Engineer.

DESCRIPTION

Clearing includes the removal and disposal of trees, fallen timber and rotten wood, brush, shrubs, vegetation, rubbish, fences, and structures not specified in the Contract Documents for removal and disposal. Unless otherwise specified, clearing outside the LOD includes the removal of rubbish only. Grubbing includes the removing from the ground and disposing of all stumps, roots and stubs, brush, and debris. This work shall be as specified in Section 101 of the MDOT SHA Standard Specifications for Construction and Materials. Clearing and Grubbing will not be measured but will be paid for at the contract lump sum price

MEASUREMENT AND PAYMENT

Clearing and Grubbing will not be measured but will be paid for at the contract lump sum price.

ITEM 1003: CONSTRUCTION STAKEOUT

GENERAL

Construction stakeout shall be in accordance with Section 107 of the Maryland Department of Transportation, State Highway Administration's Standard Specifications for Construction and Materials, dated 2024.

DESCRIPTION

Stakeout shall be in accordance with Section 107 of MDOT SHA Specifications, with the following exceptions:

The Contractor shall perform all construction stakeouts. The Contractor shall complete project as shown on approved plans. The City will not provide any construction stakeout for this project. Contractor shall use benchmark and layout information as shown on the plans.

The Contractor shall provide as-built information. One set of redline as-builts shall be always maintained and kept onsite. Any deviations from approved plans shall be marked, in red, on the as-builts.

As-built information (horizontal and vertical) shall be provided for all new facilities. All as-built information shall be blocked in and shown as thus. City of Gaithersburg Asbuilts Checklists:

https://www.gaithersburgmd.gov/services/environmental-services

Upon completion of project, submit as-builts for approval. Retainage shall not be released until as-builts are approved. The costs for as-builts shall be included in the appropriate pay item associated with the proposed construction. There shall be no separate compensation for this work.

Stakeout shall be measured and paid on a lump sum basis. Progress payments for stakeout shall be made based on the percentage resulting from the price bid for stakeout divided by the total bid, multiplied by the monthly payment exclusive of the stakeout payment, except the final payment shall be adjusted as necessary to equal the total price bid for stakeout.

Grade Sheet by Contractor: Grade sheets showing hub and design elevations for roadway, water mains, drainage structures and piping, walks, lights, infiltration facilities clearing/grubbing, excavation, and related components will be provided by the construction Contractor at least 8 hours in advance of construction and will be subject to approval by the Project Manager. Stakeout for curb and gutter in all vertical and horizontal curves shall be at intervals of 10 feet or less unless otherwise specifically authorized by the Project Manager.

MEASUREMENT AND PAYMENT

Construction Stakeout will not be measured but will be paid for at the contract lump sum price.

ITEM 1004: MOBILIZATION

This item shall be in accordance with Subsection 108 of "MDOT SHA Standard Specifications for Construction and Materials" and as directed by the Project Engineer.

DESCRIPTION

This work shall consist of the construction preparatory operations, including the movement of personnel and equipment to the project site and the establishment of the Contractor's offices, buildings, and other facilities necessary to begin work as specified.

MEASUREMENT AND PAYMENT

Mobilization will not be measured but will be paid for at the contract lump sum price.

CATEGORY 200 – GRADING

ITEM 2001: CLASS 1-A EXCAVATION

GENERAL

Class 1-A Excavation shall be conducted in accordance with Section 201 "MDOT SHA Standard Specifications for Construction and Materials," the Contract Documents, the approved plans and as specified below.

MEASUREMENT AND PAYMENT

Class 1-A Excavation will be measured and paid for at the Contract Unit Price bid per cubic yard as specified in Section 201 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 2002: CLASS 2 EXCAVATION

GENERAL

This item shall be conducted in accordance with Section 201 "MDOT SHA Standard Specifications for Construction and Materials," the Contract Documents, the approved plans and as specified below.

DESCRIPTION

Replace 201.01 DESCRIPTION and 201.01.01 CLASSIFICATION in Section 201 of the "MDOT SHA Standard Specifications for Construction and Materials" with the following:

201.01 DESCRIPTION This work shall consist of the excavation, grading and any necessary undercutting required for the construction of roadways and their appurtenances to the lines and grade specified in the Contract Documents and as directed by the Project Engineer. The Contractor shall use all suitable materials from any excavation in the construction of embankments throughout the limits of the work as directed by the Project Engineer. Any necessary undercutting shall be approved by the Contract Administrator or Designee in advance. Any rock, if encountered, will be the responsibility of the Contractor and no additional compensation will be considered.

201.01.01 Classification. CLASS 2 EXCAVATION is all inclusive of the following:

1. CLASS 1 — All excavation where the width of the bottom of the cut is 15 ft. or more.

2. CLASS 2 — All excavation where the width of the bottom of the cut is less than 15 ft. Excavation for flumes, ditches outside cut or fill slopes, and stream and channel changes are included in this classification unless otherwise specified.

3. Cut areas within the boundary faces of the typical cross sections specified, including ditches within the cut sections, entrances, approach roads, streets, intersections, gutters, ditches, berm ditches, and flumes.

4. The removal and disposal of existing hot mix asphalt and concrete pavement, hot mix asphalt and concrete sidewalks and curb, and concrete combination curb and gutter, shall be performed as specified in this Contract Document.

MEASUREMENT AND PAYMENT

Replace 201.04 MEASUREMENT and PAYMENT in Section 201 of the "MDOT SHA Standard Specifications for Construction and Materials" with the following:

Class 2 Excavation will be measured and paid for at the Contract Unit Price bid per cubic yard. Payment for this item includes, but is not limited to, all Class 1 and Class 2 Excavation. The payment will be full compensation for all excavation and hauling, blasting, formation and compaction of embankments and backfills, disposing of excess and unsuitable materials, preparation and completion of subgrade and shoulders except as otherwise specified, serrated slopes, rounded and transition slopes, and for all

material, labor, equipment, tools, and incidentals necessary to complete the work. Payment will not be made for excavation of any material used for purposes other than those specified.

ITEM 2003: GEOSYNTHETIC STABILIZED SUBGRADE USING GRADED AGGREGATE BASE

DESCRIPTION

These items shall be conducted in accordance with Section 211 of the "MDOT SHA Standard Specifications for Construction and Materials," Montgomery County Department of Transportation (MCDOT), and as specified herein.

MEASUREMENT AND PAYMENT

These items will be measured and paid for at the Contract Unit Price bid per cubic yard as specified in Section 211 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 2004: COMMON BORROW

GENERAL

This item shall be conducted in accordance with Section 203 of the "MDOT SHA Standard Specifications for Construction and Materials," as directed by the Project Engineer, and as specified herein.

DESCRIPTION

Contractor shall furnish and install borrow as specified in the Contract Documents or as directed by the Engineer and as specified in Section 203 of the MSHA Standard Specifications.

MEASUREMENT AND PAYMENT

Fill will not be measured, but will be incidental to the related installed work, including utilities, and sidewalk.

ITEM 2005: TEST PIT EXCAVATION

DESCRIPTION

This item shall be conducted in accordance with Section 205 of the "MDOT SHA Standard Specifications for Construction and Materials," as directed by the Project Engineer, and as specified herein. Excavate and backfill test pits to determine the location of existing underground utilities. Prior to any land disturbance, excavate test pits at the location and to the size and depth as directed and authorized by the Project Engineer.

MEASUREMENT AND PAYMENT

This item will be measured and paid for at the Contract Unit Price bid per cubic yard for the material actually removed from within the limits specified. The payment will be full compensation for all

excavation, tamped backfill, and all material, labor, equipment, tools, and incidentals necessary to complete the work.

ITEM 2006: REMOVAL OF EXISTING PAVEMENT
ITEM 2007: REMOVAL OF EXISTING SIDEWALK
ITEM 2008: REMOVAL OF EXISTING SIDEWALK - CONTINGENT

DESCRIPTION

These items shall be conducted in accordance with Section 206 of the "MDOT SHA Standard Specifications for Construction and Materials," Montgomery County Department of Transportation (MCDOT), and as specified herein.

MEASUREMENT AND PAYMENT

These items will be measured and paid for at the Contract Unit Price bid per cubic yard as specified in Section 206 of the "MDOT SHA Standard Specifications for Construction and Materials."

ADD THE FOLLOWING: These items shall include the excavation and removal of any unsuitable material as directed by the Project Engineer.

CATEGORY 300 – DRAINAGE

ITEM 3001: RISER STRUCTURES

GENERAL

The work under this item shall be performed in accordance with Section 305 of the "MDOT SHA Standard Specifications for Construction and Materials," as directed by the Project Engineer, and as specified herein.

MEASUREMENT AND PAYMENT

Riser Structures as specified in the Contract Documents will be measured complete in place and paid for at the Contract Unit Price per each which includes gasket, watertight seals, trash racks, orifice plates, low flow and dewatering pipe stubs and safety rails.

ITEM 3002: INLET TOP REPLACEMENT

GENERAL

This item is for the removal, disposal, and repair of storm drain inlets, as directed by Project Engineer. These modifications shall be in accordance with "MDOT SHA Standard Specifications for Construction and Materials" and the Montgomery County Department of Transportation (MCDOT) Standard Specifications.

DESCRIPTION

This item shall also include:

1. The removal and disposal of damaged existing storm drain inlets, including excavation of any unsuitable material.

2. The furnishing and placing of new materials, repair of existing structure as directed, any reinforced concrete slabs, tops, all concrete and brick masonry, all required grade and slope adjustments, special or precast units. Per MDOT SHA and MCDOT specs.

3. Back filling, compacting and stabilizing, in kind, all disturbed areas resulting from the inlet replacement.

4. All labor, materials and incidentals necessary to completing the work as directed.

MEASUREMENT AND PAYMENT

Surface measurements of the completed storm drain inlet shall be taken, from which the Contract Unit Price bid per each shall be computed and used for payment, no matter the thickness. The Contract Unit Price bid per each shall be full compensation for the removal, disposal and replacement of the inlets as directed. Included in this item shall be all saw cuts, excavation, sub-grade preparation, forms, reinforcement, concrete joint materials, curing compound, brick masonry, finishing, compacting and stabilizing, in kind, of all the disturbed areas resulting from this work. Also included shall be all labor tools, equipment, and incidentals necessary to perform the work.

ITEM 3003: STANDARD INLET PROTECTION
ITEM 3004: CURB INLET PROTECTION

GENERAL

This item is for the protection of existing inlets to prevent sediment, debris and other pollutants from entering the storm water systems during construction.

The work under this item shall be performed in accordance with manufacturers detail and specifications. This item includes the installation, maintenance, and removal of silt fence necessary to construct the project in accordance with the mandatory sediment control measures, as directed by the Project Engineer.

MEASUREMENT AND PAYMENT

Standard Inlet Protection and Curb Inlet Protection will be measured and paid for at the Contract Unit Price bid per each. The payment will be full compensation for material, labor, equipment, tools, removal, maintenance, and incidentals necessary to complete the work.

ITEM 3005: CONNECT TO EX. CULVERT

GENERAL

This work shall also include all cutting, core drilling, sealing, grouting, and structural restoration, in accordance with Section 303 of the “MDOT SHA Standard Specifications for Construction and Materials,” the Contract Documents and as directed by the Engineer.

MEASUREMENT AND PAYMENT

Connect to Ex. Culvert will be measured and paid for at the Contract unit price per each connection. Payment shall include all labor, equipment, materials, coring, sealing, grouting, backfill, compaction, and restoration necessary to complete the work. will be measured and paid for at the Contract unit price per each for the pertinent size and type of pipe connection. No deduction from the new pipe measurement will be made for pipe connections.

ITEM 3006: MODIFIED 5' COG OPENING

GENERAL

This work shall be conducted in accordance with Section 305 of the "MDOT SHA Standard Specifications for Construction and Materials," the Montgomery County Department of Transportation (MCDOT) Standard Specifications, the Contract Documents, the approved plans, and as directed by the Project Engineer.

MEASUREMENT AND PAYMENT

Modified 5' COG Opening as specified in the Contract documents will be measured complete in place and paid for at the Contract Unit Price bid per each as specified in Section 305 of the "MDOT SHA Standard Specifications for Construction and Materials." Measurement will be from the bottom of the inlet base to the top of the inlet frame and cover or grate.

ITEM 3007: STABILIZED CONSTRUCTION ENTRANCE

GENERAL

The work under this item shall be performed in accordance with Section 308 of the "MDOT SHA Standard Specifications for Construction and Materials," as directed by the Project Engineer, and as specified herein.

MEASUREMENT AND PAYMENT

Stabilized Construction Entrance as specified in the Contract Documents will be measured complete in place and paid for at the Contract Unit Price bid per each as specified in Section 308 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 3008: CLEAN EXISTING PIPE ANY SIZE

GENERAL

The work under this item shall be performed in accordance with Section 303 of the "MDOT SHA Standard Specifications for Construction and Materials," as directed by the Project Engineer, and as specified herein.

MEASUREMENT AND PAYMENT

Clean Existing Pipe Any Size as specified in the Contract Documents will be measured complete in place and paid for at the Contract Unit Price bid per linear foot as specified in Section 303 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 3009: CLEAN EXISTING DRAINAGE STRUCTURES

GENERAL

The work under this item shall be performed in accordance with Section 305 of the "MDOT SHA Standard Specifications for Construction and Materials," as directed by the Project Engineer, and as specified herein.

MEASUREMENT AND PAYMENT

Clean Existing Drainage Structures as specified in the Contract Documents will be measured complete in place and paid for at the Contract Unit Price bid per each as specified in Section 305 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 3010: 15 INCH REINFORCED CONCRETE PIPE, CLASS IV
ITEM 3011: 24 INCH REINFORCED CONCRETE PIPE CLASS IV

GENERAL

This work shall be conducted in accordance with Section 303 of the "MDOT SHA Standard Specifications for Construction and Materials," the Montgomery County Department of Transportation (MCDOT) Standard Specifications. the Contract Documents, the approved plans, and as directed by the Project Engineer.

MEASUREMENT AND PAYMENT

Reinforced Concrete Pipe Class IV as specified in the Contract documents will be measured complete in place and paid for at the Contract Unit Price bid per linear foot as specified in Section 303 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 3012: 12 INCH CORRUGATED POLYETHYLENE PIPE, TYPE S
ITEM 3013: 18 INCH CORRUGATED POLYETHYLENE PIPE, TYPE S

GENERAL

This work shall be conducted in accordance with Section 303 of the "MDOT SHA Standard Specifications for Construction and Materials," the Montgomery County Department of Transportation (MCDOT) Standard Specifications. the Contract Documents, the approved plans, and as directed by the Project Engineer.

MEASUREMENT AND PAYMENT

Corrugated Polyethylene Pipe as specified in the Contract documents will be measured complete in place and paid for at the Contract Unit Price bid per linear foot as specified in Section 303 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 3014: 15 INCH STANDARD CONCRETE END SECTION

GENERAL

This work shall be conducted in accordance with Section 305 of the "MDOT SHA Standard Specifications for Construction and Materials," the Montgomery County Department of Transportation (MCDOT) Standard Specifications. the Contract Documents, the approved plans, and as directed by the Project Engineer.

MEASUREMENT AND PAYMENT

Concrete End Section as specified in the Contract Documents will be measured complete in place and paid for at the Contract Unit Price bid per each as specified in Section 305 of the "MDOT SHA Standard Specifications for Construction and Materials."

Reinforced Concrete Pipe Class IV as specified in the Contract documents will be measured complete in place and paid for at the Contract Unit Price bid per linear foot as specified in Section 303 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 3015: STANDARD 5 FT COG INLET – MINIMUM DEPTH
ITEM 3016: STANDARD 10 FT COG INLET – MINIMUM DEPTH
ITEM 3017: STANDARD COG INLET – VERTICAL DEPTH

GENERAL

This work shall be conducted in accordance with Section 305 of the "MDOT SHA Standard Specifications for Construction and Materials," the Montgomery County Department of Transportation (MCDOT) Standard Specifications, the Contract Documents, the approved plans, and as directed by the Project Engineer.

MEASUREMENT AND PAYMENT

COG Inlet-Minimum Depth as specified in the Contract documents will be measured complete in place and paid for at the Contract Unit Price bid per each as specified in Section 305 of the "MDOT SHA Standard Specifications for Construction and Materials." Measurement will be from the bottom of the inlet base to the top of the inlet frame and cover or grate.

ITEM 3018: REMOVAL OF EXISTING INLET

GENERAL

This item is for the removal, disposal, and repair of storm drain inlets, as directed by Project Engineer. These modifications shall be in accordance with "MDOT SHA Standard Specifications for Construction and Materials" and the Montgomery County Department of Transportation (MCDOT) Standard Specifications.

DESCRIPTION

This item shall also include:

1. The removal and disposal of damaged existing storm drain inlets, including excavation of any unsuitable material.

2. The furnishing and placing of new materials, repair of existing structure as directed, any reinforced concrete slabs, tops, all concrete and brick masonry, all required grade and slope adjustments, special or precast units. Per MDOT SHA and MCDOT specs.

3. Back filling, compacting and stabilizing, in kind, all disturbed areas resulting from the inlet replacement.

4. All labor, materials and incidentals necessary to completing the work as directed.

MEASUREMENT AND PAYMENT

Surface measurements of the completed storm drain inlet shall be taken, from which the Contract Unit Price bid per each shall be computed and used for payment, no matter the thickness. The Contract Unit Price bid per each shall be full compensation for the removal, disposal and replacement of the inlets as directed. Included in this item shall be all saw cuts, excavation, sub-grade preparation, forms, reinforcement, concrete joint materials, curing compound, brick masonry, finishing, compacting and stabilizing, in kind, of all the disturbed areas resulting from this work. Also included shall be all labor tools, equipment, and incidentals necessary to perform the work.

ITEM 3019: 48 INCH DIAMETER MANHOLE FOR 12 INCH TO 24 INCH PIPES – MINIMUM DEPTH
ITEM 3020: 96 INCH DIAMETER MANHOLE FOR 72 INCH PIPE – MINIMUM DEPTH

GENERAL

The work under these items shall be consist of furnishing and installing precast reinforced concrete manholes. This work shall be performed in accordance with Section 305 of the "MDOT SHA Standard Specifications for Construction and Materials," as shown on the Contract Documents, or as directed by the Engineer.

All manholes shall be watertight and structurally sound, compatible with the connecting pipe material and sizes, and constructed to accommodate the specified minimum depth requirements. Concrete and related appurtenances shall conform to Sections 902 and 905 of the MDOT SHA Standard Specifications.

MEASUREMENT AND PAYMENT

Standard Inlets and Manholes will be measured and paid for at the Contract unit price per each. When a structure exceeds the standard minimum depth an additional payment will be made for the excess depth at the Contract unit price per linear foot for the pertinent Vertical Depth item.

ITEM 3021: CLASS 1 RIPRAP FOR SLOPE AND CHANNEL PROTECTION

GENERAL

The work under this item shall be performed in accordance with Section 312 of the "MDOT SHA Standard Specifications for Construction and Materials," as directed by the Project Engineer, and as specified herein.

MEASUREMENT AND PAYMENT

Class 1 Riprap for Slope and Channel Protection will be measured and paid for at the Contract Unit Price bid per square yard. The payment will be full compensation for all excavation, geotextile, riprap, backfill, compaction, disposal of excess material, prewashing when required, preparation of quality control section, and for all material, labor, equipment, tools and incidentals necessary to complete the work.

ITEM 3022: SILT FENCE
ITEM 3023: SUPER SILT FENCE

GENERAL

The work under this item shall be performed in accordance with Section 308 of the "MDOT SHA Standard Specifications for Construction and Materials."

This item includes the installation, maintenance and removal of silt fence necessary to construct the project in accordance with the mandatory sediment control measures, as directed by the Project Engineer.

MEASUREMENT AND PAYMENT

Silt Fence will be measured and paid for at the Contract Unit Price bid per linear foot. The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work.

ITEM 3024: NO 7 AGGREGATE FOR STORMWATER MANAGEMENT FACILITIES

GENERAL

This work shall be conducted in accordance with Section 316 of the "MDOT SHA Standard Specifications for Construction and Materials," the Montgomery County Department of Transportation (MCDOT) Standard Specifications, the Contract Documents, the approved plans, and as directed by the Project Engineer.

MEASUREMENT AND PAYMENT

No. 7 Aggregate for Stormwater Management Facilities will be measured and paid for at the Contract unit price per cubic yard. The payment shall be full compensation for furnishing, transporting, placing, shaping, and protecting the aggregate and for all material, labor, tools, equipment, and incidentals necessary to complete the work.

ITEM 3025: 6 INCH SUB-DRAIN PIPE

GENERAL

This work shall be conducted in accordance with Section 316 of the "MDOT SHA Standard Specifications for Construction and Materials," the Montgomery County Department of Transportation (MCDOT) Standard Specifications, the Contract Documents, the approved plans, and as directed by the Project Engineer.

MEASUREMENT AND PAYMENT

6 Inch Sub-Drain Pipe will be measured and paid for at the Contract unit price per linear foot for the specified size of subdrain pipe. Fittings, caps, geotextile sock, cleanouts, vents, observation wells, and other incidentals will not be measured but the cost will be incidental to the subdrain pipe.

ITEM 3026: COARSE SAND FOR STORMWATER MANAGEMENT FACILTIES

GENERAL

This work shall be conducted in accordance with Section 316 of the "MDOT SHA Standard Specifications for Construction and Materials," the Montgomery County Department of Transportation (MCDOT) Standard Specifications, the Contract Documents, the approved plans, and as directed by the Project Engineer.

MEASUREMENT AND PAYMENT

Coarse Sand will be measured and paid for at the Contract unit price per cubic yard for Coarse Sand for Stormwater Management Facilities. Removal of contaminated coarse sand and replacement with uncontaminated coarse sand will be at no additional cost to the Administration.

ITEM 3027: BIORETENTION SOIL MIX

GENERAL

This work shall be conducted in accordance with Section 316 of the "MDOT SHA Standard Specifications for Construction and Materials," the Montgomery County Department of Transportation (MCDOT) Standard Specifications, the Contract Documents, the approved plans, and as directed by the Project Engineer.

MEASUREMENT AND PAYMENT

Bioretention Soil Mix will be measured and paid for at the Contract unit price per cubic yard. Removal of contaminated Bioretention Soil Mix and replacement with clean Bioretention Soil Mix will be at no additional cost to the Administration. Water. Water used for saturation of coarse sand and Bioretention Soil Mix will not be measured but the cost will be incidental to the pertinent items.

CATEGORY 500 - PAVING

ITEM 5001: SUPERPAVE ASPHALT MIX 12.5mm FOR SURFACE, PG 64S-22, LEVEL 2
ITEM 5002: SUPERPAVE ASPHALT MIX 19.0mm FOR BASE, PG 64S-22, LEVEL 2
ITEM 5003: SUPERPAVE ASPHALT MIX 19.0MM FOR WEDGE/LEVEL, PG 64S-22, LEVEL 2
ITEM 5004: SUPERPAVE ASPHALT MIX 19.0MM FOR FULL-DEPTH PATCH, PG 64S-22, LEVEL 2

GENERAL

This item is for the placement of Superpave Asphalt Mix in accordance with Section 504 of the "MDOT SHA Standard Specifications for Construction and Materials" and as directed by the Project Engineer.

DESCRIPTION

The work to be performed under this item shall include but not limited to the following:

1. Furnish and place Superpave asphalt mix.

2. Clean all areas where surface is to be placed.

3. Saw cut and prepare all joints where new asphalt joins existing pavement.

4. Clean up all asphalt scatterings once the surface has been installed.

WORK RESTRICTION

There will be no placement of this item after October 31st of each year without written permission from the Director of Public Works.

MEASUREMENT AND PAYMENT

This item will not be measured but shall be placed on a per ton basis. The contractor shall supply plant tickets to the Project Engineer for quantity verification. The Contract Unit Price bid per ton shall be full compensation for the furnishing, placing, and compacting the surface course. Also included in this item shall be all labor, equipment, temporary striping, and incidentals necessary to place the surface course as specified, day or night paving as directed.

ITEM 5005: FINE MILLING ASPHALT PAVEMENT 1 INCH TO 2.5 INCH DEPTH

GENERAL

This item shall be conducted in accordance with Section 508 of the "MDOT SHA Standard Specifications for Construction and Materials," the Contract Documents and as specified herein.

MEASUREMENT AND PAYMENT

Fine Milling Hot Mix Asphalt Pavement shall be measured and paid for at the Contract Unit Price bid per square yard as specified in Section 508 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 5006: 4 INCH GRADED AGGREGATE BASE COURSE
ITEM 5007: 6 INCH GRADED AGGREGATE BASE COURSE

GENERAL

This item shall be conducted in accordance with Section 501 of the "MDOT SHA Standard Specifications for Construction and Materials," the Contract Documents and as specified herein.

MEASUREMENT AND PAYMENT

This item will not be measured but shall be placed on a tonnage basis. Payment will be made off the delivery tickets to the site from the supplier of the MDOT SHA Graded Aggregate Base Course. The Contract Unit Price bid per ton shall be full compensation for all aggregate, including excavation and

off-site disposal of excess material, furnishing, hauling, placing, curing, and for all material, labor, equipment, tools, and incidentals necessary to complete the work as directed.

ITEM 5008: 5 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS
ITEM 5009: 5 INCH YELLOW THERMOPLASTIC PAVEMENT MARKINGS
ITEM 5010: 24 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS

GENERAL

Thermoplastic Pavement Markings shall be conducted in accordance with Section 556 of the "MDOT SHA Standard Specifications for Construction and Materials," the Contract Documents and as specified herein.

MEASUREMENT AND PAYMENT

Replace 556.04 Measurement and Payment in Section 556 of the "MDOT SHA Standard Specifications for Construction and Materials with the following:

The Payment will be full compensation for all pavement preparation, traffic control, furnishing and placing of markings, testing, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

Thermoplastic Pavement Markings shall be measured and paid for at the Contract Unit Price bid per linear foot as specified in Section 550 of the "MDOT SHA Standard Specifications for Construction and Materials.

CATEGORY 600 - SHOULDERS

ITEM 6001: MONTGOMERY COUNTY TYPE A CURB & GUTTER (STD NO. MC-100.01)
ITEM 6002: MONTGOMERY COUNTY TYPE A CURB (STD NO. MC-100.01)

GENERAL

This item shall be conducted in accordance with Section 602 of the "MDOT SHA Standard Specifications for Construction and Materials," the Montgomery County Department of Transportation Standard Details, the Contract Documents, and as specified herein.

DESCRIPTION

The work shall consist of the construction of concrete curb and gutter to match the existing line, grade, and configuration in accordance with these specifications and/or as directed by the Engineer.

The item shall also include, but not limited to:

1. Furnishing and placing MDOT SHA Mix 3 concrete for new curb.

2. Finishing and curing of new curb and gutter.

3. No more than 145 linear feet of curb and gutter shall remain open at one time, but not overnight. Backfilling and stabilization shall be completed to comply with this limitation.

4. The use of a curb machine must be approved by the Project Engineer.

MEASUREMENT AND PAYMENT

This item will be measured on the basis of the length of concrete curb and gutter satisfactorily constructed to the required cross-section and grade. Measurements shall be made along the flow line of the curb and gutter parallel to face of curb. The Contract Unit Price bid per linear foot shall be full compensation for the installation of all curb and gutter as directed, saw cuts, excavation, subgrade preparation, full depth forms, expansion material, joint filler, material, backfilling, compacting, stabilizing in kind, and all other labor and materials incidental to the curb installation.

ITEM 6003: 5 INCH CONCRETE SIDEWALK
ITEM 6004: 5 INCH CONCRETE SIDEWALK - CONTINGENT

GENERAL

This item shall be conducted in accordance with Section 206 and Section 603 of the "MDOT SHA Standard Specifications for Construction and Materials," the Montgomery County Department of Transportation Standard No. MC-110.01 and MC-111.01, the Contract Documents, and as specified herein.

DESCRIPTION

This item shall consist of the construction of concrete sidewalk and or wheelchair ramps to match the existing line and grade in accordance with these specifications, and/or as directed by the Engineer.

1. The removal and disposal of existing sidewalk or wheelchair ramps including excavation of unsuitable material as directed.

2. The furnishing and placing of MDOT SHA concrete mix 3 for new work.

3. Finishing and curing of new sidewalk using water base cure seal.

4. Back filling, compacting, and stabilizing, in kind, all disturbed areas resulting from the sidewalk replacement.

5. All labor and materials incidental to completing the work as described.

MEASUREMENT AND PAYMENT

The Contract Unit Price bid per square yard shall be full compensation for the removal, disposal, and replacement of the concrete sidewalk as directed. Included in this item shall be all materials, curing compound, finishing, back filling, compacting, stabilizing (in kind), all labor, tools, equipment and incidentals necessary to complete the work.

*Any sidewalk and sidewalk ramps that do not conform to the most recent accessibility guidelines of the ADA shall not be measured for payment.

ITEM 6005: DETECTABLE WARNING SURFACE FOR CURB RAMPS

GENERAL

This item shall be conducted in accordance with and Section 611 of the "MDOT SHA Standard Specifications for Construction and Materials," the Contract Documents and as specified herein.

MEASUREMENT AND PAYMENT

This item will be measured and paid for at the Contract Unit Price bid per square feet as specified in Section 611 of the "MDOT SHA Standard Specifications for Construction and Materials."

CATEGORY 700 – LANDSCAPING

ITEM 7001: PLACING FURNISHED TOPSOIL 4 INCH DEPTH

GENERAL

This is for regrading and backfilling of all disturbed areas. Perform operations in accordance with Section 701 of the "MDOT SHA Standard Specifications for Construction and Materials" latest edition, the Contract Documents, and as specified herein.

DESCRIPTION

The work under this item shall include but is not limited to the following:

- Salvage topsoil to comply with Section 920.01.01 of the "MDOT SHA Standard Specifications for Construction and Materials."
- Furnish topsoil to comply with Section 920.01.02 of the "MDOT SHA Standard Specifications for Construction and Materials."
- Place topsoil 4-inch thickness. Loosen surface of subsoil base to provide a suitable bond for topsoil layer, spread uniformly to meet the curb and sidewalk elevations.
- Fine grade for seeding, sodding, and vegetation establishment.

Inspection and Acceptance: Submit a request for acceptance when operations are completed. Inspection will be conducted to verify that operations meet specifications and acceptance granted at that time.

MEASUREMENT AND PAYMENT

Topsoil will be measured and paid for at the Contract unit price as described below. The payment will be full compensation for all material, labor, equipment, tools, disposal fees, and incidentals necessary to complete the work.

Furnished topsoil will be paid for at the Contract unit price on a cubic yard basis. The contractor shall provide tickets documenting quantities for furnished topsoil. The Contract Unit Price bid shall be full compensation for placing topsoil.

Placing salvaged topsoil will not be measured but the cost shall be incidental to the Contract unit price for Class 1 Excavation.

Any cost for applying soil amendments to comply with the Nutrient Management Plan shall be incidental to the Contract unit price for the specified vegetation establishment.

Temporary mulch, temporary seed, or other permanent vegetation establishment will be measured and paid for at the Contract unit price per specified item.

ITEM 7002: TEMPORARY SEEDING
ITEM 7003: TEMPORARY MULCH

GENERAL

This is to perform operations for placement of temporary mulch or temporary seed to provide soil erosion protection in accordance with Section 704 of the "MDOT SHA Standard Specifications for Construction and Materials" latest edition, in compliance with all requirements of the Maryland Department of the Environment for temporary stabilization of soils, and as specified herein.

DESCRIPTION

The work under this item shall include but is not limited to the following:

- Apply temporary mulch to stabilize topsoil, subsoil (common borrow), or other specified soil substrate for areas exposed for up to two months after disturbance.

- Apply temporary seed to stabilize topsoil, subsoil, or other specified soil substrate to stabilize areas for a two to six months duration.

- Establish permanent stabilization for areas when re-disturbance is not expected for six months or longer.

MEASUREMENT AND PAYMENT

Temporary Mulch and Temporary Seed will be measured and paid for at the Contract unit price as described below. The payment will be full compensation for all material, labor, equipment, tools, disposal fees, and incidentals necessary to complete the work.

Temporary Mulch will be measured and paid for at the Contract unit price per square yard. Any soil stabilization matting which may be installed as temporary matting mulch will be incidental to the Contract unit price for temporary mulch.

Temporary Seed will be measured and paid for at the Contract unit price per square yard.

Turfgrass Establishment will be measured and paid for at the Contract unit price per square yard.

ITEM 7004: TURFGRASS ESTABLISHMENT

GENERAL

Perform operations in accordance with Section 705 of the "MDOT SHA Standard Specifications for Construction and Materials" latest edition, the Maryland Department of the Environment for permanent seeding, the Contract Documents, and as specified herein.

DESCRIPTION

For areas at final grade, establish turfgrass in topsoil or other specified soil substrate to provide permanent vegetation groundcover.

For areas not at final grade, or that will not be re-disturbed for a at least six months after seeding operations are completed, establish turfgrass in topsoil, subsoil, or other specified soil substrate to provide temporary vegetation groundcover.

Inspection and Acceptance:

- Seeding Phase Acceptance: Submit a request for seeding phase acceptance when operations are completed. Inspection will be conducted to verify completion and acceptance granted at that time.

- Establishment Phase Acceptance: The establishment phase will begin upon seeding phase acceptance and continue until final acceptance. The Contractor shall perform the following maintenance during the establishment phase:

Watering. Apply water as needed to ensure survival of turfgrass. Apply water to seeded and mulched areas. Do not allow water to cause erosion or to displace mulch. Contractor shall immediately repair any erosion or mulch displacement that may occur.

Overseeding. Overseeding is required for areas where living turfgrass coverage is between 40-percent and 95-percent. In areas to receive overseeding, cut the turfgrass to a height of 3 to 5-inches and remove debris that may interfere with seeding application. Apply seed mixtures, seed additives, fertilizer, mulch, and secure mulch as specified in "MDOT SHA Standard Specifications for Construction and Materials" latest edition, Section 705.03.01 through 705.03.07.

Soil Restoration, Tilling, and Reseeding. Perform soil restoration and reseeding when turfgrass coverage is less than 40-percent, or when erosion or soil grades are not acceptable. Mow the area to be restored and reseeded to a height of 3 to 5-inches and remove debris that may interfere with seeding. Apply seed mixtures, seed additives, fertilizer, mulch, and secure mulch as specified in "MDOT SHA Standard Specifications for Construction and Materials" latest edition, Section 705.03.01 through 705.03.07.

Mowing. Mow turfgrass in areas flatter than 4:1 before the grass grows to a height of 8-inches. Use approved machinery to cut to a height of 3 to 5-inches.

Refertilizing. Refertilize areas at least one month after initial fertilizer was applied using 37-0-0 SCU fertilizer. Refer to Table 2 "MDOT SHA Standard Specifications for Construction and Materials" latest edition, Section 705.03.06.

Submit a request for seeding acceptance and final acceptance. Inspections will be conducted to verify that operations meet requirements for turfgrass height, color, and coverage. If coverage is not acceptable, an inspection report will be provided to the Contractor for repairs.

Final acceptance will be granted after all operations have been completed, and when the seedlings have grown to at least four-inches in height, exhibit dark green color, with 95-percent coverage.

MEASUREMENT AND PAYMENT

Turfgrass Establishment will be measured and paid for at the Contract unit price as follows. The payment will be full compensation for all material, labor, equipment, tools, disposal fees, and incidentals necessary to complete the work.

Turfgrass Establishment will be measured and paid at the Contract unit price per square yard, and includes grade repair, preparing soil, applying soil amendments and initial fertilizer in conformance with the Nutrient Management Plan, seed mixes, seed additives, mulching, securing mulch, watering, overseeding, reseeding, watering, and mowing.

Turfgrass Establishment Payment schedule:

Seeding Phase Acceptance: 80-percent of total Contract price

Final Acceptance: 20-percent of total Contract price

Refertilizing will be measured and paid for at the Contract unity price per square yard.

Temporary Mulch and Temporary Seed will be measured and paid for at the Contract unit price per square yard.

ITEM 7005: REFERTILIZING

GENERAL

Perform operations in accordance with Section 716 of the "MDOT SHA Standard Specifications for Construction and Materials" latest edition, the Maryland Department of the Environment for permanent seeding, the Contract Documents, and as specified herein.

MEASUREMENT AND PAYMENT

Refertilizing will be measured and paid for at the Contract unity price per square yard as specified in Section 716 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 7006: TURFGRASS SOD ESTABLISHMENT

GENERAL

Perform operations in accordance with Section 708 of the "MDOT SHA Standard Specifications for Construction and Materials" latest edition, the Maryland Department of the Environment for permanent vegetation cover, the Contract Documents, and as specified herein.

DESCRIPTION

Transport and install turfgrass sod within 48-hours after harvest. Handle sod without excessive breaking, tearing, or loss of soil.

For areas at final grade, place turfgrass sod over the topsoil surface.

Install fasteners in locations where sod may be dislodged by water flow. Use at least two fasteners per strip spaced no more than 2-feet apart. Drive fasteners through the sod and firmly into the soil to avoid gaps at the top of the fastener.

Tamp or roll turfgrass sod after installation and securing sod to press sod firmly into the soil.

Gently apply water over the surface of the sod. Do not allow water to cause erosion or to displace sod. Perform the first watering within 4-hours after placing sod. Wet the soil to a depth at least 2-inches below the sod.

Inspection and Acceptance:

Installation Acceptance: Submit a request for installation acceptance when operations are completed. Inspection will be conducted to verify completion and acceptance granted at that time.

Establishment Phase Acceptance: The establishment phase will begin upon installation phase acceptance and continue until final acceptance. The Contractor shall perform the following maintenance during the establishment phase:

Watering. Apply water as needed to ensure survival of turfgrass sod in good condition. Do not allow water to cause erosion or to displace sod. Contractor shall immediately repair any erosion or sod displacement that may occur.

Sod Replacement. Remove sod that does not meet acceptance standards and install new sod as needed or directed.

Mowing. Mow sod before it grows to a height of 8-inches. Use approved machinery to cut to a height of 3 to 5-inches.

Refertilizing. Refertilize areas at least one month after initial fertilizer was applied using 37-0-0 SCU fertilizer. Refer to Table 1 “MDOT SHA Standard Specifications for Construction and Materials” latest edition, Section 705.03.06.

Submit a request for installation acceptance and final acceptance. Inspections will be conducted to verify that operations meet requirements for turfgrass sod height, color, and coverage. If condition and coverage requirements are not acceptable, an inspection report will be provided to the Contractor for repairs.

Final acceptance will be granted after all operations have been completed, and when the sod have grown to at least four-inches in height, exhibit dark green color, is firmly rooted into the soil, with 99-percent coverage.

MEASUREMENT AND PAYMENT

Turfgrass Sod Establishment will be measured and paid for at the Contract unit price as follows. The payment will be full compensation for all material, labor, equipment, tools, disposal fees, and incidentals necessary to complete the work.

Turfgrass Sod Establishment will be measured and paid at the Contract unit price per square yard, and includes grade repair, preparing soil, applying soil amendments and initial fertilizer in conformance with the Nutrient Management Plan, sod, fasteners, watering, resetting sod, and mowing.

Turfgrass Establishment Payment schedule:

Installation Phase Acceptance: 80-percent of total Contract price

Final Acceptance: 20-percent of total Contract price

Refertilizing will be measured and paid for at the Contract unity price per square yard.

Temporary Mulch will be measured and paid for at the Contract unit price per square yard.

ITEM 7007: TREE, SHRUB, AND PERENNIAL INSTALLATION AND ESTABLISHMENT

GENERAL

Perform operations in accordance with Section 710 of the "MDOT SHA Standard Specifications for Construction and Materials" latest edition, American Standard for Nursery Stock," American Association of Nurserymen (ANSI 260.1), the Contract Documents, and as specified herein.

DESCRIPTION

Perform plant installation during plantings seasons when soil moisture and weather conditions are suitable, when the temperature is above 32-F, and the soil is not frozen.

Planting seasons: Plants may be installed during the following planting seasons:

- September 15 to December 31; January 31 to May 15.

Balled and Burlapped (B&B), deciduous trees and shrub materials:

Lowest Risk:

- Deciduous plants dug and planted while dormant in spring or fall except those listed below.
- Deciduous plants dug during dormancy and planted after producing leaves providing they have been properly stored.
- Deciduous plants dug after leaves have fully expanded and harden off.

Highest Risk:

- Deciduous plants dug in the spring during newly expanding leaf production.

Evergreen B&B material:

- Freshly dug evergreen material should not be moved without proper conditioning during active growth.

Excluded Material:

- The following trees may not be installed between November 15 and March 1: White oak (Quercus alba), Scarlet Oak (Quercus coccinea), Red Oak (Quercus rubra), Willow Oak (Quercus phellos), Flowering Dogwood Varieties (Cornus florida), Sweet Gum (Liquidambar styraciflua) and all conifers with the exception of White Pines (Pinus strobus).

Out of season plant installation:

- Planting outside of the planting time stated in this Article shall be considered to be out of season plant installation.

- Generally, out of season plant installation shall not be allowed.

- Variance in planting seasons will only be permitted when authorized in advance by the landscape architect in response to a written request from the Contractor including a list of plant species. Out of season plant installation shall not occur without this authorization.

- The warranty for out of season plant installation shall be extended one calendar year to compensate for the variance.

- The Contractor shall contact “miss utility” or other approved service to identify and mark utilities within the Limit of Disturbance. Notify the landscape architect of any conflicts that may involve design changes.

- Layout and mark locations for proposed plantings and planting beds for review and approval prior to plant installation. The Contractor shall request review by the landscape architect for acceptance of layout prior to commencing excavation of planting pits.

- For areas of perennial plantings and shrub massings, the Contractor shall install continuous planting beds instead of individual planting pits. Refer to Contract documents for limits of bioretention soil media.

- Prepare planting pits and planting beds in accordance with guidance provided in “MDOT SHA Standard Specifications for Construction and Materials” latest edition, Section 710.03.04 through 710.03.05.

- Install plants in accordance with guidance provided in “MDOT SHA Standard Specifications for Construction and Materials” latest edition, Section 710.03.09 through 710.03.15.

- Place 3-inches of shredded hardwood bark mulch within stormwater facilities per the Contract documents.

Inspection and Acceptance:

- Plant Material. Plant material shall be inspected for quality and acceptance in accordance with "MDOT SHA Standard Specifications for Construction and Materials" latest edition, Section 920.07.02. The Contractor shall notify the landscape architect when plants have been tagged at the nursery or when plants are available onsite for inspection.

- Layout Inspection. The Contractor shall notify the landscape architect when layout, using high visibility flagging, is ready for inspection.

- Installation Acceptance: The Contractor shall submit a request for installation phase acceptance when planting operations are completed. Inspection will be conducted to verify species, location, and completion of installation requirements. Refer to Table 7 "MDOT SHA Standard Specifications for Construction and Materials" latest edition, Section 710.03.21. The Contractor shall develop a written schedule for maintenance and integrated pest management with methods outlined for monitoring and managing pests (weeds, diseases, and insects, etc.) and shall submit to the landscape architect with the request for installation inspection.

Establishment Phase: The 1-year warranty, establishment phase will begin upon installation phase acceptance and continue until final acceptance. The Contractor shall perform the following maintenance during the establishment phase:

Watering. Monitor soil moisture and apply water as needed to ensure survival of plants in good condition. Do not allow water to cause erosion or to displace soil or mulch. Contractor shall immediately repair any erosion or mulch displacement that may occur.

Pest Management. Monitor and promptly control weeds, insects, and other pests. Remove dead weeds taller than 6-inches. Pesticide use requires a Maryland Department of Agriculture Commercial Pesticide Business License and a Pesticide Applicator Certificate; License and Pesticide Application Reporting Forms must be submitted.

Unacceptable Plants and Replacement Plants. Promptly remove and replace plants that have become unacceptable during the Establishment Phase.

End of Season Foliage Removal. For perennials, remove the aboveground parts that have declined during the months of November and December. For grasses, remove the above ground parts that have declined in February or March.

Refertilizing. Apply fertilizer in the final 60 days of the Establishment Phase. For planting pits, dissolve 40-lbs of 20-20-20 water soluble fertilizer in 1,000-gallons of water. Refer to Table 3 "MDOT SHA Standard Specifications for Construction and Materials" latest edition, Section 710.03.14, for application rates per planting pit diameter. For planting beds, apply 0.21-gallons of fertilizer solution per square yard of planting bed over then entire bed area.

Removing Supports & Tags. Remove tree supports, hoses, braces, guys, and plant tags in the final 30 days of the Establishment Phase. Pull stakes from the soil or cut them to ground level.

Final Acceptance: The Contractor shall request a final inspection after the 1-year establishment and warranty period. Final acceptance will be granted when all requirements of Table 8 "MDOT SHA Standard Specifications for Construction and Materials" latest edition, Section 710.03.23, are completed.

MEASUREMENT AND PAYMENT

Tree, Shrub, and Perennial Installation and Establishment will be measured and paid for at the Contract unit price as follows. The payment will be full compensation for all material, labor, equipment, tools, disposal fees, and incidentals necessary to complete the work.

Tree, Shrub, and Perennial Installation and Establishment is lump sum for tree, shrub, and perennial installation and establishment including the cost of plant materials, layout, marking, pruning, planting pit excavation and disposal of excavated soil, fertilizer, compost, backfilling, mulching, staking, guying, berming, edging, watering, cleanup, relocating plants, abandoned planting pits, pest management, plant maintenance, refertilizing, and all operations related to the installation and establishment of each plant through the 1-year warranty.

Tree, Shrub, and Perennial Installation and Establishment Payment schedule:

Installation Phase Acceptance: 70-percent of total Contract price

Final Acceptance: 15-percent of total Contract price

Shredded Hardwood Bark Mulch required for stormwater management facilities shall be measured and paid for separately at the Contract price per square yard.

ITEM 7008: TREE FELLING

GENERAL

Perform operations for tree felling, shrub removal, and stump removal in accordance with Section 714 of the "MDOT SHA Standard Specifications for Construction and Materials" latest edition, the Contract Documents, and as specified herein.

DESCRIPTION

Fell trees and shrubs including stump removal as indicated on the Contract Documents. The Contractor shall mark with high visibility tape trees and shrubs to be removed for approval by the landscape architect prior to performing any felling or removal operations and shall be in accordance with the approved Roadside Tree Permit.

The Contractor shall provide a breakdown list of contract prices for trees felling, shrub and stump removal.

The Contractor shall contact "miss utility" or other approved service to identify and mark utilities in the Limit of Disturbance or vicinity of vegetation to be removed.

The Contractor shall provide maintenance of traffic and sidewalk detours as needed to access and perform the work while providing safe routes around the operations.

Operations shall be performed by or with direct supervision from a Maryland Licensed Tree Expert and in a manner that avoids danger to traffic or injury to other plants or property. Trees shall be safely felled in sections in a controlled manner.

Fell trees or shrubs and remove stumps by grinding to a depth of 8-inches below the finished surface of surrounding grade. Remove wood debris and stump grindings. Within 24-hours after stump removal and grinding, back fill the hole with topsoil to the surrounding soil level. Stabilize all disturbed areas with turfgrass sod establishment or turfgrass establishment per Contract Documents.

The Contractor shall promptly remove and dispose of wood, debris, and other waste materials at an offsite location. Clean adjacent paved surfaces, sidewalks, and turfgrass areas. Restore ruts or damaged turfgrass areas and repair hardscape or existing structures if damaged.

MEASUREMENT AND PAYMENT

Tree felling, shrub and stump removal will be paid for at the Contract lump sum price based on the breakdown of contract prices.

The payment will be full compensation for all labor, material, equipment, tools, wood disposal, cleanup and restoration, damage repair, disposal fees and incidentals necessary to complete the operations. Topsoil and materials required to perform restoration shall be incidental to the contract price for Tree Felling, Shrub and Stump Removal.

ITEM 7009: SHREDDED HARDWOOD BARK MULCHING 3 INCH DEPTH

GENERAL

Shredded Hardwood Bark Mulching shall be conducted in accordance with Section 710 of the "MDOT SHA Standard Specifications for Construction and Materials," the Contract Documents, the approved plans, as directed by the Project Engineer, and as specified herein.

MEASUREMENT AND PAYMENT

Shredded Hardwood Bark Mulching 3 Inch Depth that is installed within stormwater infiltration facilities or within other specified areas, and which is not installed as part of Constructing Planting Beds, will be measured and paid for separately. The payment will include the cost of SHB Mulch, installation, and any necessary damage repair as specified in 710.03.21 and 710.03.22 until Final Acceptance. Mulching individual planting pits of trees, shrubs, perennials, vines, and grasses within areas of Shredded Hardwood Bark Mulching 3 Inch Depth will not be measured but the cost will be incidental to 710.04.03.

Shredded Hardwood Bark (SHB) Mulch will be measured and paid for at the Contract unit price per square yard for Shredded Hardwood Bark Mulching, 3 in. depth as specified in section 316 of "MDOT SHA Standard Specifications for Construction and materials."

ITEM 7010: TREE ROOT PRUNING

GENERAL

Perform operations for tree root pruning per Section 715 of the "MDOT SHA Standard Specifications for Construction and Materials" latest edition, ANSI A300 Tree Care Operations, the Contract Documents, and as specified herein.

DESCRIPTION

Root prune trees and shrubs in locations where tree protection fence is shown on the Contract Documents. Root pruning shall be in accordance with the approved Roadside Tree Permit.

The Contractor shall contact “miss utility” or other approved service to identify and mark utilities in the Limit of Disturbance or vicinity of vegetation to be removed.

Operations shall be performed by or with direct supervision from a Maryland Licensed Tree Expert. Use a vibratory knife to perform root pruning. Cleanly cut tree roots at the designated location to a depth of 24-inches and immediately backfill trenches with excavated soil.

Avoid damage to existing structures, plants, and turfgrass to be preserved. Keep turfgrass areas, paved surfaces, and sidewalk clean. Promptly remove and dispose of debris offsite. Restore areas of root pruning, ruts and damaged turfgrass areas.

MEASUREMENT AND PAYMENT

Tree root pruning will be paid for at the Contract unit price per linear foot.

The payment will be full compensation for all labor, material, equipment, tools, wood disposal, cleanup and restoration, damage repair, disposal fees and incidentals necessary to complete the operations. Topsoil and materials required to perform restoration shall be incidental to the contract price for tree root pruning.

ITEM 7011: ROOT CONTROL BARRIER

GENERAL

This work consists of furnishing and installing a root control barrier to prevent the encroachment of tree or plant roots into paved areas, utilities, or other infrastructure as specified in the Contract Documents or as directed by the Engineer.

MEASUREMENT AND PAYMENT

Deer protection fence will be paid for at the Contract unit price per linear foot. The payment will be full compensation for all labor, material, equipment, tools, cleanup, disposal fees and incidentals necessary to complete the operations.

ITEM 7012: DEER PROTECTION FENCE
ITEM 7013: TREE PROTECTION FENCE

GENERAL

This work shall consist of furnishing and installing deer protection fence and tree protection fence to protect and preserve existing mature trees and other vegetation located in forest retention areas within the project site. Install deer protection fence tree protection fence per Section 104.20 of the “MDOT SHA Standard Specifications for Construction and Materials” latest edition, the Contract Documents, and as specified herein.

MATERIALS

All materials used for Deer protection and Tree Protection Fence shall conform to the Contract Documents and the “MDOT SHA Standard Specifications for Construction and Materials” latest edition.

CONSTRUCTION

Deer Protection Fence and Tree Protection Fence shall be installed at the locations shown on the Construction Drawings prior to any Construction Activities. The fencing does not have to be placed throughout the entire project site prior to Construction activities. However, Tree Protection Fencing must be installed along all construction access and haul roads within the project site and must be installed throughout the area which encompasses each Phase of Construction as described in contract documents.

Deer Protection Fence and Tree Protection Fence shall not be attached to any existing trees or other vegetation within the project site.

The location and limits of fencing should be coordinated in the field with Arborist. The installation of the Tree Protection Fence shall be inspected and approved by the Engineer on-site prior to construction activity.

During Construction activities which occur within the forest retention areas, the Inspector will open a section of the Deer Protection Fence or Tree Protection Fence to allow approved construction equipment to enter under his or her direct supervision. When construction activities are complete in these areas, the Contractor shall repair the open section of the fence with approved tie wire, tension wire or tension wire clips and hardware as necessary.

Damaged or destroyed Deer Protection Fence or Tree Protection Fence as a result of construction activities shall be immediately replaced by the Contractor at his/her own expense.

MEASUREMENT AND PAYMENT

Deer protection fence and tree protection fence will be measured and paid for at the Contract unit price per linear foot. The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to install, maintain, remove, dispose and anything else necessary to complete the work. Repairs to open sections of the fencing to enter the forest retention areas will also be considered incidental to this item.

ITEM 7014: TREE GUARDS

GENERAL

This work consists of furnishing and installing tree guards as specified in the Contract Documents or as directed by the Engineer.

MATERIALS

48 inch height tree bark guard; 6 inch diameter; rigid UV-Treated Black HPDE Mesh A.M. Leonard tree guard or approved equal.

DESCRIPTION

Tree guards shall be installed at locations shown on the Contract Documents or as directed by the Engineer. Installation shall occur after tree planting or on existing trees identified for protection.

MEASUREMENT AND PAYMENT

Tree guards will be paid for at the Contract unit price per each. The payment will be full compensation for all labor, material, equipment, tools, cleanup, disposal fees and incidentals necessary to complete the operations.

CATEGORY 800 – TRAFFIC

ITEM 8001: REMOVE AND RELOCATE GROUND MOUNTED SIGNAL STRUCTURE

GENERAL

Remove and Relocate Ground Mounted Signal Structure shall be conducted in accordance with Section 822 of the "MDOT SHA Standard Specifications for Construction and Materials," the Contract Documents and as specified herein.

DESCRIPTION

Remove concrete foundations and place backfill as specified in 822.03.01 of the "MDOT SHA Standard Specifications for Construction and Materials." Remove and store ground mounted signal structures and signals scheduled to be reused as specified in GP-6.02 of the "MDOT SHA Standard Specifications for Construction and Materials."

MEASUREMENT AND PAYMENT

Remove and Relocate Ground Mounted Signal Structures will be measured and paid for at the Contract Unit Price per each. The payment will be full compensation for the removal, storage, reinstallation, connection to existing electrical circuits, removal of existing concrete foundations, relocation of existing signals, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

ITEM 8002: SCHOOL ZONE FLASHING BEACON

GENERAL

This work consists of furnishing and installing School Zone Flashing Beacons as specified in the Contract Documents and as specified herein.

MATERIALS

Photovoltaic (Solar) Powered Flashing Roadway Beacon System. Solar Traffic Controls, LLC or approved equal.

12" Diameter Polycarbonate Traffic Signal Housing. SWARCO McCain, Inc. or approved equal.

Square Pedestrian Base and Pedestal Pole. Pelco, Inc. or approved equal.

DESCRIPTION

Furnish and install all components necessary to provide a complete and operable School Zone Flashing Beacon, including but not limited to, concrete foundation, pedestal pole(s), signal housing, flasher(s), solar array, and controllers. Supplemental specifications and technical data for the specified products can be found on pages 40-54 of this section.

MEASUREMENT AND PAYMENT

School Zone Flashing Beacon will be paid for at the Contract unit price per each. The payment will be full compensation for all labor, material, equipment, tools, cleanup, disposal fees and incidentals necessary to complete the operations.

ITEM 8003: CONCRETE FOR LIGHT FOUNDATION
ITEM 8004: CONCRETE FOR SIGNAL FOUNDATION

Contractor shall furnish and install concrete foundations for installing lighting poles as specified in the Contract Documents or as directed by the Engineer at the contract unit price per cubic yard as specified in Section 801 of the "MDOT SHA Standard Specifications for Construction and Materials." Concrete shall be SHA Mix 3.

ITEM 8005: SQUARE PERFORATED TUBULAR STEEL SIGN POSTS
ITEM 8006: SQUARE TUBULAR STEEL ANCHOR BASES

GENERAL

Furnish and install square perforated tubular steel posts and square tubular steel anchor bases for mounting traffic signs as specified in the Contract Documents and as specified herein.

DESCRIPTION

Square perforated tubular steel posts and square tubular steel anchor bases shall be formed from 12 gauge steel. All sides of the tubes shall have 7/16 in. die punched circular holes or perforated knock-outs, at 1 in. centers along their entire length. The tubular steel posts shall be 2 in. square tubes 12 ft long.

Square tubular steel anchor bases shall be comprised of two telescoping tubes. The first shall be 2 -1/4 in. square, three ft long, formed from 12 gauge steel and shall snugly fit over the sign post. The second section shall be a 2-1/2 in. square, 18 in. long, formed from 12 gauge steel, and shall snugly fit over the 2-1/4 in. section.

Construct the square tubular steel anchor base assembly by placing the 18 in. base section over the 3 ft base section so that they are flush at the top and the holes are aligned. Drive the entire unit into the ground so that one or two rows of holes in the square perforated tubular steel base are exposed. Drive the base so that it remains plumb and provides the final sign assembly with the correct orientation.

Determine the finished length of the tubular steel posts by adding the total height of the signs to 8 ft, 2 in. Cut the sign post to the correct length, and apply cold spray galvanizing to the cut end. Bolt the signs to the top of the post, using tamper proof bolts or drive rivets. Lower the square tubular steel posts 8 in. into the base and secure the post to the base using two corner bolts designed for this purpose.

MEASUREMENT AND PAYMENT

Square Perforated Tubular Steel Posts and Square Tubular Steel Anchor Bases will be measured and paid for at the contract unit price per each. The payment will be full compensation for the sign post, corner bolts, and painting as required, and for all materials, labor, equipment, tools, and incidentals necessary to complete the work.

ITEM 8007: SHEET ALUMINUM SIGNS

Contractor shall furnish and install Sheet Aluminum Signs as specified in the Contract Documents or as directed by the Engineer at the contract unit price per square feet as specified in Section 813 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 8008: REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS

Contractor shall Remove Existing Ground Mounted Signs and Supports as specified in the Contract Documents or as directed by the Engineer at the contract unit price per square feet as specified in Section 822 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 8009: 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
ITEM 8010: 2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
ITEM 8011: 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED

Contractor shall furnish and install 2" and 4" Schedule 80 Rigid PVC electrical trenched or bored conduit and fittings as specified in the Contract Documents or as directed by the Engineer at the contract unit price per linear foot as specified in Section 805 and 809 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 8012: LED ROADWAY LUMINAIRE
ITEM 8013: 30 FOOT LIGHT STRUCTURE - 15 FOOT BRACKET ARM

Contractor shall furnish and install on a new foundation light poles and luminaires as specified in the Contract Documents or as directed by the Engineer at the contract unit price per each. Work shall be in accordance with Sections 806 and 808 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 8014: FURNISH AND INSTALL ELECTRICAL HANDHOLE

Contractor shall furnish and install electrical splice boxes as specified in the Contract Documents or as directed by the Engineer at the contract unit price per each as specified in Section 811 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 8015: BAND SIGN TO SIGN SUPPORT

GENERAL

Band signs to lighting structures as specified in the Contract Documents and as specified herein.

DESCRIPTION

Attach universal channel clamp to lighting structure using stainless steel bands. Attach sign to channel with blind rivets every six (6) inches on center. Attach universal channel clamp to medium channel. Refer to MDOT SHA Standard MD 813.08 for details.

Install sign with minimum undersign clearance of seven (7) feet to top of road grade.

MEASUREMENT AND PAYMENT

Band Sign to Sign Support will be measured and paid for at the contract price per each sign panel banded to lighting structure. The payment will be full compensation for stainless steel bands, clamps, rivets and for all materials, labor, equipment, tools, and incidentals necessary to complete the work.

ITEM 8016: RELOCATE EXISTING GROUND MOUNTED SIGNS

Contractor shall Relocate Existing Ground Mounted Signs as specified in the Contract Documents or as directed by the Engineer at the contract unit price per square foot as specified in Section 822 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 8017: GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH

Contractor shall furnish and install ground rods, as specified in the Contract Documents or as directed by the Engineer. Ground Rod – ¾" Diameter, 10' Length shall be paid for at the contract unit price per each as specified in Section 804 of the "MDOT SHA Standard Specifications for Construction and Materials."

ITEM 8018: REMOVE AND DISPOSE OF LIGHTING STRUCTURE

Contractor shall Remove and Dispose of Lighting Structures as specified in the Contract Documents or as directed by the Engineer at the contract unit price per each as specified in Section 823 of the "MDOT SHA Standard Specifications for Construction and Materials."

CATEGORY 900 – UTILITIES

ITEM 9001: FURNISH AND REPLACE EX. HYDRANT

GENERAL

This item is for the furnishing and installation of new fire hydrants, their associated appurtenances, and salvaging the existing hydrant. The hydrant is to be set in accordance with the relocation plans. All work performed under this item shall be in accordance with WSSC Water and Sewer Specifications Section 02510 and Water Standard Details W/8.0, B/2.0, B/2.1 and B/2.2.

MEASUREMENT AND PAYMENT

The contract unit price bid, on an each basis, shall be full compensation for furnishing and installing new hydrant, salvaging of the existing hydrant, excavation of any type for the strapping procedures, dewatering, sheeting and shoring, granular bedding, backfill of the entire excavation with select material (crusher run or approved equal), compaction and testing, removal of excavated material, and the backfilling and compacting of the area from subgrade to finished grade as indicated by the typical

sections. Also included will be all labor, fittings, 6-inch valve, materials, tools, equipment, connection to 6-inch lead, and all incidentals necessary to complete the work as specified.

ITEM 9002: 20 INCH DUCTILE IRON PIPE WATER MAIN CLASS 54

GENERAL

This item of work is for the furnishing and installation of 20-inch, Class 54, ductile iron pipe for the replacement of existing 20-inch PCCP transmission main in accordance with Section 02510 of the Water and Sewer Specifications and as shown on the Plans. All materials and services necessary for the satisfactory completion of this item shall be supplied by the contractor.

MEASUREMENT AND PAYMENT

The contract unit price per linear foot, shall include and be full compensation for the furnishing and installation of all pipe, fittings to existing facilities and necessary valves, plugs and/or caps, all excavation including rock, test pits, blocking of bends, restraining of joints (if required), pumping of ground water, strapping of valves to the main, tight sheeting and shoring, labor, equipment, materials, backfill and compaction of the entire excavation with select material (crusher run or approved equal), compaction testing, removal of and connections to the existing pipe, and the backfill from subgrade to finished grade with graded stabilized aggregate base and hot mix asphalt in accordance with the typical section and all incidentals necessary to complete the work.

ITEM 9003: 6 INCH FIRE HYDRANT LEAD

GENERAL

This item of work is for the furnishing and installation of 6-inch, Class 54, ductile iron pipe for a fire hydrant lead in accordance with Section 02510 of the Water and Sewer Specifications. Full depth hot mix asphalt paving patch, including graded stabilized aggregate base, will be used in lieu of concrete patch.

MEASUREMENT AND PAYMENT

The contract unit price bid, on a linear foot basis, shall be full compensation for saw cutting of existing concrete pavement, excavation of any type, sheeting and shoring, removal, furnishing and installing of 6-inch, Class 54, ductile iron pipe, all necessary connections, removal of excavated materials, backfill and compaction of the entire excavation with select material (crusher run or approved equal), compaction testing, and the backfill from subgrade to finished grade with graded stabilized aggregate base and hot mix asphalt in accordance with the typical section. Also included will be all labor, tools, equipment, materials, and incidentals necessary to complete the work as specified.

ITEM 9004: ADJUST EXISTING WATER VALVES, SEWER MANHOLES, AND/OR ANY OTHER UTILITY STRUCTURE LOCATED WITHIN THE RIGHT-OF-WAY WHICH MAY REQUIRE ADJUSTMENT

GENERAL

This item is for the care, protection, and ultimate adjustment of the existing water valves and any other utility that requires adjustment to the finished proposed grade. The extent of work required to adjust a given facility is dependent on the method of excavation applied to a given location.

DESCRIPTION

All methods of construction shall be in conformance with the latest Standard Specifications as required by the respective utility company to whose facility the work is being performed.

For WSSC, all materials and methods required to complete the work as previously stated should be in conformance with WSSC Standards and Specifications. Any concrete used shall be MDOT SHA mix #3. Any broken or damaged sections of the frame, cover or riser shall be replaced at the contractor's expense.

CONSTRUCTION REQUIREMENTS

Regardless of the adjustment method applied, the facilities affected by the street work shall be adjusted prior to the surface paving operation as per Montgomery County Specifications for Utility Construction.

Prior to the placement of the surface asphalt and after the adjustment has occurred it shall be the contractor's responsibility to save the traveling public harmless by virtue of implementing those controls as outlined in the maintenance of traffic item of this contract.

Should the facility be damaged once the adjustment has been completed, the Contractor shall be responsible to readjust the facility at no cost to the City.

The Contractor shall contact a representative of the respective utility companies prior to adjusting that company's facility and obtain a paving clearance.

MEASUREMENT AND PAYMENT

This item will be measured and paid for at the Contract Unit Price bid per each for any type facility adjusted to within 3/8" tolerance of the finished surface asphalt. The payment will be full compensation for and shall include all labor, tools, equipment, replacement of damaged frames or covers, MDOT SHA mix #3 concrete, mortar, bricks and other incidentals necessary to complete this item as previously described.

ITEM 9005: TEMPORARY BYPASS INSTALLATION

GENERAL

This item of work is for the furnishing and installation of a temporary bypass system for the water main in accordance with Sections 02510 and 02960 of the Water and Sewer Specifications and as shown on the plans. All materials and services necessary for the satisfactory completion of this item shall be supplied by the contractor.

MEASUREMENT AND PAYMENT

The contract unit price bid, on a lump sum basis, shall be full compensation for furnishing and installing new temporary pipe, testing, connecting to customers and removing system upon completion. Contractor will be responsible for any temporary paving and backfill associated with buried bypass. Also included will be all labor, fittings, materials, tools, equipment, restraints, connections, and all incidentals necessary to complete the work as specified.

ITEM 9006: VERIZON RELOCATION WORK

GENERAL

This item of work is for the lift and lay of Verizon direct buried cables and adjusting Verizon Handholes (HH) and Manhole (MH) Frame and Covers to grade by the Contractor. The scope of the work is determined by the ten (10) conflict ID's on the Verizon Utility Conflict Matrix and the Verizon Relocation Plans. Any work on or near any Verizon cable/structure/equipment a Verizon inspector must be on-site. Verizon requires a 5-day advance notification to coordinate and schedule an inspector. The contractor will be responsible and liable for any and all damages to Verizon cables/equipment and structures. It is the contractor's responsibility to locate all cable/equipment and structure prior to working around/near or in direct contact with any utility.

Contact Information to schedule a Verizon Inspector:
Verizon/TEC
Jason Souder
443-880-1846
jsouder@tecllc.co

CONSTRUCTION REQUIREMENTS

Procedures for a Lift and Lay of Verizon direct buried cables:

1. Contractor to locate Verizon utilities.
2. Expose approximately 40' of innerduct/cable in both directions of conflict area to obtain approximately 1 foot of vertical separation.
3. Same as above for 1 foot or less of horizontal separation, depending in the horizontal positioning of the innerduct/cable.
4. Once the adjustment has been made contractor to backfill HH at the Verizon inspector's direction.

Procedure for placing, lowering/raising, adjusting a Verizon Handhole:

1. Contractor to provide stakeouts for adjustments of VZ HH's and MH Frame and Cover.
2. (Outside of Sidewalk area) For adjustment only - Expose the area around the HH and with caution adjust, as necessary.
3. (Inside or partially inside Sidewalk) Contractor to replace existing plastic HH with VZ Quazite HH provided by Verizon.
4. It may be necessary to make modifications to the HH in order to make any adjustments, the Verizon on-site inspector will provide directions on that procedure.
5. Once the adjustment has been made contractor to backfill HH with the Verizon inspector's directions.

MEASUREMENT AND PAYMENT

The contract unit price bid, on a lump sum basis, shall be full compensation for the labor, tools, and equipment required to relocate and adjust Verizon utilities. Replacement handhole will be provided by Verizon.

ITEM 9007: PEPCO RELOCATION WORK

GENERAL

This item is for the coordination with Pepco to relocate the lighting in the corridor. The payment for lighting material installation is covered under Section 800. The installation of these structural facilities will be subject to Pepco's inspection and approval before encasement and concealment. Failure to obtain such an inspection will result in the uncovering of these facilities for Pepco's approval at the Contractor's expense. All corrections/modifications, if any, must be completed and approved by Pepco before concealment. Pepco reserves the right to re-inspect as needed.

Contact Pepco's Construction inspection at (202) 388-2665 and email CBConduitBPS@exeloncorp.com at least 2 weeks in advance before beginning any structural work and reference work order WO#20399649. Pepco's inspection team will reach out to the Contractor within a few days to schedule the pre-construction meeting. If you do not hear back from the inspection scheduler within a couple of days, please reach out to the Engineer, Dave Henderson II, (240) 432-5653, dave.hendersonii@exeloncorp.com.

CONSTRUCTION REQUIREMENTS

1. 4" PVC schedule 40 for the service conduit.
2. Sweep bends must have a radius of no less than 36".
3. No more than 270 degrees of bends in duct line.
4. Conduit to have a minimum of three feet (3') of cover (top of duct to finished grade) or as specified by Pepco.
5. Conduit to be built in accordance with Pepco Specification Drawings N0.6-2-480
6. No metallic materials (rebar, hold-down wires, etc.) shall be permitted in spaces between each individual duct.
7. Contractor is to terminate his duct run with standard 4" couplings and plugs.
8. All materials used are to conform to Pepco specification.
9. Contractor is to use 3000 psi concrete with pea gravel for duct encasement.
10. Contractor to rod all conduits, clear any obstructions and provide pull lines prior to the installation of Pepco cables.
11. The Contractor is to coordinate the installation of all backfill in the vicinity of Pepco work with Pepco construction forces.
12. The backfill for our equipment should conform to the District of Columbia Department of Transportation "Standard Specifications for Highways & Structures".
    Section 203 (Soils Construction - General)
    Section 207 (Trenching Excavation and Backfill)
    Section 804 (Aggregates for Soils and Base Course Construction)
13. Pepco's Construction Division is to be notified 2 weeks in advance to arrange a pre-Construction meeting and 3 days in advance to schedule a conduit inspection and approval.
14. Work to be done in manner acceptable to Pepco and inspected by our Customer Construction Division before encasement or backfilling.
15. Contractor is to install 5000 # capacity (dynamic weight) pulling eyes in electric room opposite of duct entrance.

MEASUREMENT AND PAYMENT

The contract unit price bid, on a lump sum basis, shall be full compensation for the coordination with Pepco while installing new lighting and conduit.