



MARYLAND TRANSIT ADMINISTRATION

MARYLAND DEPARTMENT OF TRANSPORTATION

Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Beverly K. Swaim-Staley, Secretary • Ralign T. Wells, Administrator

TO: All Planholders
FROM: Maryland Transit Administration
SUBJECT: **ADDENDUM NO. 3**
Contract No.: T-1041-0140
Charlotte Hall Park and Ride Facility
DATE: November 18, 2011

Enclosed and effective this date is Addendum No. 3 to the subject Contract. This change revises the Bid Opening Date to November 30, 2011.

A conformed copy of the revised specification sections is attached. A list of the changes made to this contract is attached to this Addendum. Also attached are the answers to contractors' questions, if any.

The Bidder shall acknowledge receipt of this Addendum by completing and returning this form with the bid package.

All other terms and conditions remain unchanged.

Sincerely,

Gary Lockett, Chief
Professional Services/Construction/Installation Section
Procurement Division

Acknowledgement of receipt of ADDENDUM # 3 to Solicitation #T-1041-0140

Vendor Name: _____

Authorized Representative's Signature

Date

ADDENDUM NO.: 3
DATE: 11/18/11
CONTRACT NO.: T-1041-0140

The following additions, deletions, and modifications are hereby made a part of the Contract Documents of Charlotte Hall Park and Ride Facility, Contract No.: T-1041-0140.

Item No.	Page	Modification
I. CONTRACT SPECIFICATIONS		
1	NTC pg. 2	Notice to Contractors Revised bid opening date
2	Bid Form pgs. 1-16	Bid Form Revised Bid Opening date Revised Bid Form to add Lump Sum bid item number 114 for signal modifications
3	SP 67-72	Specifications - Section 01550 Added section 3.01 L and Section 4.09 to add lump sum payment for signal modifications
4	SP 134-149	Specifications - Section 02630 Revised sections 4.12 and 4.13 to note items incidental to the specified item.
5	SP 150-153	Specifications - Section 02640 Revised section 4.01 to note limits of measurement and note items incidental to the specified item.
6	SP 156-159	Specifications - Section 02720 Revised section 1.01 for description of item and section 4.02 to note items incidental to the specified item.
7	SP 192-196	Specifications - Section 02820 Revise section 1.01 for description of item and section 2.01 to note fence fabric shall be vinyl coated (black).

Also attached are the answers to contractors' questions, if any.

Charlotte Hall Park and Ride
Addendum 3
Questions/Answers

Questions raised by bidders:

1. How is the SWM Road being paid for?

Response: The SWM Road is to be paid for using 6 Inch Graded Aggregate Base Course. Section 02720 was revised to note the cellular confinement system shall be construed to mean 6 Inch Graded Aggregate Base Course.

2. Is the Fence for Item #070, 6'0' height vinyl coated Chain Link?

Response: The fence is to be vinyl coated. Section 02820 has been revised to specify vinyl coating for the fence.

3. How is the clay core for the SWM Pond being paid for?

Response: The clay core as well as the filter diaphragm is incidental to the item "SWM Structure No. 1". Section 02630 has been revised to specify that the items are incidental to the SWM Structure No. 1 item.

4. How are the 24" and 18" C-361, B-25 RCP Pipes being paid for?

Response: The Method of Measurement and Payment states the pipes will be paid for under the respective items for Class IV RCP as was already noted in Section 02630.

5. How are the Stone, Filter Fabric and Mulch being paid for at the Bio Retention Area?

Response: The items are all incidental to the item Bioretention Soil Mixture. Section 02640 has been revised to specify the items are incidental to the Bioretention Soil Mixture item.

6. How is the anti-seep collar being paid for?

Response: The anti-seep collar is incidental to the item "SWM Structure No. 2". Section 02630 has been revised to specify payment for the collar is incidental to the item

7. I have reviewed the second addendum and I didn't see any bid items added for a traffic signal? On sheet 96 of 96 shows a new proposed traffic signal and we expected the addendum to have additional bid for this. Is the traffic signal part of this project and if so how will it be paid for? Please clarify

Response: Sheet 96 shows detector loop modifications, not a new signal. Items shown in equipment list B are installed on this contract and Section 01550 will be modified to indicate that these items are to be paid for as "lump sum" in accordance with the SHA specifications in Appendix E

8. The pre bid minutes sheets 15 & 16 and the specifications GP-41 speak to the issue of the existing power poles but not to the Verizon lines that are attached to the poles. Both Smeco and Verizon will charge to move the poles and relocate the wires; we can assume that MTA is paying Smeco and Verizon for that portion of the work?

Response: MTA will coordinate with Verizon.

9. I have begun reviewing addendum # 2 and I need bid items 002 & 003 clarified further. If these items are an allowance than why is the dollar figure being added to the base bid? These items being part of the base

Charlotte Hall Park and Ride
Addendum 3
Questions/Answers

bid will add an additional \$165,000.00 dollars worth of DBE participation on work that is unknown. In theory that participation will no longer be 30% it may be 35% or 40% depending on how it works out. If this is an allowance than this should not be added nor should this increase the amount of DBE participation applied to the base bid. Addition DBE participation should be achieved if or when extra work is further defined or will occur.

Response: Although the dollar amounts in line items 001, 002, and 003 are fixed, the DBM goal percentage for this project was established separately prior to advertising for bids. A Bidder's commitment to meet the DBM participation goal means that the total bid price submitted for this project must include all line items on the bid form, including fixed amounts.

10. How would you suggest us to apply an NAICS DBE code to an item that has no definition?

Response: The NAICS/DBM codes are for the purpose of describing anticipated work to be performed, under the contract, known or unknown.

11. I have a question regarding the monies added for the 002 Miscellaneous Work Allowance per Addendum #2. Since this amount (\$529,672) will be added into our total bid, will it also need to be taken into account when calculating the DBE participation percentage?

Response: Yes.

12. Also, are you aware of any possibility that the bid date will be pushed again?

Response: Yes, per this Addendum No. 3.

4. **BID DUE DATE & TIME**

Sealed Bids addressed to the Maryland Transit Administration, Procurement Division, 6 St. Paul Street, Baltimore, Maryland 21202-1614, and marked "Bid for Contract No. T-1041-0140 – Charlotte Hall Park and Ride Facility", will be received at the above address until but not after 2:00 P.M. local time, November 30, 2011. At that time, the Bids will be publicly opened and read aloud at a location at the same address. Hand delivered bids should be deposited in the Bid Box located on the 7th Floor before the 2:00 P.M. deadline. Any bids received after the date and time specified shall not be considered.

5. **ELECTRONIC VERSION OF BID DOCUMENTS**

The bid documents will be available by electronic means. The Bidder acknowledges and accepts full responsibility to ensure that the Bidder has made no changes to the Administration's bid documents. In the event of a conflict between the versions of the bid documents in the bidder's possession and the version maintained by the Procurement Officer, the version maintained by the Procurement Officer shall govern.

6. **AVAILABILITY OF DOCUMENTS**

Specifications may be downloaded from the MTA web site located at www.mta.maryland.gov. Bidders will be required to register the first time specifications are downloaded and a login number will be assigned. This number should be used every time the bidder downloads the documents for this contract. Bidders must supply accurate information in order to receive notice of all subsequent addenda.

TO OBTAIN THE SPECIFICATIONS: Please visit MTA's website (www.mta.maryland.gov), follow the links for "Business" – "Procurement" – "Bids/Solicitation", and download the Specifications for this procurement.

TO OBTAIN THE DRAWINGS: E-mail Gary Lockett at glockett@mta.maryland.gov requesting the contract drawings and supplying the following information: the contact person, company name, mailing address, phone # and e-mail address. The drawings (CD) will be mailed to you at no cost. You also have the option of picking up the CD containing the drawings at: 6 Saint Paul Street, Baltimore, MD 21202, Wm Donald Schaefer Bldg., 7th floor.

7. **ADDENDA**

Bidders are required to acknowledge all addenda with their bid package. Although the MTA endeavors to send out all addenda to this solicitation in a timely manner, it is the responsibility of the contractors to make sure they received all appropriate documents prior to the bid due date.

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
BID FORM
FOR
CONTRACT NO.: T-1041-0140

TO: MARYLAND TRANSIT ADMINISTRATION
ATTN: PROCUREMENT DIVISION
6 SAINT PAUL STREET, 7TH FLOOR
BALTIMORE, MD 21202-1614

BID OPENING DATE:
NOVEMBER 30, 2011
BID OPENING TIME:
2:00 PM

BID OF: _____
(Bidder's Name)

PROJECT DESCRIPTION:

This Contract is for the construction of a parking facility that will accommodate approximately 500 vehicles on the north side of Golden Beach Road in Charlotte Hall, St. Mary's County, Maryland. The project will include two access points to Golden Beach Road (one of which is an extension of Market Drive.)

1. This bid is hereby submitted to the Maryland Transit Administration (hereinafter sometimes called the "Administration") in response to NOTICE TO CONTRACTORS dated _____.
2. The UNDERSIGNED has thoroughly examined, acknowledges receipt of, and is familiar with the Contract Documents as well as the various instructions, information, and requirements covering the same, all as mentioned herein and in said NOTICE TO CONTRACTORS.
3. In compliance with said NOTICE TO CONTRACTORS the UNDERSIGNED hereby proposes to furnish all labor, equipment, and materials and perform all work described and in strict accordance with the provisions of the Contract Documents for the consideration of the amounts, lump sum and unit prices listed in the attached Unit Price Schedule, and agrees that, upon Notice of Award, within one hundred fifty (150) calendar days after the date of opening of bids, unless mutually extended, he will within ten (10) calendar days after receipt of the prescribed forms, execute the Contract and furnish a performance bond and payment bond (if such bonds are required by the Contract Documents) on forms furnished by the Administration with good and sufficient surety or sureties.
4. The UNDERSIGNED agrees and understands that the time of completion is as specified in the Special Provisions, unless the completion dates are extended as provided for in the Contract Documents.
5. The UNDERSIGNED agrees to pay liquidated damages in the amount specified in the Special Provisions for each and every calendar day after the completion date that the work remains incomplete unless an extension is granted as provided for in the Contract Documents.
6. The UNDERSIGNED hereby certifies that the _____

(Bidder's Name) / ___ / is, / ___ / is not (CHECK ONE) included on the GSA list of Parties Excluded from Procurement. **AND**

The UNDERSIGNED hereby certifies that the _____
(Bidder's Name) / ___ / is, / ___ / is not (CHECK ONE) included on the List of Contractors Suspended or Debarred from Contracting with the State of Maryland.

7. The UNDERSIGNED, as the Contractor, will perform on the Site, with its own organization, _____ percent (___ %) of the total amount of work to be performed under this contract.

8. PARENT COMPANY

a. The UNDERSIGNED represents that it / ___ / is, / ___ / is not, (CHECK ONE) owned or controlled by a parent company. For this purpose a parent company is defined as one which either owns or controls the activities and basic business policies of the UNDERSIGNED. To own another company means the parent company must own at least a majority (more than 50 percent) of the voting rights in that company. To control another company such ownership is not required; if another company is able to formulate, determine or veto basic business policy decisions of the bidder, such other company is considered the parent of the bidder. This control may be exercised through the use of dominant minority voting rights, use of proxy voting, contractual arrangements, or otherwise.

b. If UNDERSIGNED is owned or controlled by a parent company, insert in the space below the name and main office address of the parent company

Name

Address

9. ARREARAGES

By submitting a response to this solicitation, the undersigned shall be deemed to represent that it is not in arrears in the payment of any obligations due and owing the State of Maryland, including the payment of taxes and employee benefits, and that it shall not become so arrears during the term of the contract if selected for contract award.

10. CERTIFICATION OF NON-MARYLAND CORPORATION (FOREIGN CORPORATION)

a. A corporation not incorporated in the State of Maryland is considered to be a foreign corporation and, therefore, is required to be registered with the Maryland State Department of Assessment and Taxation if awarded this contract.

b. Where a foreign corporation is currently registered with the Department of

Assessments and Taxation, such a bidder shall submit with his bid a copy of the department's certification of his registration or qualification acknowledgment.

c. If a foreign corporation is not currently registered, such a bidder shall submit with his bid his certification that, if notified of his apparent award of the contract, he will register with the Maryland State Department of Assessments and Taxation and provide a copy of the department's certification of his registration or qualification acknowledgment along with the executed contract.

11. The Contractor shall, prior to the time of execution of the contract, obtain all applicable licenses and comply with all applicable laws and regulations in the Annotated Code of Maryland.

12. All bidders must submit with their bid the following documents fully executed.

- a. Bid Bond in the Amount of \$ _____
Or 5% of the bid price (if applicable).
or
Individual Surety Bid Bond in the Amount of
\$ _____ Or 5% of the bid price (if applicable) and a
executed Affidavit of Individual Surety (Attachment A) & Surety Affidavit
(Attachment B).
- b. Contractor's Questionnaire Pre-Award Evaluation Data
- c. Bid/Proposal Affidavit.
- d. Buy America Certificate.
- e. Certification Regarding Lobbying.
- f. MDOT DBE Form A, "Certified DBE Utilization and Fair Solicitation Affidavit".
- g. MDOT DBE Form B, "DBE Participation Schedule".
- h. Signed copy of the Cover Letter for each Addendum issued by MTA.
- i. Completed Insurance Cost Worksheet

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
001	01130	Mobilization	1	LS	320,000	\$320,000
002	01210	Miscellaneous Work Allowance	1	All	529,672	\$529,672
003	01450	Quality Assurance and Quality Control	1	LS	20,000	\$20,000
004	01500	Maintenance and Control of Traffic	1	LS	LS	
005	01522	Engineer's Office Type 2	1	LS	LS	
006	01550	Temporary Traffic Signs	340	SF		
007	01550	Contingent Temporary Precast Concrete Traffic Barriers	2350	LF		
008	01550	Traffic Drums	100	EA		
009	01550	Arrow Panels	60	UD		
010	01550	Contingent Portable Variable Message Signs (PVMS)	60	UD		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
011	01550	Temporary Pavement Marking	8,000	LF		
012	01730	Saw Cutting	2,200	LF		
013	02230	Site Clearing	1	LS		
014	02315	Class 1 Excavation	150,000	CY		
015	02315	Class 1-A Excavation	1,000	CY		
016	02315	Select Borrow Excavation	1,000	CY		
017	02320	Furnished Subsoil	500	CY		
018	02370	Stabilized Construction Entrance	100	TON		
019	02370	Recondition Stabilized Construction Entrance	100	TON		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
020	02370	Silt Fence	2,000	LF		
021	02370	Super Silt Fence	900	LF		
022	02370	Riprap for Sediment Control	50	TON		
023	02370	Convert SWM Pond to Sediment Basin	1	LS	LS	
024	02370	Erosion and Sediment Control Original Excavation	1000	CY		
025	02370	Erosion and Sediment Control Cleanout Excavation	450	CY		
026	02372	Soil Stabilization Matting TYPE A	850	SY		
027	02372	Soil Stabilization Matting TYPE B	300	SY		
028	02630	15 Inch Reinforced Concrete Pipe Class IV	260	LF		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
029	02630	18 Inch Reinforced Concrete Pipe Class IV	1,080	LF		
030	02630	24 Inch Reinforced Concrete Pipe Class IV	585	LF		
031	02630	Standard 5 foot COG Inlet	1	EA		
032	02630	SWM Structure No. 1	1	EA		
033	02630	SWM Structure No. 2	1	EA		
034	02630	18 Inch Standard Type "C" End Wall	1	EA		
035	02630	24 Inch Standard Type "C" End Wall	2	EA		
036	02630	18 Inch Concrete End Section	2	EA		
037	02630	Flow Splitter Inlet Structure	3	EA		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
038	02630	48 Inch Diameter Manhole	2	EA		
039	02630	Double Opening Type "K" Inlet STD. MD 378.05	1	EA		
040	02630	Class 1 Riprap	600	SY		
041	02630	Mix No. 3 For Concrete Cradles	40	CY		
042	02630	6 Inch Perforated Circular Pipe Longitudinal Underdrain	550	LF		
043	02630	6 Inch Circular Pipe Underdrain Outlets	100	LF		
044	02630	Relocate Fire Hydrant	1	EA		
045	02630	Type A 10 Foot Inlet	1	EA		
046	02630	Standard 10 Foot COG Inlet	2	EA		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
047	02630	Standard 10 Foot Pass Through COG Inlet (I-207)	1	EA		
048	02630	24 Inch Concrete End Section	1	EA		
049	02630	No. 57 Stone for Stormwater Management Recharge Area	500	TON		
050	02630	Standard 15 Foot COG Inlet	1	EA		
051	02640	Bioretention Soil Mixture	160	CY		
052	02650	Sand Filter	15	CY		
053	02720	3 Inch Graded Aggregate Base Course	23,000	SY		
054	02720	6 Inch Graded Aggregate Base Course	27,000	SY		
055	02745	Hot Mix Asphalt Superpave 12.5 MM For Surface PG 64-22 Level 2	2,600	TON		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
056	02745	Hot Mix Asphalt Superpave 19.0 MM For Base PG 64-22 Level 2	3,600	TON		
057	02745	Grinding Existing Pavement 0 Inch to 1 ½ Inch	6,000	SY		
058	02750	8 Inch Reinforced Concrete Pavement Mix No 7	1,800	SY		
059	02765	5 Inch White Lead Free Reflective Thermoplastic Pavement Markings	400	LF		
060	02765	5 Inch Yellow Lead Free Reflective Thermoplastic Pavement Markings	700	LF		
061	02765	12 Inch White Heat Applied Permanent Preformed Thermoplastic Pavement Markings	235	LF		
062	02765	24 Inch White Heat Applied Permanent Preformed Thermoplastic Pavement Markings	175	LF		
063	02765	Lead Free Reflective Thermoplastic Pavement Marking Arrow	12	EA		
064	02765	5 Inch White Non Toxic Waterborne Pavement Markings	14,600	LF		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
065	02765	5 Inch Yellow Non Toxic Waterborne Pavement Markings	4,300	LF		
066	02770	Curbs and Gutter	4,700	LF		
067	02775	5 Inch Concrete Sidewalk	14,250	SF		
068	02775	6 Inch Reinforced Concrete Sidewalk	880	SF		
069	02780	Detectable Warning Surface Brick Paver	56	SF		
070	02820	Chain Link Fence	1,650	LF		
071	02820	12 foot Gate For Chain Link Fence	1	EA		
072	02890	Signs	350	SF		
073	02891	Bus Shelter	4	EA		
074	02870	Bollard for Edge Protection	100	EA		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
075	02920	Furnishing and Placing 4 Inch Topsoil	20,000	SY		
076	02920	Seeding and Mulching	15,000	SY		
077	02920	Sodding	450	SY		
078	02920	Mowing	100	HR		
079	02920	Overseeding	100	LB		
080	02920	Refertilizing	700	LB		
081	02920	Additional Watering Of Seeded and Mulched Areas and Sodded Areas	40	MG		
082	02930	Acer rubrum "Red Sunset"-Red Sunset Red Maple	54	EA		
083	02930	Quercus phellos-Willow Oak	30	EA		
084	02930	Quercus palustris-Pin Oak	33	EA		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
085	02930	Cladrastis lutea 'Rosea'- Yellowwood Rosea	7	EA		
086	02930	Halesia Carolina Carolina Silverbell	10	EA		
087	02930	Crataegus phaenopyrum- Washington Hawthorne	37	EA		
088	02930	Betula nigra- River Birch	11	EA		
089	02930	Ostrya virginiana- American Hophornbeam	9	EA		
090	02930	Pinus Strobus- Eastern White Pine	44	EA		
091	02930	Llex glabra 'Shamrock'- Shamrock Inkberry	20	EA		
092	02930	Itea virginica 'Henry's Garnet'- Henry's Garnet Virginia Sweetspire	89	EA		
093	02930	Clethra alnifolia- Summersweet Clethra	59	EA		
094	02930	Forsythia intermedia- Showy Forsythia	17	EA		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
095	02930	Llex verticillata- Common Winterberry	17	EA		
096	02930	Aesculus parviflora- Bottlebrush Buckeye	105	EA		
097	02930	Hydrangea quercifolia 'Snow Queen'- Snow Queen Oakleaf	51	EA		
098	02930	Hamamelis virginiana-Common Witchhazel	49	EA		
099	02930	Panicum virgatum- Switchgrass	2,414	EA		
100	02930	Solidago sempervirens- Seaside Goldenrod	316	EA		
101	02930	Agrostis perennans- Autumn Bentgrass	316	EA		
102	02930	Juncus Canadensis- Canada Rush	316	EA		
103	02930	Mulching	3,500	SY		
104	02930	Watering	50	MG		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
105	16120	# 6 THHN/THWN Copper Conductor	13,800	LF		
106	16120	3 Wire, 1 Conductor No.4 Electrical Cable	500	LF		
107	16130	1-Inch Schedule 40 PVC Conduit, Direct Buried	4,600	LF		
108	16130	2-Inch Schedule 40 PVC Conduit, Direct Buried	400	LF		
109	16130	2-1/2 Inch Schedule 40 PVC Conduit with Pullstring, Direct Buried	160	LF		
110	16442	Lighting Control Cabinet	1	EA		
111	16521	Single Pole Mounted Luminaire-Type A	21	EA		
112	16521	Double Pole Mounted Luminaire-Type B	11	EA		
113	02745	Price Adjustment for Asphalt Binder	20,000	EA	1.00	20,000
114	01550	Signal Modifications	1	LS		

Basis of Award: Total amount of items 001 thru 114

(figures)

(words)

zzz		Insurance Premium (Contingency)	LS	LS	LS	
-----	--	------------------------------------	----	----	----	--

This amount will only be added to the base bid in the event that the bidder is excluded from the wrap-up insurance program or the program is terminated mid-term. The Insurance Premium Worksheet must be attached to the bid.

SECTION 01550**MAINTAINANCE OF TRAFFIC****PART 1: GENERAL****1.01 DESCRIPTION:**

This Section specifies general requirements for maintaining pedestrian and/or vehicular traffic.

PART 2: PRODUCTS**2.01 MATERIALS**

- A. SHA Std. Spec. SECTION 104.07 104.08, 104.11, 104.12, 104.13 104.17 and 950.03.02.

shall apply, except as noted below.

- B. Paint materials for temporary pavement markings shall conform to the State Highway Administration's approved list.

PART 3: EXECUTION**3.01 MAINTAINANCE OF TRAFFIC:**

The Contractor shall maintain, furnish, install, and remove when no longer required, all traffic control and protective devices required on the approved traffic plan. Traffic control and protective devices shall include temporary barrier (See Appendix E) and traffic drums, temporary striping, temporary signs; flashing lights; barricades; arrow panels; portable variable message signs; and removal of existing pavement markings.

- A. Traffic Plan: The Contract Drawings include a plan for maintaining traffic on MD 5 and Golden Beach Road during construction. The Contractor shall St. Mary's County and State Highway Administration, District 5 at least two (2) weeks before construction begins. The Contractor may develop its own traffic plan for approval; however, the Contractor's traffic plan shall be submitted in writing to the Engineer at least 21 days prior to commencing any work. Any changes or modifications to the Traffic Plans shall be submitted to the Engineer in writing at least one (1) week prior to implementing the changes. The Contractor shall notify and coordinate with St. Mary's County and State Highway Administration, District 5, at least 3 working days (72 hours) prior to commencing any maintenance of traffic work, including but not limited to partial or full closure of lanes and/or signing for detour directions.

B. Coordination:

1. For State Highway Administration, District 5, Contract:
Ms. Kim Tran, ADE Traffic
State Highway Administration
138 Defense Highway
Annapolis, MD 21401
(410) 841-1003
2. For St. Mary's County, Contract
Mr. John Groeger, PE
Deputy Director
St. Mary's County
Department of Public Works & Transportation
44825 St. Andrews Church Road
California, MD 20619
(301)-863-8400 x3516
3. The Engineer shall receive a copy of all third party notifications.

C. Temporary Traffic Signs:

1. Contractor shall maintain sign faces free of tape, tape residue, or any other foreign matter, and shall remove any advertisements from signs and supports. Supplemental signs shall not cover any part of the face of the primary sign. Weeds, shrubs, trees, construction equipment, materials, personal vehicles, or any other obstruction shall not obscure signs.
2. All temporary signing shall conform to SECTION 6B of the Manual of Uniform Traffic Control Devices (MUTCD). All temporary signing shall be 36" x 36" unless otherwise specified and shall be reflectorized. Signs shall be mounted on two 4' x 4' poles at a minimum height of 7 feet from existing ground line to the bottom of the sign. The tops of the wood posts shall not protrude more than 3" beyond the nearest edge of the sign. Wood posts shall be placed a minimum of 4' into the ground for 4" x 4" wood posts. Additional bracing of signs is prohibited.
3. Signs mounted on portable supports for temporary conditions shall be mounted so the bottom of the signs shall not be less than 1 foot above the roadway pavement elevation. Higher mountings are desirable. Portable sign supports shall be self-erecting, able to withstand a wind velocity of 70 mph and shall be able to maintain themselves within five degrees rotation around their vertical axis.

4. Temporary traffic signs shall not be installed or displayed until inspected and approved by the Engineer. Signs shall be properly maintained, remain in place only as needed, and be immediately removed thereafter. When a sign is not indicative of actual conditions such as during periods of partial shut down or extended periods of no work being performed, the Contractor shall remove the sign, turn it away from traffic, or completely cover it with an opaque material that is approved by the Engineer.
5. Project identification and information sign(s) supplied by the Engineer shall be returned to the Engineer; temporary signing and all associated hardware, fittings, posts, brackets and incidentals shall be removed from the project when no longer needed and become the property of the Contractor.

D. Traffic Drums

1. The Contractor shall furnish and place as warning or channelizing devices to control or maintain traffic. The drums shall be located as specified in the Contract Documents or as directed by the Engineer.
2. Drums shall be manufactured of low-density polyethylene (PE) to withstand impact without damage to themselves or vehicles. The drum shall be 36" in height and a minimum of 18" in diameter. The reflective stripes shall be horizontal, circumferential, orange and white, 6" wide, two each of white and orange alternating with the top stripe being orange. Drums may have one or more flat sides as long as the minimum 18" diameter is satisfied.
3. Drums shall be adequately weighted with bags of sand to keep them from moving. These bags, with no other attachments, shall rest on the base of the drum. The drums shall be maintained in like-new condition.

E. Temporary Precast Concrete Traffic Barrier:

The Contractor shall furnish, place, reset, and remove temporary traffic barrier for use at location specified in the Contract Documents or as directed by the Engineer. Temporary traffic barrier shall conform to details in Contract Documents (see Appendix B). Resetting traffic barrier shall consist of removing and relocating temporary barrier as directed by the Engineer.

F. Pavement Marking:

The Contractor shall install necessary temporary pavement marking required in connection with the temporary street work and shall remove or obliterate existing or temporary pavement markings whenever vehicle traffic is moved

to a newly available pavement area or to different traffic patterns. Permanent paving markings for public streets will be provided by the local jurisdictional agency, unless otherwise indicated.

G. Temporary Closing:

Prior to temporary closing to traffic part of any street, sidewalk or other access or to changing traffic patterns from those indicated on the Contract Drawings, the Contractor shall obtain approval from the appropriate jurisdictional agency, at least two weeks before such closures or changes are made. Deviations will be for emergency conditions affecting life and property only and the Contractor shall immediately notify the Engineer and the appropriate jurisdictional agency of any such emergency changes. Copies of all approvals shall be furnished to the Engineer. The Contractor may develop his own maintenance of traffic plans for review and approval by the Engineer. The Contractor's traffic plans shall be submitted in writing to the Engineer 21 days prior to commencing any work.

H. Arrow Panels:

The Contractor shall furnish, place, and remove arrow panels for use at location specified in the Contract Documents or as directed by the Engineer. Self-contained trailer units shall be used unless otherwise specified in the Contract Documents

I. Portable Variable Message Signs (PVMS):

The Contractor shall furnish, place, and remove PVMS for use at locations as directed by the Engineer.

J. Contractor Surface Operations:

The Contractor shall schedule his surface operations to not be working intermittently throughout the area. Excavation or construction activities shall be scheduled and pursued to completion as required to permit opening of the street areas to traffic without unnecessary delays.

K. Temporary Paving and Patching:

The Contractor shall construct, maintain and remove temporary pavement and patching required to safely and expeditiously handle vehicle and pedestrian traffic, within or adjacent to the construction site. Temporary pavement and patching composition shall conform to the specifications of the local jurisdictional agency. Any construction, maintenance or removal required by the Contractor's operations off the site shall conform to the requirements specified herein.

L. Signal Modifications

The Contractor shall replace the impacted loop detector in accordance with plan sheet 96 and Appendix E. The new microloop probe shall be installed before the existing loop detector is removed from service.

PART 4: MEASUREMENT AND PAYMENT

4.01 TEMPORARY TRAFFIC SIGNS:

- A. Temporary traffic signs will be measured per square foot.
- B. Temporary traffic signs will be paid for at the Contract unit price bid, complete in place. This price shall be full compensation for all material, equipment, tools, labor and all work to set up, maintain, and remove when no longer needed.

4.02 TEMPORARY PRECAST CONCRETE TRAFFIC BARRIERS:

- A. Temporary precast concrete traffic barriers will be measured per linear foot.
- B. Temporary precast concrete traffic barriers will be paid for at the Contract unit price bid, complete in place. This price shall be full compensation for all material, equipment, tools, labor and all work to set up, maintain, remove and reset.

4.03 RESETTING TEMPORARY PRECAST CONCRETE TRAFFIC BARRIERS:

- A. Resetting temporary precast concrete traffic barriers will be measured per linear foot.
- B. Resetting temporary precast concrete traffic barriers will be paid for at the Contract unit price bid, complete in place. This price shall be full compensation for all material, equipment, tools, labor and all work to remove and reset, maintain and remove when no longer needed.

4.04 TRAFFIC DRUMS:

- A. Traffic drums will be measured per each.
- B. Traffic drums will be paid for once at the Contract unit price bid, complete in place. This price shall be full compensation for all material, equipment, tools, labor and all work to set up, reset, maintain, and remove when no longer needed. Where drums have been set and damaged by traffic and the Engineer determines that they are not repairable, replacement will be paid for at the contract unit price.

4.05 ARROW PANELS:

- A. Arrow Panels will be measured per unit day. A unit day shall consist of any approved usage within a 24-hour calendar day period.
- B. Arrow Panels will be paid for at the Contract unit price bid, complete in place. This price shall be full compensation for all material, equipment, tools, and labor required to complete this work.

4.06 CONTINGENT PORTABLE VARIABLE MESSAGE SIGNS (PVMS)

- A. PVMS shall be contingent and measured per unit day. A unit day shall consist of any approved usage within a 24-hour calendar day period.
- B. PVMS will be paid for at the Contract unit price bid, complete in place. This price shall be full compensation for all material, equipment, tools, and labor required to complete this work.

4.07 TEMPORARY PAVEMENT MARKING:

- A. Temporary pavement marking will be measured per linear foot.
- B. Temporary pavement marking will be paid for at the Contract unit price bid, complete in place. This price shall be full compensation for all material, equipment, tools, labor and all work to set up, maintain, and remove when no longer needed.

4.08 TEMPORARY PAVING AND PATCHING:

- A. The work required under this Section will not be measured for payment.
- B. All costs in connection herewith will not be paid for directly, but will be considered incidental to the item of work to which they pertain.

4.09 SIGNAL MODIFICATIONS

- A. This work will not be measured for payment.
- B. Signal Modifications will be paid for at the Contract unit price per Lump Sum, complete in place. This price shall be full compensation for all material, equipment, tools, labor and all work to replace the loop detector with the Microloop Probe Detector with 1000' Lead as shown on the contract plans to include all construction details shown on the plan sheet and as specified in Appendix E.

END OF SECTION

SECTION 02630**STORM DRAINAGE****PART 1: GENERAL****1.01 DESCRIPTION:**

- A. The work under this Section shall consist of furnishing materials for and constructing storm drain systems for surface runoff consisting of inlets, manholes, pipe, end sections, headwalls, concrete ditches, riprap outlet protection, special stormwater management structures and facilities, core trenches, filter diaphragms, recharge areas and modifications to existing storm drainage systems in accordance with the Maryland Department of Transportation, State Highway Administration, "Standard Specifications for Construction and Materials", these Specifications, the Contract Drawings and/or as directed by the Engineer.

1.02 DEFINITIONS:

- A. Drainage structures include inlets, manholes, end walls, end sections, headwalls, concrete ditches, riprap and stormwater management structures and facilities

PART 2: PRODUCTS**2.01 PIPE:**

- A. No. 57 Aggregate – SHA Std. Specifications, Section 901, Table 901A.
- B. Reinforced Concrete Pipe – SHA Std. Specifications, Section 905.
- C. Preformed Rubber Joint Seal – SHA Std. Specifications, Section 905.
- D. Underdrain – SHA Std. Specifications, Section 905.

2.02 INLETS, MANHOLES, END WALLS, END SECTIONS, AND SPECIAL STRUCTURES:

- A. Reinforcement Steel – SHA Std. Specifications, Section 908.
- B. Concrete Mix No. 3:
1. Cast-in-place – SHA Std. Specifications, Section 902.10.03 and Section 305.02.
 2. Precast – SHA Std. Specifications, Section 305.02.

3. The Contractor has the option of using cast-in-place or precast units.

- C. Concrete Mix No. 3 – SHA Std. Specifications, Section 902.10.03.
- D. Castings for Frames, Covers, Grating and Steps – SHA Std. Specifications, Section 909.04.
- E. No. 57 Aggregate – SHA Std. Specifications, Section 901, Table 901A.

2.03 RIPRAP OUTLET PROTECTION:

- A. Stone for Riprap – SHA Std. Specifications, Section 901.02.
- B. Geotextile Fabric Class SE – SHA Std. Specifications, Section 921.09.

2.04 FILTER DIAPHRAGM:

- A. Aggregate material – M43, No. 7.
- B. Filter Diaphragm material – ASTM C-33.
- C. Underdrain and underdrain outlet – SHA Std. Specifications, Section 901.

2.05 CORE TRENCH:

- A. Material shall conform to united soil classification SC, GC, CL or CH.

2.06 RECHARGE AREA:

- A. Stone for Riprap – SHA Std. Specifications, Section 901.02.
- B. No. 57 Aggregate – SHA Std. Specifications, Section 901, Table 901A.
- C. Geotextile Fabric Class PE, Type I – SHA Std. Specifications, Section 921.09.01.

PART 3: EXECUTION

3.01 REINFORCED CONCRETE PIPE:

- A. Pipe lengths and gradients shall be verified by the Contractor and shall be acceptable to the Engineer before installation.

End walls, when visible from the roadway, shall be constructed parallel to the roadway and askew pipe shall protrude through the end wall. End walls, not visible from the roadway, shall be constructed normal to the center line of the pipe.

The existing pipes shall be cleaned and the material disposed of as directed by the Engineer.

1. Excavation. When a pipe is to be laid on existing ground, on or under fill, embankment shall be constructed to a height of at least 9 in., but not more than 3 ft above the proposed top of the pipe. The trench shall then be excavated to receive the pipe. The width of trench shall be sufficient to permit thorough tamping of the backfill under the haunches and around the pipe. This width shall be twice the outside diameter of the pipe or the outside diameter plus 18 in. on each side, whichever is less. Refer to Section 02310 for excavated material.

2. Bedding. When rock is encountered, it shall be removed and replaced with a minimum 8 in. of selected backfill as directed by the Engineer.

When unsuitable foundation material is encountered, it shall be removed and replaced with selected backfill for the full width of the trench as directed by the Engineer.

3. Installation. Pipes shall be laid with hubs up. A single lay hole through the shell of the pipe will be permitted with an approved lifting device. The lay hole shall be cast in the pipe during fabrication or cored without damaging any reinforcement. After installation, the lay hole shall be permanently sealed by filling with mortar, rubber plug, or other means approved by the Engineer. Wood plugs are prohibited.
4. Joints. Pipe joints shall be sealed in a manner appropriate to the pipe material.

Reinforced Concrete Pipe. Joints shall be sealed with rubber type gaskets (circular pipe) or resilient type material (elliptical pipe) conforming to M 198. Mortar joints are prohibited.

Plastic Pipe. Joints shall be integral bell and spigot with rubber or neoprene gaskets conforming to F 477.

5. Pipe Connections. Pipe connections may be either prefabricated or constructed in the field. Corrugated pipe sections shall be butted together and the sections joined with an approved band. A field pipe connection shall include cutting a hole in one pipe, inserting and trimming the connecting pipe and placing a concrete collar using Concrete Mix No. 2 at the connection.

6. Pipe Encasement. When specified in the Contract Documents or when directed by the Engineer, pipes shall be encased using Concrete Mix No. 2.
7. Backfill. Earth for backfill shall be free from large lumps, clods, and rocks and shall be placed along the side of the pipe for the full width of the trench in layers not exceeding 6 in. uncompacted depth. Compaction shall conform to Section 02330. Each layer shall be compacted simultaneously on both sides of the pipe by means of an approved mechanical tamper. Special care shall be taken to compact the backfill thoroughly under the haunches of the pipe. This method of filling and compaction shall continue until the backfill is completed to a minimum height of 9 in. above the top of pipe. The Contractor shall protect all pipes from damage due to construction equipment or other vehicular traffic passing over the pipe.

Backfill may be placed immediately after laying the pipe, provided that all joints have been sealed as specified.

Removal of Existing Pipe Culverts. When specified in the Contract Documents, existing pipe culverts shall be removed and become the property of the Contractor. Backfilling of trenches resulting from pipe removal shall conform to Section 02330.

3.02 INLETS, MANHOLES, SPECIAL STRUCTURES, END WALLS AND END SECTIONS:

- A. Refer to Section 03050 for portland cement concrete and Section 02315 for excavated material.
 1. Construction Sequence. Underground drainage structures shall be completed before roadway surfacing is placed. Manholes, catch basins and inlets shall not be completed to final grade until the grading has been finished and all necessary arrangements have been made to ensure suitable connections and tie-ins at proper grade and alignment with pavements, gutters and curbs.
 2. Castings. Frames for grates and covers for inlets and manholes, except PE manholes, shall be set in full beds of mortar and rigidly secured in place to proper grade and alignment as specified in the Contract Documents.
 3. Pipe Connections. Inlet and outlet pipes at drainage structures shall be set or cut flush with the inside faces of the structures and shall extend a sufficient distance beyond the outside faces of these walls to provide ample room for making proper connections. The joint

around the pipe in the structure wall shall be completely and neatly closed with mortar or other specified materials.

4. Inverts. Drainage structures containing two or more pipes shall have channeled inverts conforming to the Contract Documents.
5. Drainage Structures. Inlets and manholes shall contain two 8 in. minimum diameter blockouts for underdrains. The drainage structures shall be backfilled with No. 57 aggregate for a width of 1.5 ft outside of the structure and extend from the bottom of the structure to the subgrade.
6. Precast Drainage Structures. Working drawings for structures not detailed in the Contract Documents shall be submitted to the Engineer for approval prior to fabrication.

Certification from the manufacturer for each shipment of precast units is required. A copy of the certification shall be delivered to the Engineer, the Laboratory, and the Contractor with each shipment. One copy shall remain at the plant. The certification shall contain the name and address of the manufacturer, the type of structure, the identification number, the date of manufacture, the date of shipment, a statement indicating conformance with the Specifications, and the signature of the quality control manager. Noted on the unit shall be the station number and designation, the identification number, the name or trademark of the manufacturer, the date manufactured, and a stamp indicating conformance with the Specifications.

No precast unit shall be shipped unless it has been tested and is shown to be in full compliance with the Contract Documents.

The placement and consolidation of the required bedding under the unit shall be a minimum 6 in. of No. 57 aggregate unless otherwise directed by the Engineer.

7. Clean Existing Inlets. The existing inlets shall be cleaned and the material disposed of as directed by the Engineer. If the existing grate has to be removed, it shall be replaced and anchored to the satisfaction of the Engineer.

3.03 RIPRAP OUTLET PROTECTION AND CUTOFF WALLS:

- A. Excavation shall conform to the line and grade specified in the Contract Documents. Ditch sides and bottom shall be smooth and firm, free from protruding objects that would damage the geotextile, and constructed in a manner acceptable to the Engineer. Refer to Section 02315 for excavated material.

- B. Geotextile Placement. The geotextile shall be placed on the prepared subgrade with the adjacent edges overlapped a minimum of 2 ft. Damaged geotextile shall be replaced or repaired at no additional cost to the Administration in a manner acceptable to the Engineer.
- C. Riprap Placement. Stones shall be placed by mechanical or other acceptable methods to produce a reasonably graded mass of stone. Placing the stones by methods that cause extensive segregation is prohibited. The depth of the riprap shall be as specified in the Contract Documents.
- D. Backfill. Any excavation voids existing along the edges and ends of the placed riprap shall be backfilled with suitable material to blend in with contiguous slopes, ditch lines, or existing ground. Riprap placed in the clear recovery area shall be capped with a layer of 2 to 4 in. stone.

3.04 LONGITUDINAL UNDERDRAIN AND UNDERDRAIN OUTLET:

- A. The Contractor shall coordinate the field installation of traffic barrier, signs, lighting, and landscaping with the Engineer to avoid any damage to the underdrains, subgrade drains, or outlet pipes. Any damage to the underdrains, subgrade drains, or outlet pipes shall be corrected to the satisfaction of the Engineer.
 - 1. Excavation. Trenches shall be excavated to the dimensions and grade specified in the Contract Documents or as directed by the Engineer. The sides and bottom of trenches shall be smooth and uniform to prevent tearing of the geotextile when backfilling. Refer to Section 02310 for excavated material.
 - 2. Geotextile. Geotextile, when specified, shall be placed in conformance with the Contract Documents. The machine direction of the geotextile shall be parallel to the longitudinal direction of the trench. The geotextile shall be of sufficient width to completely enclose the underdrain trench including any specified overlaps.

The geotextile shall be placed tightly against the underdrain trench to eliminate voids beneath the geotextile. Wrinkles and folds in the geotextile shall be avoided, except when changing trench direction. A minimum 24 in. overlap at the geotextile joint ends or breaks shall be maintained. Geotextile joints and overlaps shall be pinned to securely hold the geotextile in place until placement of the cover material. Longitudinal joints, overlaps, and edges shall be pinned a minimum of 50 ft on center.

Damaged geotextile shall be replaced or repaired as directed by the Engineer at no additional cost to the Administration.

3. Pipe Placement. Underdrain pipe shall be placed in conformance with the Contract Documents. The slope of the underdrain pipe shall be so that positive drainage toward the underdrain outlet is maintained. Perforated pipes shall be placed with the perforations down and arranged symmetrically about the vertical axis. The ends of trunk lines, wye, tee, or ell laterals shall be plugged as directed by the Engineer. Joints and connections shall be in conformance with the manufacturer's recommendations.
4. Outlets. Underdrain outlets shall be constructed in conformance with the Contract Documents.

Underdrains shall be outletted into drainage structures whenever possible. Outlets that empty into a drainage structure shall be positioned a minimum of 6 in. above the normal flow level in the structure and shall be constructed of normal underdrain pipe. A minimum of 18 in. of cover over the pipe shall be maintained. A rodent screen is not required when an underdrain is outletted into a drainage structure.

When outletted to a slope or ditch, the outlet pipe shall slope a minimum of three percent unless otherwise directed by the Engineer. Pipe used for outlets shall be plain, rigid polyethylene (PE), or plain, rigid polyvinyl chloride (PVC) as specified in SHA Standard Specifications Section 905. Flexible tube type PE or PVC pipe is prohibited. Geotextile is prohibited for underdrain outlets. A sloped concrete headwall with a removable rodent screen shall be constructed at the end of the outlet pipe in conformance with the Contract Documents. A flexible delineator post shall be placed on the slope headwall unless otherwise directed by the Engineer.

Outlets for longitudinal underdrains shall be spaced at 250 ft maximum intervals, unless otherwise directed by the Engineer, and at the lowest elevation on all vertical curves. When changing the direction of the longitudinal underdrain or outlet pipe, all bends in the pipe shall have a minimum radius of 3 ft to facilitate future cleaning.

5. Backfill. Trenches shall be backfilled to the dimensions and grades specified in the Contract Documents. Underdrain and outlet trenches shall be backfilled as the work progresses unless otherwise directed by the Engineer.
 - (a) Underdrain. Aggregate backfill shall be lightly tamped and screened or raked to provide proper thickness and grade.
 - (b) Outlets. Backfill shall conform to Section 2330.

The Contractor shall replace any geotextile, underdrain pipe, or outlet pipe damaged by excessive tamping.

Longitudinal underdrain shall be covered with the next pavement layer within 72 hours. All other underdrain shall be covered within 48 hours. The Contractor shall protect underdrain, including the geotextile, from contamination by soil fines. Any underdrain trench that becomes contaminated, and any geotextile that becomes clogged, shall be replaced or repaired as directed by the Engineer at no additional cost to the Administration.

6. Video Inspection and Acceptance. All new longitudinal underdrain and outlets shall be video inspected by the Contractor in the presence of the Engineer as part of final acceptance. When any damage is found it shall be corrected to the satisfaction of the Engineer at no additional cost to the Administration.

3.05 FILTER DIAPHRAGM:

- A. The Contractor shall install the filter diaphragm as specified in the Contract Drawings.
- B. The perforated pipe, outlet pipe and aggregate shall be installed in accordance with SHA Std. Specifications, Section 306.03.
- C. All aggregate shall be clean and free of all soil and fines. Care shall be taken to prevent soil and fines from intermixing with the aggregate. All contaminated aggregate shall be removed and replaced with uncontaminated aggregate at no additional cost to the Administration.

3.06 CORE TRENCH:

- A. The Contractor shall construct the core trenches as specified in the Contract Drawings.

3.07 NO. 57 STONE FOR STORMWATER MANAGEMENT RECHARGE AREAS:

- A. The recharge areas shall not be constructed until all contributing drainage areas are stabilized as shown on the Contract Drawings and to the satisfaction of the Engineer.
- B. The Contractor shall construct the recharge areas as specified in the Contract Drawings.

PART 4: MEASUREMENT AND PAYMENT**4.01 15 INCH REINFORCED CONCRETE PIPE CLASS IV:**

- A. 15 Inch Reinforced Concrete Pipe Class IV will be measured for payment at the contract unit price bid per linear foot.
- B. 15 Inch Reinforced Concrete Pipe Class IV will be paid for at the contract unit price bid per linear foot, complete in place, accepted, which price will be full compensation for all excavating, sheeting, shoring, dewatering, hauling, removing and disposal of excess and unsuitable material, tamped fill, forming bed or foundation, backfilling and compaction, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.02 18 INCH REINFORCED CONCRETE PIPE CLASS IV:

- A. 18 Inch Reinforced Concrete Pipe Class IV will be measured for payment at the contract unit price bid per linear foot.
- B. 18 Inch Reinforced Concrete Pipe ASTM C-361 will be measured for payment at the contract unit price per linear foot of "18 Inch Reinforced Concrete Pipe Class IV"
- C. 18 Inch Reinforced Concrete Pipe Class IV will be paid for at the contract unit price bid per linear foot, complete in place, accepted, which price will be full compensation for all excavating, sheeting, shoring, dewatering, hauling, removing and disposal of excess and unsuitable material, tamped fill, forming bed or foundation, backfilling and compaction, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.03 24 INCH REINFORCED CONCRETE PIPE CLASS IV:

- A. 24 Inch Reinforced Concrete Pipe Class IV will be measured for payment at the contract unit price bid per linear foot.
- B. 24 Inch Reinforced Concrete Pipe Class IV will be paid for at the contract unit price bid per linear foot, complete in place, accepted, which price will be full compensation for all excavating, sheeting, shoring, dewatering, hauling, removing and disposal of excess and unsuitable material, tamped fill, forming bed or foundation, backfilling and compaction, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.04 24 INCH REINFORCED CONCRETE PIPE ASTM C-361

- A. 24 Inch Reinforced Concrete Pipe ASTM C 361 will be measured for payment at the contract unit price bid per linear foot of "24 INCH REINFORCED CONCRETE PIPE CLASS IV".
- B. 24 Inch Reinforced Concrete Pipe ASTM C 361 will be paid for at the contract unit price bid per linear foot, complete in place, accepted, which price will be full compensation for all excavating, sheeting, shoring, dewatering, hauling, removing and disposal of excess and unsuitable material, tamped fill, forming bed or foundation, backfilling and compaction, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.05 STANDARD 5 FOOT COG INLET:

- A. Standard 5 Foot COG Inlets will be measured for payment at the contract unit price bid per each.
- B. Standard 5 Foot COG Inlets will be paid for at the contract unit price bid each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, ladder rungs, frames, grates and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, any additional depth beyond the minimum depth and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.06 SHALLOW 5 FOOT COG INLET

- A. Shallow 5 Foot COG Inlets will be measured for payment at the contract unit price bid per each flow splitter inlet structure.
- B. Shallow 5 Foot COG Inlets will be paid for at the contract unit price bid per each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, ladder rungs, frames, grates and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, any additional depth beyond the minimum depth and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.07 TYPE A 10 FOOT INLET

- A. Type A 10 Foot Inlets will be measured for payment at the contract unit price bid per each.

- B. Type A 10 Foot Inlets will be paid for at the contract unit price bid per each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast unites, reinforcing steel, ladder rungs, frames, grates and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, any additional depth beyond the minimum depth and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.08 STANDARD 10 FOOT COG INLET

- A. Standard 10 Foot COG Inlets will be measured for payment at the contract unit price bid per each.
- B. Standard 10 Foot COG Inlets will be paid for at the contract unit price bid per each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, ladder rungs, frames, grates and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, any additional depth beyond the minimum depth and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.09 STANDARD 10 FOOT PASS THROUGH COG INLET (I-207)

- A. Standard 10 Foot Pass Through COG Inlets will be measured for payment at the contract unit price bid per each.
- B. Standard 10 Foot Pass Through COG Inlets will be paid for at the contract unit price bid per each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, ladder rungs, frames, grates and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, any additional depth beyond the minimum depth and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.10 STANDARD 15 FOOT COG INLET

- A. Standard 15 Foot COG Inlets will be measured for payment at the contract unit price bid per each.
- B. Standard 15 Foot COG Inlets will be paid for at the contract unit price bid per each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, ladder rungs, frames, grates and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, any additional depth beyond the minimum

depth and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.11 DOUBLE OPENING TYPE "K" INLET, STD MD 378.05:

- A. Double opening Type "K" Inlet, STD 378.05 will be measured for payment at the contract unit price bid per each.
- B. Double opening Type "K" Inlet, STD MD 378.05 will be paid for at the contract unit price bid per each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, any additional depth beyond the minimum depth and for all material, labor, equipment, tools and incidentals necessary to complete the work.

4.12 SWM STRUCTURE NO. 1:

- A. SWM Structure No. 1 will be measured for payment at the contract unit price bid per each. SWM structure No. 1 is the release structure from the quantity control pond shown on the plans (I-102).
- B. SWM Structure No. 1 will be paid for at the contract unit price bid each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, trash racks, and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work. The filter diaphragm and core/cutoff trench installed as part of stormwater facility No. 1 (BMP No. 1) will not be measured, but will be incidental to the item SWM Structure No. 1.

4.13 SWM STRUCTURE NO. 2:

- A. SWM Structure No. 2 will be measured for payment at the contract unit price bid per each. SWM structure No. 2 is the release structure from the Bioretention facility (I-203).
- B. SWM Structure No. 2 will be paid for at the contract unit price bid each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, trash racks, and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work. The anti-seep collar associated with the outfall pipe from SWM Structure No. 2 will not be measured for payment, but will be incidental to the item SWM Structure No. 2.

4.14 18 INCH STANDARD TYPE "C" END WALL:

- A. 18 Inch Standard Type "C" End Wall will be measured for payment at the contract unit price bid per each.
- B. 18 Inch Standard Type "C" End Wall will be paid for at the contract unit price bid each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.15 24 INCH STANDARD TYPE "C" END WALL

- A. 24 Inch Standard Type "C" End Wall will be measured for payment at the contract unit price bid per each.
- B. 24 Inch Standard Type "C" End Wall will be paid for at the contract unit price bid each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.16 18 INCH CONCRETE END SECTION:

- A. 18 Inch Concrete End Section will be measured for payment at the contract unit price bid per each.
- B. 18 Inch Concrete End Section will be paid for at the contract unit price bid each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.17 24 INCH CONCRETE END SECTION

- A. 24 Inch Concrete End Section will be measured for payment at the contract unit price bid per each.
- B. 24 Inch Concrete End Section will be paid for at the contract unit price bid each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, and covers, grade and slope adjustments,

backfill and compaction, disposal of excess material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.18 FLOW SPLITTER INLET STRUCTURE

- A. Flow Splitter Inlet Structure will be measured for payment at the contract unit price bid per each. Flow splitter structures are inlets I-104, I-109 and I-110.
- B. Flow Splitter Inlet Structure will be paid for at the contract unit price bid each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.19 48 INCH DIAMETER MANHOLE

- A. 48 Inch Diameter Manhole will be measured for payment at the contract unit price bid per each.
- B. 48 Inch Diameter Manhole will be paid for at the contract unit price bid each, complete in place, accepted, which price will be full compensation for all excavating, No. 57 aggregate bedding, concrete, masonry, special or precast units, reinforcing steel, and covers, grade and slope adjustments, backfill and compaction, disposal of excess material, any additional depth beyond the minimum depth and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.20 CLASS I RIPRAP:

- A. Class I Riprap will be measured for payment at the contract unit price bid per square yard.
- B. Class I Riprap will be paid for at the contract unit price bid per square yard, complete in place, accepted, which price will be full compensation for all stone, excavation, geotextile, backfill, and disposal of excess material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.21 NO. 57 STONE FOR STORMWATER MANAGEMENT RECHARGE AREAS:

- A. No. 57 Stone for Stormwater Management Recharge Areas will be measured for payment at the contract unit price bid per ton.
- B. No. 57 Stone for Stormwater Management Recharge Areas will be paid for at the contract unit price bid per ton, complete in place, accepted,

which price will be full compensation for all stone, excavation, geotextile, backfill, and disposal of excess material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.22 MIX 3 CONCRETE FOR CONCRETE CRADLES:

- A. Mix 3 Concrete for Concrete Cradles will be measured for payment at the contract unit price bid per cubic yard.
- B. Mix 3 Concrete for Concrete Cradles will be paid for at the contract unit price bid per cubic yard, complete in place, accepted, which price will be full compensation for all concrete, excavation, forms, backfill, curing, disposal of excess or unsuitable material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.23 6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN:

- A. 6 Inch Perforated Circular Pipe Longitudinal Underdrain will be measured for payment at the contract unit price bid per linear foot.
- B. 6 Inch Perforated Circular Pipe Longitudinal Underdrain will be paid for at the contract unit price bid per linear foot, complete in place, accepted, which price will be full compensation for all excavation, pipe coupling bands, aggregate backfill, geotextile, video inspection and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

4.24 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS:

- A. 6 Inch Perforated Circular Pipe Underdrain Outlet will be measured for payment at the contract unit price bid per linear foot.
- B. 6 Inch Perforated Circular Pipe Underdrain Outlet will be paid for at the contract unit price bid per linear foot, complete in place, accepted, which price will be full compensation for all excavation, pipe coupling bands, aggregate backfill, geotextile, video inspection and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

Slope headwalls, rodent screens, and marker posts will not be measured but will be incidental to the cost of the Underdrain Outlet.

4.25 RELOCATE FIRE HYDRANT:

- A. Relocate Fire Hydrant will be measured for payment at the contract unit price bid per each
- B. Relocate Fire Hydrant will be paid for at the contract unit price bid per each, complete in place, accepted which will be full compensation for all

excavation, pipe, fittings, backfill, and for all material, labor, equipment, tools and incidentals necessary to complete the work as indicated on the plans

END OF SECTION

SECTION 02640

BIORETENTION FACILITY

PART 1: GENERAL

1.01 DESCRIPTION:

- A. This Section specifies the construction of bioretention facility for stormwater management consisting of inlets, pipe, underdrain, underdrain outlet, excavation, backfill, and modifications to existing storm drainage structures as shown on the contract drawings, or as directed by the Engineer.

1.02 REFERENCES

- A. The following codes, regulations, reference standards and specifications apply to work included in this section:
 - 1. Maryland State Highway Administration (SHA) Standard Specifications for Construction and Materials, latest revision.
 - 2. Maryland Department of the Environment, Water Management Administration Maryland Stormwater Management Guidelines, July 2001.
- B. Related Sections:
 - 1. Section 02315: Excavation.
 - 2. Section 02630: Storm Drainage.
 - 3. Section 02930: Trees, Shrubs and Ground Cover.
 - 4. Section 03050: Portland Cement Concrete.

PART 2: PRODUCTS

2.01 MATERIALS:

- A. Material Specifications - The allowable materials to be used in bioretention area are detailed on the contract plans.

B. Planting Soil

1. Specification for the Bioretention Soil Mixture are shown on the contract plans
2. All bioretention areas shall have a minimum of one test. Each test shall consist of both the standard soil test for pH, phosphorus, and potassium and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the top soil was excavated.
3. Since different labs calibrate their testing equipment differently, all testing results shall come from the same testing facility. Should the pH fall out of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.

C. Plant Material

For planting material and planting requirements see Section 02930 and the Bioretention Facility Planting Plan and Plant Schedule.

D. Storm Drainage

Refer to Part 1, 2, and 3 in Section 02630: Storm Drainage for Inlets and Reinforced Concrete Pipe.

PART 3: EXECUTION**3.01 CONSTRUCTION SEQUENCE:**

- A. Bioretention facility shall not receive stormwater runoff until the facility is completely stabilized, functional, and acceptable to the Engineer.
- B. Pipe lengths and gradients shall be verified by the Contractor and shall be acceptable to the Engineer prior to installation.
- C. Inlets shall not be completed to final grade until the grading has been finished and all necessary arrangements have been made to insure suitable connections and tie-ins at proper grade.

3.02 COMPACTION

- A. During backfillings operation the Contractor shall minimize compaction of all Bioretention Fill Material including gravel, sand bed and planting soil. When possible, use excavation hoes to remove original soil. If Bioretention areas are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires.
- B. Equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high pressure tires will cause excessive compaction resulting in reduced soil infiltration rate. This will significantly contribute to design failure. This type of equipment will not be acceptable inside the basin.
- C. Excessive compaction shall be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from excavation equipment.
- D. Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the required sand layer. Pump any ponded water before preparing (rototilling) base.
- E. When backfilling the planting soil over the sand bed, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.
- F. When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can only be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

3.03 UNDERDRAIN INSTALLATION

- A. Underdrain pipes are to be placed on Geotextile Class C, followed by a washed gravel bedding. The exposed ends of underdrain pipes shall be capped.
- B. The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%.

3.04 MISCELLANEOUS

- A. The bioretention facility may not be constructed until all contributing drainage area has been stabilized.

PART 4: MEASUREMENT AND PAYMENT**4.01 BIORETENTION SOIL MIXTURE:**

- A. Bioretention Soil Mixture will be measured for payment at the contract unit price bid per cubic yard. The bottom of the bioretention soil mixture is the lower limit of measurement.
- B. Bioretention Soil Mixture will be paid for at the Contract unit price bid per cubic yard for Bioretention Soil Mixture, which shall be full compensation for all applicable excavation, dewatering, hauling, invert paving, storing, re-handling of material, removal and disposal of excess and unsuitable material, fill, fill material, forming bed or foundation, backfill, underdrain pipe, underdrain gravel, underdrain outlets, underdrain pipe connection, underdrain pipe fitting, observation wells, connecting to inlets, geotextile fabric, mulch and all material, labor, equipment, tools and incidentals necessary to complete the work.

Bioretention outlet structure, drainage pipe (not underdrains) plantings, and excavation/grading beyond the Bioretention Soil Mixture will be measured and paid for under the pertinent item.

END OF SECTION

SECTION 02720**AGGREGATE BASE COURSE****PART 1 - GENERAL**

1.01 DESCRIPTION: This section specifies the construction of aggregate base courses for flexible pavement, sidewalks, curbs and gutters, and the base course of the SWM access road. The 6" Cellular confinement system shall be construed to mean "6 Inch Graded Aggregate Base Course".

1.02 SUBMITTALS:

A. At least 30 days prior to the start of constructing the base course, the Contractor shall submit to the Engineer for approval, proposed plants, equipment, and material sources.

1.03 EQUIPMENT: All equipment, including the production plant and on-site equipment, shall be subject to approval by the Engineer. The plant shall be available for inspection by the Engineer at least 48 hours prior to the start of construction operations.

PART 2 - PRODUCTS

2.01 MATERIALS: Graded Aggregate for Base Course shall meet the requirements of SHA Section 901.01.

2.02 PRODUCTION PLANTS: Production Plants shall meet the requirements of SHA Section 915.

PART 3 - EXECUTION

3.01 WEATHER:

A. **Temperature and Surface Conditions:** Graded aggregate base shall be placed only when the ambient air and surface temperature is at least 32 F and rising. No material shall be placed on a frozen subgrade.

B. **Precipitation:** Construction shall not take place during precipitation. When precipitation has occurred during the previous 24 hours, the Engineer will determine if the subgrade is sufficiently dry. Any material en route from the plant to the job site may be placed at the Contractor's risk.

3.02 SUBGRADE PREPARATION:

- A. The Contractor shall protect the subgrade against damage from all causes. Any part of the subgrade that is damaged shall be repaired or replaced by the Contractor at its own expense in a manner acceptable to the Engineer.
- B. The subgrade shall be constructed as specified in Section 02315, the Contract Documents, and as approved by the Engineer. If traffic, including construction equipment, is allowed to use the subgrade foundation or preceding layer, it shall be distributed over the entire width of the course to aid in obtaining uniform and thorough compaction. If ruts are formed, they shall be removed by reshaping and recompacting the affected area as specified in Section 02315.

3.03 TRANSPORTATION:

Mixed base materials shall be handled and transported in a manner that minimizes segregation and loss of moisture. All loads shall be covered in conformance with State laws unless hauling is off road and is approved by the Engineer. Dumping into piles, hauling over the completed base course, and stockpiling of material on the job site is prohibited unless approved by the Engineer.

3.04 SPREADING:

The base material shall be uniformly spread without segregating the coarse and fine particles, in layers of approximately equal thickness, to provide the specified planned depth. Shoulders or berms not less than 2 ft wide shall be built up on each side of the base to the top elevation of each uncompacted layer unless the base is placed against concrete curbs or gutters.

3.05 GRADE OR FINISHED SURFACE CONTROL:

The surface of the base material shall be brought to line and grade and shaped to the specified cross section. Grades shall be set longitudinally and transversely with fixed controls not to exceed 25 ft spacing. The surface material shall be compacted and smoothed over its full width using a smooth faced steel wheeled roller, if rolling is not feasible, by mechanical tampers and vibratory compactors as approved by the Engineer. The finished grade shall not deviate more than ½ in. from the established grade.

3.06 FINISHING:

The surface of the base material shall be shaped to the required lines, grades and cross section specified in the Contract Documents.

3.07 COMPACTION:

- A. Immediately after placement, the base material shall be compacted to the required density. During compaction operations, the moisture content of the material shall be maintained within 2 percent of the materials optimum moisture. The optimum moisture content and maximum dry density of graded aggregate base shall be determined as specified by MSMT 321.
- B. Graded Aggregate Base shall be compacted to a density not less than 97 percent of the maximum dry density. In-place density shall be measured as specified in MSMT 350 or 352.
- C. Compaction operations shall begin at the sides of the course, overlap the shoulder or berm at least 1 ft and progress toward the center. The compaction operation shall continue until all compaction marks are eliminated.

3.08 MAINTENANCE:

During construction and after completion of the base course, the Contractor shall maintain the base course and protect it against damage from all causes. Any part of the base course that is damaged shall be repaired or replaced for the full depth by the Contractor at its own expense in a manner acceptable to the Engineer.

PART 4 - MEASUREMENT AND PAYMENT**4.01 GENERAL:**

- A. Impacts due to Weather, Subgrade Preparation, Transportation, Grade or Finished Surface Control, Finishing, Compaction, and Maintenance will not be measured for payment.
- B. Impacts due to Weather, Subgrade Preparation, Transportation, Grade or Finished Surface Control, Finishing, Compaction, and Maintenance will not be paid for directly, but will be considered incidental to the appropriate aggregate base course item.

4.02 AGGREGATE BASE COURSE:

- A. Aggregate Base Course will be measured per square yard for the various thicknesses of courses.
- B. Aggregate Base Course will be paid for at the contract unit price bid per square yard for the various thickness of courses, complete in place, accepted, which price will be full compensation for all material, equipment, tools, labor and all work incidental to complete the item as specified. The geotextile fabric for the SWM Access Road will not be measured, but will be incidental to the item 6" Graded Aggregate Base Course.

END OF SECTION

SECTION 02820

CHAIN LINK FENCE

PART 1: GENERAL

1.01 DESCRIPTION:

- A. This work shall consist of furnishing and erecting 6 foot vinyl coated chain link fence and gates as specified in the Contract Documents and/or as directed by the Engineer.

PART 2: PRODUCTS

2.01 CHAIN LINK FENCE:

- A. The manufacturer shall furnish certification as specified in TC-1.02. In addition, a sample of the fence fabric shall be submitted with the fabric certification.
- B. Concrete shall meet the follow:
1. Compressive strength at 28 days, $f'_c = 3000$ psi
 2. Standard deviation of 450 psi
 3. Critical value of 3010 psi
 4. Minimum cement factor of 530 LB/cu yd
 5. Aggregate gradation for Portland cement concrete, $f'_c = 3000$ psi

MATERIAL		SIEVE SIZE						
		1-1/2"	1"	3/4"	1/2"	3/8"	No. 4	No. 8
Coarse	57	100	95-100	-	25-60	-	0-10	0-5
Aggregate	67	-	100	90-100	-	20-55	0-10	0-5

6. Maximum water cement ratio 0.50
 7. Slump range 2 to 5 inches
 8. Total air content 5 to 8 percent
 9. Temperature range of mixture 70 °F with a range not to exceed 20 °F plus or minus
- C. Chain link fencing fabric shall be 2-inch mesh woven from coated No. 6 gauge wire for 6 foot and 8-foot fences and No. 9 gauge wire for 5-foot fence unless otherwise specified within the special provisions. The ends shall have a knuckled selvage at the bottom and a barbed selvage at the top. The fabric

shall conform to m 181. Vinyl coated steel shall conform to F688, Class 2B thermally fused. Vinyl color shall be black.

- D. Tie Wires, Line Post Clips, Tension Wires and Tension Wire Clips shall conform to M 181. The galvanized coating shall weigh a minimum of 1.2 oz/sq. ft. These items when used with aluminum coated steel fabric shall be coated with aluminum at a minimum weight of 0.40 oz/sq. ft The tension wire used with polyvinyl chloride (PVC) coated steel fabric shall have the same coating thickness and color as the fence fabric.
- E. All Posts, Braces, Fittings and Hardware shall conform to M 181. When these items are specified to be PVC coated, they shall be thermally fused and bonded. The PVC thickness shall be 10 to 15 mils except that bolts, nuts, and washers shall metallic coated steel.
- F. Gate for Chain Link fence shall conform to SHA Section 914.04.

PART 3: EXECUTION

3.01 GENERAL INSTALLATION REQUIREMENTS:

- A. The Contractor's activities and operations shall be confined to the area immediately adjacent to the fence lines and within the property except that permission may be granted by the Engineer for normal construction activities through lands owned by or under control of the Administration.
- B. Fence lines as specified in the Contract Documents are only a guide and the exact location of the fence shall be determined in the field by the Engineer.
- C. The bottom of the fabric shall be placed a nominal distance of 1 inch above the ground line, a maximum clearance of 6 inches will be permitted for a maximum horizontal distance of 8 feet except for special conditions as specified in the Contract Documents.
- D. The fabric shall be placed on the outside of the posts or the side farthest from the maintenance facility.
- E. The fence shall be true and taut.
- F. All posts shall be plumbed. The posts shall be spaced as uniform as practicable to the spacing as specified in the Contract Documents with a tolerance of minus 2 feet.
- G. Terminal posts shall be installed at all ends, abrupt changes in grade and at changes in the horizontal alignment over 15 degrees. In no case shall the distance between terminal posts exceed 500 feet.

- H. Post lengths shall be adequate in all cases to accommodate the fabricated width of the fence fabric without stretching or compressing the fabric and to obtain, as a minimum, the length required below the bottom of the fabric.
- I. Post caps are required for all round line, terminal, and corner posts.
- J. A tension wire shall be run continuously between terminal posts near the top and bottom of the fabric and attached to the fabric with hog ring fasteners at 18-inch intervals.
- K. Horizontal brace rails with diagonal truss rods and turnbuckles shall be installed at all terminal posts. Sufficient braces shall be supplied to permit complete bracing from each terminal post to all adjacent line posts.
- L. Fabric shall be tied to brace rails at 2 feet maximum intervals and to posts at 12-inch maximum spacing. Stretcher bars shall be attached to terminal posts by connectors equally spaced at 16-inch centers maximum. Top and bottom connectors shall be as close as possible to the ends of the fabric.

3.02 CONCRETE:

- A. Posts shall be centered in the concrete footings. The concrete shall be thoroughly compacted around the post by rodding or vibrating. The finished top surface shall be troweled to a smooth finish slightly above the ground line and uniformly sloped to drain away from the post. The post shall not be disturbed in any manner within 72 hours after the individual post footing is completed.
- B. Hand mixed concrete shall not be used without written permission from the Engineer. When permitted, the hand mixed batch shall not exceed $\frac{1}{2}$ cubic yard.
- C. Where rock is encountered at a depth less than the specified footing depth, a hole 1 inch larger than the greatest dimension of the post shall be drilled to a depth of 12 inches or to the planned footing depth, whichever is less. After the post has been set, the remainder of the drilled hole shall be filled with grout composed of one part Portland cement and two parts mortar sand by dry loose volume. The space above the rock shall be filled with concrete.

3.03 ALTERNATE ANCHORAGE FOR LINE POSTS AND TERMINAL POSTS:

- A. These alternates shall not be used in rock.

- B. The following alternate will be permitted in case of line posts only. After being driven in the ground, the line post shall be held rigidly upright by means of two galvanized steel drive anchor blades. Blades shall be driven diagonally through galvanized steel fittings attached to opposite sides of the post. The approximate spread of the blades at their full depth shall be 39 inches. The top of the device shall be a minimum of 3 inches below the finished grade. The device and procedure shall be approved by the Engineer.
- C. The following alternate will be permitted for terminal posts. After being driven into the ground, the terminal post shall be held rigidly upright by means of two anchor units spaced approximately 6 inches apart along the terminal post, and each anchor unit driven in a direction to offset the stresses caused by the tension of the fence wire. Galvanized steel drive anchor blades, which are driven through galvanized steel fittings, shall be attached to opposite sides of the post. The approximate spread of the blades at their full depth shall be 39 inches. The top of the device shall be a minimum of 3 inches below the finished grade. The device and procedure shall be approved by the Engineer.

3.04 GATE:

- A. Gate shall match the style of the perimeter fence.

PART 4: MEASUREMENT AND PAYMENT

4.01 CHAIN LINK FENCE:

- A. Chain Link Fence will be measured per linear foot measured to centers of end posts.
- B. Chain Link Fence will be paid for at the contract unit price bid per linear foot, complete in place, accepted, which price will be full compensation for all material, equipment, tools, labor and all work incidental to complete the item as specified.

4.02 TERMINAL POSTS:

- A. Terminal Posts will not be measured for payment.
- B. Terminal Posts will not be paid for but will be considered incidental to the chain link fence.

4.03 GATES:

- A. Gates will be measured per each for the various sizes and types specified.
- B. Gates will be paid for at the contract unit price bid per each for the various sizes and types specified, complete in place, accepted, which price will be full compensation for all material, equipment, hardware, tools, labor and all work incidental to complete the item as specified.

END OF SECTION



MARYLAND TRANSIT ADMINISTRATION

MARYLAND DEPARTMENT OF TRANSPORTATION

Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Beverly K. Swaim-Staley, Secretary • Ralign T. Wells, Administrator

TO: All Planholders

FROM: Maryland Transit Administration

SUBJECT: **ADDENDUM NO. 2**
Contract No.: T-1041-0140
Charlotte Hall Park and Ride Facility

DATE: November 15, 2011

Enclosed and effective this date is Addendum No. 2 to the subject Contract.

A conformed copy of the revised specification sections is attached. A list of the changes made to this contract is attached to this Addendum. Also attached are answers to contractors' questions, if any.

The Bidder shall acknowledge receipt of this Addendum by completing and returning this form with the bid package.

All other terms and conditions remain unchanged.

Sincerely,

Gary R. Lockett, Procurement Officer
Professional Services/Construction/Installation Section
Procurement Division

Acknowledgement of receipt of ADDENDUM # 2 to Solicitation #T-1041-0140

Vendor Name: _____

Authorized Representative's Signature

Date

ADDENDUM NO.: 2
DATE: 11/15/11
CONTRACT NO.: T-1041-0140

The following additions, deletions, and modifications are hereby made a part of the Contract Documents of Charlotte Hall Park and Ride Facility, Contract No.: T-1041-0140.

Item No.	Page	Modification
I. CONTRACT SPECIFICATIONS		
1	NTC pg. 1	Notice to Contractors Revised site visit information on page 1
2	Bid Form pgs. 4-16	Bid Form Revised Bid Form to specify Mobilization , Miscellaneous Work Allowance, Quality Assurance and Quality Control and to add Price Adjustment for Asphalt Binder
3	SP 160-165A	Specifications - Section 02745 Revised Specification to add Price Adjustment for Asphalt Binder
4	Appendix G	Appendix G – Geotechnical Report Replace in its entirety
II. CONTRACT DRAWINGS		
5	Cover Sheet	Cover Sheet Added signatures for Owner / Developer Certification and Maryland Transit Administration

Also attached are the answers to contractors' questions, if any.

**T-1041-0140 Charlotte Hall Park and Ride Facility
Questions/Answers
Addendum 2**

- 01) The question is what happens if the state withdraws from the program after the bids are opened, awarded, notice to proceed given or actually started and the contractor is unable to obtain the coverage noted builders risk section of the specifications?

If the State does not cover this insurance, the Contractor would be expected to pay the cost as stated in the IFB.

- 02) Are you going to allow the utilization of the Maryland State Highway Asphalt, fuel, cement and steel escalation clause? This would keep the cost of the project down because the contractor won't have to bid some arbitrary number into their bid to cover a cost we couldn't possibly be able to predict.

Via this Addendum No. 2, the escalation cost has been added, under section Special Provisions Section 0275.

- 03) Who will be responsible for the electric bill after completion will need this info to transfer after acceptance? Can we have the power disconnected once the lighting system has been inspected and passed by the state and county electrical inspection process?

St Mary's County Board of County Commissioners, Department of Public Works and Transportation; P.O. Box 508, California, Maryland 20619

The power cannot be disconnected, but the contractor may, with the approval of the resident engineer, turn lights out to conserve energy costs.

- 04) Is the method for measurement for payment for the items 014, 015 & 016 to be as SP-110 via cross sections or is there another method? If so would the CAD drawings be made available to help accomplish this task?

The measurement for payment for items 014, 015 and 016 is via cross sections.

- 05) Please clarify bid item 002 Miscellaneous Work Allowance.

The allowance is defined under Special Provisions Section 01210, item "C".

- 06) What is the allowance amount for Bid Item #002 (Miscellaneous Work Allowance)?

On this project, the Miscellaneous Work Allowance is fixed at \$529,672.00.

- 07) Have there been any addendums issued? If so, how can we get copies or access files?

Yes, Addendum No. 1 was issued on November 8, 2011. It can be accessed from the MTA website.

- 08) Is there an HMA Adjustment clause? If not, would you please consider adding one.

The HMA clause has been added, per this Addendum No. 2

**STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
NOTICE TO CONTRACTORS**

Charlotte Hall Park and Ride Facility

CONTRACT NO.: T-1041-0140

DATE: October 13, 2011

1. DESCRIPTION OF WORK

A. This Contract is for the construction of a parking facility that will accommodate approximately 500 vehicles on the north side of Golden Beach Road in Charlotte Hall, St. Mary's County, Maryland. The project will include two access points to Golden Beach Road (one of which is an extension of Market Drive.)

B. Estimated value for this work is in the range of \$5,000,001 to \$10,000,000

2. PRE-BID MEETING & SITE VISIT

A Pre-Bid meeting for the purpose of explaining the Project will be held on October 20, 2011 at 10:00 a.m., local time at the Administration Headquarters, 6 St. Paul Street, 7th Floor Conference Room(s) 731-732, Baltimore, Maryland 21202-1614.

The site visit location is now state-owned with open access to the public; no appointment or escort is necessary.

It is strongly suggested that the person(s) responsible for the preparation of bid documents for bidders attend the Pre-Bid Meeting and the site visit. **INSTRUCTIONS CRITICAL TO THE PREPARATION OF THE CONTRACT DOCUMENTS WILL BE PRESENTED AT THE PRE-BID MEETING.**

3. DEADLINE FOR QUESTIONS

Questions regarding the work should be directed in writing to Mr. Gary Lockett at the Administration Offices or via Internet address glockett@mta.maryland.gov. Facsimile messages will not be accepted unless accompanied by telephone notification at (410) 767-3360. Our fax number is (410) 333-4810. Questions directed to this office must be received no later than October 28, 2011 at the close of the business day. Questions should be submitted on company letterhead. No interpretations other than written shall be binding on the Administration.

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
001	01130	Mobilization	1	LS	320,000	\$320,000
002	01210	Miscellaneous Work Allowance	1	All	529,672	\$529,672
003	01450	Quality Assurance and Quality Control	1	LS	20,000	\$20,000
004	01500	Maintenance and Control of Traffic	1	LS	LS	
005	01522	Engineer's Office Type 2	1	LS	LS	
006	01550	Temporary Traffic Signs	340	SF		
007	01550	Contingent Temporary Precast Concrete Traffic Barriers	2350	LF		
008	01550	Traffic Drums	100	EA		
009	01550	Arrow Panels	60	UD		
010	01550	Contingent Portable Variable Message Signs (PVMS)	60	UD		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
011	01550	Temporary Pavement Marking	8,000	LF		
012	01730	Saw Cutting	2,200	LF		
013	02230	Site Clearing	1	LS		
014	02315	Class 1 Excavation	150,000	CY		
015	02315	Class 1-A Excavation	1,000	CY		
016	02315	Select Borrow Excavation	1,000	CY		
017	02320	Furnished Subsoil	500	CY		
018	02370	Stabilized Construction Entrance	100	TON		
019	02370	Recondition Stabilized Construction Entrance	100	TON		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
020	02370	Silt Fence	2,000	LF		
021	02370	Super Silt Fence	900	LF		
022	02370	Riprap for Sediment Control	50	TON		
023	02370	Convert SWM Pond to Sediment Basin	1	LS	LS	
024	02370	Erosion and Sediment Control Original Excavation	1000	CY		
025	02370	Erosion and Sediment Control Cleanout Excavation	450	CY		
026	02372	Soil Stabilization Matting TYPE A	850	SY		
027	02372	Soil Stabilization Matting TYPE B	300	SY		
028	02630	15 Inch Reinforced Concrete Pipe Class IV	260	LF		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
029	02630	18 Inch Reinforced Concrete Pipe Class IV	1,080	LF		
030	02630	24 Inch Reinforced Concrete Pipe Class IV	585	LF		
031	02630	Standard 5 foot COG Inlet	1	EA		
032	02630	SWM Structure No. 1	1	EA		
033	02630	SWM Structure No. 2	1	EA		
034	02630	18 Inch Standard Type "C" End Wall	1	EA		
035	02630	24 Inch Standard Type "C" End Wall	2	EA		
036	02630	18 Inch Concrete End Section	2	EA		
037	02630	Flow Splitter Inlet Structure	3	EA		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
038	02630	48 Inch Diameter Manhole	2	EA		
039	02630	Double Opening Type "K" Inlet STD. MD 378.05	1	EA		
040	02630	Class 1 Riprap	600	SY		
041	02630	Mix No. 3 For Concrete Cradles	40	CY		
042	02630	6 Inch Perforated Circular Pipe Longitudinal Underdrain	550	LF		
043	02630	6 Inch Circular Pipe Underdrain Outlets	100	LF		
044	02630	Relocate Fire Hydrant	1	EA		
045	02630	Type A 10 Foot Inlet	1	EA		
046	02630	Standard 10 Foot COG Inlet	2	EA		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
047	02630	Standard 10 Foot Pass Through COG Inlet (I-207)	1	EA		
048	02630	24 Inch Concrete End Section	1	EA		
049	02630	No. 57 Stone for Stormwater Management Recharge Area	500	TON		
050	02630	Standard 15 Foot COG Inlet	1	EA		
051	02640	Bioretention Soil Mixture	160	CY		
052	02650	Sand Filter	15	CY		
053	02720	3 Inch Graded Aggregate Base Course	23,000	SY		
054	02720	6 Inch Graded Aggregate Base Course	27,000	SY		
055	02745	Hot Mix Asphalt Superpave 12.5 MM For Surface PG 64-22 Level 2	2,600	TON		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
056	02745	Hot Mix Asphalt Superpave 19.0 MM For Base PG 64-22 Level 2	3,600	TON		
057	02745	Grinding Existing Pavement 0 Inch to 1 ½ Inch	6,000	SY		
058	02750	8 Inch Reinforced Concrete Pavement Mix No 7	1,800	SY		
059	02765	5 Inch White Lead Free Reflective Thermoplastic Pavement Markings	400	LF		
060	02765	5 Inch Yellow Lead Free Reflective Thermoplastic Pavement Markings	700	LF		
061	02765	12 Inch White Heat Applied Permanent Preformed Thermoplastic Pavement Markings	235	LF		
062	02765	24 Inch White Heat Applied Permanent Preformed Thermoplastic Pavement Markings	175	LF		
063	02765	Lead Free Reflective Thermoplastic Pavement Marking Arrow	12	EA		
064	02765	5 Inch White Non Toxic Waterborne Pavement Markings	14,600	LF		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
065	02765	5 Inch Yellow Non Toxic Waterborne Pavement Markings	4,300	LF		
066	02770	Curbs and Gutter	4,700	LF		
067	02775	5 Inch Concrete Sidewalk	14,250	SF		
068	02775	6 Inch Reinforced Concrete Sidewalk	880	SF		
069	02780	Detectable Warning Surface Brick Paver	56	SF		
070	02820	Chain Link Fence	1,650	LF		
071	02820	12 foot Gate For Chain Link Fence	1	EA		
072	02890	Signs	350	SF		
073	02891	Bus Shelter	4	EA		
074	02870	Bollard for Edge Protection	100	EA		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
075	02920	Furnishing and Placing 4 Inch Topsoil	20,000	SY		
076	02920	Seeding and Mulching	15,000	SY		
077	02920	Sodding	450	SY		
078	02920	Mowing	100	HR		
079	02920	Overseeding	100	LB		
080	02920	Refertilizing	700	LB		
081	02920	Additional Watering Of Seeded and Mulched Areas and Sodded Areas	40	MG		
082	02930	Acer rubrum "Red Sunset"-Red Sunset Red Maple	54	EA		
083	02930	Quercus phellos-Willow Oak	30	EA		
084	02930	Quercus palustris-Pin Oak	33	EA		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
085	02930	Cladrastis lutea 'Rosea'- Yellowwood Rosea	7	EA		
086	02930	Halesia Carolina Carolina Silverbell	10	EA		
087	02930	Crataegus phaenopyrum- Washington Hawthorne	37	EA		
088	02930	Betula nigra- River Birch	11	EA		
089	02930	Ostrya virginiana- American Hophornbeam	9	EA		
090	02930	Pinus Strobus- Eastern White Pine	44	EA		
091	02930	Llex glabra 'Shamrock'- Shamrock Inkberry	20	EA		
092	02930	Itea virginica 'Henry's Garnet'- Henry's Garnet Virginia Sweetspire	89	EA		
093	02930	Clethra alnifolia- Summersweet Clethra	59	EA		
094	02930	Forsythia intermedia- Showy Forsythia	17	EA		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
095	02930	Llex verticillata- Common Winterberry	17	EA		
096	02930	Aesculus parviflora- Bottlebrush Buckeye	105	EA		
097	02930	Hydrangea quercifolia 'Snow Queen'- Snow Queen Oakleaf	51	EA		
098	02930	Hamamelis virginiana-Common Witchhazel	49	EA		
099	02930	Panicum virgatum- Switchgrass	2,414	EA		
100	02930	Solidago sempervirens- Seaside Goldenrod	316	EA		
101	02930	Agrostis perennans- Autumn Bentgrass	316	EA		
102	02930	Juncus Canadensis- Canada Rush	316	EA		
103	02930	Mulching	3,500	SY		
104	02930	Watering	50	MG		

Item	Section	Description	Estimate of Quantity	Unit	Unit Price	Total Price
105	16120	# 6 THHN/THWN Copper Conductor	13,800	LF		
106	16120	3 Wire, 1 Conductor No.4 Electrical Cable	500	LF		
107	16130	1-Inch Schedule 40 PVC Conduit, Direct Buried	4,600	LF		
108	16130	2-Inch Schedule 40 PVC Conduit, Direct Buried	400	LF		
109	16130	2-1/2 Inch Schedule 40 PVC Conduit with Pullstring, Direct Buried	160	LF		
110	16442	Lighting Control Cabinet	1	EA		
111	16521	Single Pole Mounted Luminaire-Type A	21	EA		
112	16521	Double Pole Mounted Luminaire-Type B	11	EA		
113	02745	Price Adjustment for Asphalt Binder	20,000	EA	1.00	\$20,000

Basis of Award: Total amount of items 001 thru 113

(figures)

(words)

114		Insurance Premium (Contingency)	LS	LS	LS	
-----	--	------------------------------------	----	----	----	--

This amount will only be added to the base bid in the event that the bidder is excluded from the wrap-up insurance program or the program is terminated mid-term. The Insurance Premium Worksheet must be attached to the bid.

SECTION 02745**HOT MIX ASPHALT PAVEMENT****PART 1 - GENERAL****1.01 DESCRIPTION:**

- A. This section specifies the grinding and construction of hot mix asphalt (HMA) pavement.
- B. Related Sections:
 - 1. Section 01300: Submittals

1.02 SUBMITTALS:

- A. Contractor shall submit to the Engineer for approval a mix design and a proposed paving plan, including production plants, location of plants with respect to the project site, equipment, and material sources. Submittals for mix design approval shall meet the requirements SHA Section 904.
- B. In accordance with SECTION 01300 SUBMITTALS, the Contractor shall submit to the engineer:
 - 1. Mix design
 - 2. Paving plan
 - 3. Production plants
 - 4. Location of plants
 - 5. Equipment
 - 6. Source information

1.03 EQUIPMENT:

- A. All equipment, including the production plant and paving equipment, shall be subject to approval by the Engineer. The plant shall be ready for inspection by the Engineer at least 48 hours prior to the start of the construction operations.

B. Pavers

1. Pavers will be inspected and approved by the Engineer based upon requirements in the manufacturer's specification manual with a copy to be provided by the Contractor. The paver shall be a self-contained, power propelled unit capable of spreading the mixture true to line, grade and cross slope. The paver shall be equipped with a screed or strike off assembly, which can produce a finished surface of the required smoothness and texture without tearing, shoving or gouging the mixture. The paver shall have automatic controls for transverse slope and grade. Controls shall be capable of sensing grade from an outside reference line or ski and sensing the transverse slope of the screed to maintain the required grade and transverse slope within plus or minus 0.1 of the required slope percentage.
 2. Manual operations will be permitted in the construction of irregularly shaped and minor areas, or where directed by the Engineer.
 3. Whenever a breakdown or malfunction of any automatic control occurs, the equipment may be operated manually for the remainder of the workday as directed by the Engineer.
 4. Reference lines or other suitable markings to control the horizontal alignment shall be provided by the Contractor, subject to the approval of the Engineer.
- C. Rollers: Rollers shall be self propelled, reversible, steel wheeled or pneumatic tired. Vibratory rollers may be used, except they shall not be in vibratory mode when paving on surface courses without the approval of the Engineer. Pneumatic tire rollers shall have multiple tires of equal size with smooth tread. Wheels shall be arranged to oscillate in pairs, or they may be individually sprung. Tires shall be uniformly inflated at the operating pressure approved by the Engineer. The Contractor shall furnish the Engineer a manufacturer's table showing this data. The difference in tire pressure between any two tires shall not be greater than 5 psi. The Contractor shall provide a means for checking the tire pressure on the job at all times.
- D. Grinding Equipment: Use grinding equipment that has a cutting mandrel with carbide tipped cutting teeth and designed specifically for grinding asphalt surfaces to close tolerances. The equipment shall accurately establish slope elevations and profile grade controls.

Follow immediately behind the grinding machine with a vacuum equipped street sweeper, capable of removing all loose material from the roadway without causing dust to escape into the air.

PART 2 - PRODUCTS**2.01 MATERIALS:**

- A. Hot Mix Asphalt shall meet the requirements of SHA Section 904.04.

2.02 PRODUCTION PLANTS: Production Plants shall meet the requirements of SHA Section 915.**PART 3 - EXECUTION****3.01 WEATHER:**

- A. Pavement shall be placed only when the ambient air and surface temperature is at least 40° F and rising for surface course and at least 32° F and rising for base courses. The base shall be clean and dry and approved by the Engineer before HMA paving begins. HMA pavement shall not be placed on a frozen base. When weather conditions differ from these limits, material en route from the plant to the job site may be used at the Contractor's risk. If placement of the material is stopped by the Engineer, all material en route shall be wasted at the Contractor's expense.

3.02 FOUNDATION PREPARATION:

- A. Prior to placement of paving material, the foundation shall be constructed as specified in the Contract Documents and approved by the Engineer. When paving over existing pavement, all excess crack filling or patch material shall be removed and all spalls and potholes shall be cleaned, tack coated, filled and tamped with hot mix asphalt before placement. Manholes, valve boxes, inlets, and other appurtenances within the area to be paved shall be adjusted to grade as directed by the Engineer.
- B. Curbs, Gutters, and Other Supports: Where permanent curbs, gutters, edges, and other supports are planned, they shall be constructed and backfilled prior to placing the HMA, which shall then be placed and compacted against them.

3.03 TACK COAT:

- A. Prior to application of the tack coat, the surface shall be cleaned of all loose and foreign materials. The tack coat shall be uniformly applied to the surface by full circulation spray bars that are laterally and vertically adjustable and provide triple fanning and overlapping action so that the

resulting coating shall be residual asphalt applied at a rate of 0.01 to 0.05 gal/yd² as directed by the Engineer.

3.04 HOT MIX ASPHALT PLACEMENT:

- A. HMA shall be placed by the paver. Delivery of the mixture by the hauling units and placement shall be continuous. The temperature of the mixture shall not be less than 225° F at the time of placement. Broadcasting of loose mixture over the new surface will not be permitted.

3.05 COMPACTION:

- A. Immediately following placement of the HMA, the mixture shall be compacted by rolling to an in-place density of 92.0 to 97.0 percent of the maximum density. In-place compaction shall be completed before the mixture cools below 185° F, as determined by a probe type surface thermometer, supplied by the Contractor and approved by the Engineer.
- B. Rollers shall start at the sides and proceed longitudinally toward the center of the pavement. Successive trips of the roller shall overlap by at least one half the width of the roller, and alternate trips shall not end at the same point. After rolling is completed, no traffic of any kind will be permitted on the pavement until the pavement has cooled to less than 140° F or as directed by the Engineer.

3.06 JOINTS:

- A. Both longitudinal and transverse joints in successive courses shall be staggered so that one is not above the other. Transverse joints shall be staggered by the length of the paver. Longitudinal joints shall be staggered a minimum of 6 in.
- B. Joints shall be constructed to provide a continuous bond between the old and new surfaces. Joints shall be coated with tack coat as directed by the Engineer. In the case of surface course, the edge of the existing pavement shall be cut back for its full depth on transverse joints to expose a fresh surface and the surface shall be coated with tack coat material as directed by the Engineer. Before placing the mixture against curbs, gutters, headers, manholes, etc., all contact surfaces shall be coated with tack coat.

3.07 FIELD QUALITY CONTROL:

- A. Acceptance will be determined by nuclear in-place density test data. The nuclear gauge shall be calibrated in conformance with MSMT 417.

- B. The Contractor shall take a one-minute special calibration nuclear test from each lift. A special calibration nuclear test is defined as an average of two (minimum) special calibration readings taken at the same location after rotating the nuclear gauge 180° degrees.
- C. Nuclear test-in-place density data shall be expressed as percentage of the maximum specific gravity determined for each day's production. The in-place density shall be 92.0 to 97.0 percent.

3.08 GRINDING:

- A. **Control Strip.** Grind a control strip at least 500 ft. in length with a uniformly textured surface and cross section as approved.

Provide a final pavement surface with a transverse pattern of 0.2 in. center to center of each strike area and with the difference between the high and low of the matted surface not exceeding 1/16 in.

- B. **Pavement Grinding.** Use the same procedures, settings, speed, and requirements as those used in the control strip.

When necessary to maintain an adequate cross slope for drainage, grind the pavement adjacent to the ground pavement.

Furnish an approved 10 ft. straightedge for testing the transverse and longitudinal surface after grinding operations. Correct all area showing high spots greater than 1/8 in. within 10 ft. by additional grinding at no additional cost to the Administration. Straightedge requirements apply to areas across joints and repaired cracks but are not applicable to area outside the ground area.

PART 4 - MEASUREMENT AND PAYMENT

4.01 HOT MIX ASPHALT SUPERPAVE 12.5 MM FOR SURFACE, PG 64-22, LEVEL 2:

- A. Superpave 12.5 MM for Surface, PG 64-22, Level 2 will be measured at the contract unit price bid per ton.
- B. Superpave 12.5 MM for Surface, PG 64-22, Level 2 will be paid per ton, complete in place, accepted, which price will be full compensation for all material, equipment, tools, labor, impacts due to weather, foundation preparation, tack coat, compaction, joints, field quality control, maintenance and all work incidental to complete the item as specified.

4.02 HOT MIX ASPHALT SUPERPAVE 19.0 MM FOR BASE, PG 64-22, LEVEL 2:

- A. Superpave 19.0 MM for Base, PG 64-22, Level 2 will be measured at the contract unit price bid per ton.
- B. Superpave 19.0 MM for Base, PG 64-22, Level 2 will be paid per ton, complete in place, accepted, which price will be full compensation for all material, equipment, tools, labor, impacts due to weather, foundation preparation, tack coat, compaction, joints, field quality control, maintenance and all work incidental to complete the item as specified.

4.03 PRICE ADJUSTMENT FOR ASPHALT BINDER:

Price Adjustment (PA) will be made to provide additional compensation to the Contractor or a credit to the Administration for the fluctuation in the cost of asphalt binder.

For adjustment purposes, the prevailing base index price will be the price specified for PG 64-22 Asphalt Binder posted at www.roads.maryland.gov (Business Center/Contracts Bids and Proposals) at time of bid opening. Cost differentials between PG 64-22 and a binder specified shall be included in the price bid per ton for Hot Mix Asphalt. A historical database will be maintained by the State Highway Administration. The base index price for PG 64-22 Asphalt Binder for October 2011 is \$591.25 per ton.

The PA will be made when the index price for the month of placement increases or decreases more than 5 percent of the prevailing base index price. Computations will be as follows:

$$\text{Percent Change} = ((P_p - P_b) / P_b) \times 100$$

$$PA = T \times Q \times (P_p - (D \times P_b))$$

Where:

- PA = Price Adjustment for the current month
 T = Design target asphalt content expressed as a decimal
 Q = Quantity of Hot Mix Asphalt placed for the current month
 P_p = Index price for PG 64-22 Asphalt Binder per ton for the month of Placement
 D = 1.05 for increases over 5 percent; 0.95 for decreases over 5 percent
 P_b = Prevailing base index price for PG 64-22 Asphalt Binder per ton

PA resulting in increased payment to the contractor will be paid under the item Price Adjustment for Asphalt Binder. The item amount will be established by the Administration and shall not be revised by the Contractor. PA resulting in a decreased payment will be deducted from monies owed the Contractor.

4.04 GRINDING EXISTING PAVEMENT 0 INCH TO 1 ½ INCH:

- A. Grinding Existing Pavement 0 Inch to 1 ½ Inch will be measured at the contract unit price bid per square yard.
- B. Grinding Existing Pavement 0 Inch to 1 ½ Inch will be paid for at the Contract unit price per square yard. The square yard measurement will be computed from the actual width and length measurements of the area that has been ground. The payment will be full compensation for grinding, removal and disposal of ground material, and for all material labor, equipment, tools, and incidentals necessary to complete the work.

END OF SECTION

GEOTECHNICAL SUBSURFACE INVESTIGATION REPORT

Charlotte Hall Park & Ride St. Mary's County, Maryland

PREPARED FOR:

**The Wilson T. Ballard Company
17 Gwynns Mill Court
Owings Mills, MD 21117**

PREPARED BY:



**AB CONSULTANTS, INC.
9450 ANNAPOLIS ROAD
LANHAM, MARYLAND 20706**

December 7, 2009

December 7, 2009

Attn: Mr. Paul Upton
The Wilson T. Ballard Company
17 Gwynns Mill Court
Owings Mills, MD 21117

**REF: Report of Subsurface Investigation and Studies
Charlotte Hall Park & Ride
St. Mary's County, Maryland
AB Job No. 09-010**

Dear Mr. Paul Upton:

AB Consultants, Inc. (ABC) is pleased to submit this soil report containing the results of geotechnical investigation for the above referenced site. To obtain information of the subsurface condition, fourteen (14) soil borings were drilled, ranging in depth from 5-ft to 30-ft, and two (2) pavement cores were obtained at the site. The purpose of this study was to explore the subsurface conditions of this Maryland Transit Authority (MTA) project that includes access road, parking lots and stormwater management (SWM) facilities. The following report sections discuss the results of field and laboratory studies, design recommendations and construction methods for the proposed structures.

All samples obtained from soil test borings will be retained in our laboratory for a period of thirty (30) days from the date of this report. They will be available for inspection during this period. After that time, the samples will be discarded.

It has been a pleasure serving you on this project. If you have any questions regarding this report, or if we can be of further service in any way, please contact us.

Very truly yours,
AB Consultants, Inc.



Kim-Hou Chan, P.E.
Director, Geotechnical & Field Services



TABLE OF CONTENTS

1.0 INTRODUCTION 2

 1.1 GENERAL..... 2

 1.2 SCOPE OF WORK 2

 1.3 SITE LOCATION 2

2.0 FIELD ACTIVITIES AND SUBSURFACE EXPLORATION..... 2

 2.1 PAVEMENT CORES..... 2

 2.2 SOIL BORINGS 3

 2.3 SUBSURFACE INVESTIGATION 3

3.0 LABORATORY TESTING PROGRAM 4

 3.1 LABORATORY TESTING PROGRAM 4

 3.2 LABORATORY RESULTS..... 4

4.0 GENERAL SITE AND SUBSURFACE CONDITIONS..... 4

 4.1 SITE CONDITION..... 4

 4.2 SITE GEOLOGY 4

 4.3 SUBSURFACE SOIL CONDITION..... 5

 4.4 GROUNDWATER OBSERVATIONS 5

5.0 ANALYSIS AND RECOMMENDATIONS 6

 5.1 PAVEMENT 6

 5.2 SWM FACILITIES CONSIDERATIONS 7

6.0 SITE GRADING AND CONSTRUCTION CONSIDERATIONS 9

 6.1 SITE GRADING..... 9

 6.2 SUITABLE FILL MATERIAL 10

 6.3 COMPACTION REQUIREMENT 10

7.0 CONSTRUCTION CONSIDERATIONS 10

8.0 GENERAL COMMENTS 11

- APPENDICES**
- A. General Notes
 - B. Vicinity Map
 - C. Boring and Coring Plan
 - D. Boring Logs and Lab Test Results
 - E. Pavement Core Summary

1.0 INTRODUCTION

1.1 General

This report summarizes the findings from subsurface soil investigations conducted by ABC for the MTA Charlotte Hall Park and Ride Facility in St. Mary's County, Maryland. We accomplished the objective by conducting field and laboratory tests. The results of these tests constitute the bases for determining pertinent design parameters for the proposed improvement. This study was conducted for The Wilson T. Ballard Company and has been performed in general accordance with our letter proposal dated on January 27, 2009 and subsequent conversations.

1.2 Scope of Work

The investigation of existing subsurface soil conditions at the site consisted of the following:

- Evaluating existing pavement sections by coring.
- Planning and executing subsurface exploration programs to evaluate soil and ground conditions for this MTA facility.
- Performing soil laboratory tests on soil samples obtained from the borings.
- Providing geotechnical report that includes results of field and laboratory studies.

1.3 Site Location

The site is located east of the intersection of Golden Beach Road and Market Drive, accessible from Golden Beach Road in Charlotte Hall, St. Mary's County, Maryland.

2.0 FIELD ACTIVITIES AND SUBSURFACE EXPLORATION

2.1 Pavement Cores

The purpose of pavement coring is to determine the existing pavement thickness and subgrade materials encountered, and provide a summary of field results for pavement study. Two (2) asphalt pavement cores were drilled on site by a portable core drill machine on November 2, 2009. A 4-inch diameter diamond core drill bit was used to obtain the samples. The results of the field findings are summarized in the Appendix.

2.2 Soil Borings

A total of fourteen (14) soil borings were drilled for subsurface study on the project sites. Borings were drilled at the referenced sites to depths of 5- to 30-ft below the existing ground surface on October 29 and 30, 2009. Soil borings were staked out in the field by your representative. Site location and boring plans are included in the Appendix.

2.3 Subsurface Investigation

Borings were drilled using an ATV-mounted drill rig, CME 550. Test borings were advanced by using hollow-stem augers and soil samples were obtained using the Standard Penetration Tests (SPT) in accordance with ASTM D1586. SPT samples were obtained for each boring at depth intervals of every 2.5 feet for the first 10 feet and at 5 feet intervals thereafter. A representative portion of each split spoon sample was placed in a glass jar and was transported to our laboratory.

In the split-barrel sampling procedure, a 2-inch O.D. split-barrel sampling spoon is driven into the ground with a 140-pound hammer, free falling a distance of 30 inches. The blows required to advance the sampling spoon to a specified distance are reported as the penetration resistance values. The values are shown on boring logs at the depths of their occurrence. The N-value is the sum of standard penetration resistance values that advanced through the last 12-inches of sampling. The N-value is an indication of the relative density of in-place granular soils and, to a lesser degree of accuracy, the consistency of cohesive soils.

Groundwater level was monitored in the boring. The boring locations given on the boring plan are accurate within ± 2 ft, and the surface elevations on the boring logs are accurate within ± 0.5 ft. Samples obtained from the boring were inspected by a geotechnical engineer and the field logs were edited accordingly. The final logs with correlation of all laboratory test results that indicated the subsurface conditions encountered is included in the Appendix.

3.0 LABORATORY TESTING PROGRAM

3.1 Laboratory Testing Program

Laboratory tests were performed on selected representative samples. Natural moisture contents were performed on all soil samples, and results are included in boring logs. Atterberg limits, sieve analysis, standard proctor and California Bearing Ratio (CBR) tests were conducted on selected samples.

3.2 Laboratory Results

Results of some laboratory tests are summarized in the following table. Other pertinent soil data are presented in the boring logs and the Appendix.

LABORATORY COMPACTION TEST AND CBR RESULTS						
Boring No.	Sample Depth (ft)	Standard Proctor Test		CBR	Percent Swell / Shrink (%)	Classif.
		Max. Dry Density (pcf)	Opt. Moisture Contents (%)			
B-1	0 to 5	129.7	8.5	36.0 @ 0.2"	- 0.11	SM
B-5	0 to 5	120.3	11.0	19.2 @ 0.2"	- 0.07	SM

4.0 GENERAL SITE AND SUBSURFACE CONDITIONS

4.1 Site Condition

The site is located east of the intersection of Golden Beach Road and Market Drive, accessible from Golden Beach Road in Charlotte Hall, St. Mary's County, Maryland. It is an empty lot with gentle sloping hills, valleys, around Boring S-1, S-2 and B-4 and some level areas, particularly around Boring S-3, S-4 and S-5. General topography runs from higher elevation at the western end and northern section to lower elevation in the south and southeast, closer to Golden Beach Road. There were some standing puddles on site, particularly at the western end, as the result of recent rain which indicated that drainage is fair to poor. No major pavement distress or pot holes were observed on Golden Beach Rd, where the pavement cores were taken. Nearby structures consist of a few small, single story shops across Golden Beach Road from the site. No major utilities were observed on site.

4.2 Site Geology

Geologically, the project site is in the Upland Deposits (Western Shore) of the Coastal Plain Province. It is underlain by a wedge of unconsolidated sediments including

gravel, sand, silt and clay, which overlaps the rocks of the eastern Piedmont. The major soils found in this area were carried down and deposited from larger rivers during Pleistocene time. The soils in this area are dominantly sandy and gravelly soils, and with some locally limonite-cemented soils from minor silt and clay.

4.3 Subsurface Soil Condition

Various soil types were grouped into the major zones noted on the boring logs. A brief explanation of the terms and notes used in the logs is included with this report. The stratification lines designating the interfaces between earth materials on the boring logs are approximate; in situ, the transitions may be gradual. Detailed soil description and depth of various soil strata are given in boring logs, together with the SPT blow counts with depth. The encountered soils in this project site are summarized as follows:

Topsoil: Topsoil is defined as the more high-organic, weathered surficial soils horizon capable of supporting vegetation.

Stratum I: Underneath the topsoil, brown to reddish brown fine sandy clay to clayey fine sand with trace of gravel were found and extended to 2- to 5-ft below existing ground. N-values of encountered soils were ranging from 3 to 25 blows per foot.

Stratum II: Brown and tan silty sand with trace to some gravel were found underneath Stratum I and extended to completion depth of boring. N-values of encountered soils were ranging from 2 to more than 50 blows per foot. Some N-values are higher due to the presence of more gravel.

4.4 Groundwater Observations

Groundwater observations were made in every borehole during drilling, and after completion of drilling operations. As noted on boring logs groundwater was **not encountered** during and after drilling in all borings. Water level observations are presented at the lower left hand corner of boring logs and a summary is presented in the table below. The variations between the recorded water readings might be a result of saturated ground and surface runoff from melting snow and rain. Fluctuations in the level and quantity of ground water will occur due to variations in rainfall, temperature, soil permeability and other factors not evident at the time of the water level measurements recorded on boring logs.

SUMMARY OF GROUNDWATER OBSERVATION				
Boring No.	Boring Depths (ft)	Existing Ground Elevation	Water Encountered During Drilling (from existing ground)	Water Observed After 24 Hours (from existing ground)
B-1	10	n/a	Dry	Dry, cave in 6 ft
B-2	20	n/a	Dry	Dry, cave in 14 ft
B-3	15	n/a	Dry	Dry, cave in 10.5 ft
B-4	5	n/a	Dry	Dry, cave in 3 ft
B-5	15	n/a	Dry	Dry, cave in 11 ft
B-6	15	n/a	Dry	Dry, cave in 10 ft
B-7	10	n/a	Dry	Dry, cave in 6 ft
B-8	10	n/a	Dry	Dry, cave in 6 ft
B-9	10	n/a	Dry	Dry, cave in 6 ft
S-1	10	n/a	Dry	Dry, cave in 6 ft
S-2	10	n/a	Dry	Dry, cave in 5.5 ft
S-3	30	n/a	Dry	Dry, cave in 23 ft
S-4	30	n/a	Dry	Dry, cave in 18 ft
S-5	30	n/a	Dry	Dry, cave in 15.5 ft

5.0 ANALYSIS AND RECOMMENDATIONS

5.1 Pavement

Asphalt paved access roadways and parking lot are anticipated for this project. We understood that The Wilson T. Ballard Company would be performing the pavement design for this project.

With the assumption of minimum earthwork, the roadway subgrade will predominantly consists of the sandy material or suitable soil utilized as controlled fill. As revealed from boring logs, the predominated subsurface soils are fine sandy clay to clayey fine sandy (Stratum I), silty sand (Stratum II) or the mixture of both. Based on the field data and laboratory tests results of these encountered soil mixtures, CBR are expected to be ranging from 15 to 35, which are considered as good subgrade material. Localized unsuitable materials may be encountered during site grading operation and subgrade improvement may be expected. Undercut of the existing poor subgrade material within 12 inches or more of the final subgrade elevations may be required. Excavations should be backfilled with suitable fill material which meet County and/or design requirements.

Also, geo-synthetic products may be considered in conjunction with the cut and fill operation for subgrade improvement.

5.2 SWM Facilities Considerations

Based upon the information provided from The Wilson T. Ballard Company, two types of SWM facilities that include a bioretention pond and an extended detention pond are considered in this project.

SWM Pond:

The foundation for the SWM pond must consist of or be underlain by relatively impervious material that will prevent excessive passage of water. For either wet or dry ponds, the area on which the embankment is to be placed should consist of material that has sufficient end-bearing strength to support the embankment without excessive consolidation. Construction factors such as installation of foundation units, excavation procedures, and surface and groundwater conditions must also be considered.

If there are any significant changes to the locations of the SWM facility, final grades, etc., we expected to be advised so the recommendations of this report may be re-evaluated. For foundation design of hydraulic structures, footings found in these soils may be sized based on an average maximum net allowable bearing pressure of 2000 pounds per square foot (psf). The above estimated bearing values are based on a minimum factor of safety of 2.5 with respect to the strength of the encountered soils.

A cutoff/core trench should be installed in the downstream embankment to minimize the excessive passage of water. It is our recommendation that the bottom width of the cutoff/core trench should be adequate to accommodate the equipment used for excavation, backfill and compaction operations. In general accordance with the Maryland Stormwater Management Design Manual (Code MD-378), a minimum of four (4) feet width, and four (4) feet deep cutoff/core trench below existing ground or floor elevation of the pond is required. The side slope of cutoff/core trench should be no steeper than one horizontal to one vertical (1H:1V). The minimum side slopes of the embankment are to be three horizontal to one vertical maximum (3H:1V).

Based upon field investigation and laboratory results, the subsoils classified per the Unified Soil Classification System (USCS) together with some field data and engineering properties are summarized in the following table:

SUMMARY OF ENCOUNTERED SOILS FOR SWM FACILITY					
Boring Number	Sample Depth (Bel. Ex. Elev.)	Sample Description	USCS	Water Observed (24 hrs)	Estimated Permeability
S-1	0.5 to 5 ft	Clayey fine sand	SC	n/a	Low
	5 to 10 ft	Silty Sand	SP-SM		Low to medium
S-2	0.5 to 10 ft	Silty Sand	SP-SM	n/a	Low to medium
S-3	0.5 to 2 ft	Clayey fine sand	SC	n/a	Low
	2 to 30 ft	Silty sand	SP-SM		Low to medium
S-4	0.5 to 2 ft	Clayey fine sand	SC	n/a	Low
	2 to 30 ft	Silty sand	SP-SM		Low to medium
S-5	0 to 2 ft	Clayey fine sand	SC	n/a	Low
	3 to 30 ft	Silty sand	SP-SM		Low to medium

As revealed from boring logs, silty sand was found in the proposed SWM areas. This sandy soil exhibited low permeability and considered as marginal material for wet pond design. If a wet pond is anticipated in the design plan, then a clay liner should be considered to prevent excessive water loss through seepage. Depending upon the pond size, pond bottom elevation, water detention period, and other factors, the Engineer will determine the requirement of the clay liner.

Infiltration Characteristic:

The infiltration design criteria established by the Maryland Department of the Environment (MDE) Water Management Administration advises that infiltration practices are not recommended to be utilized: (a) in regions where the bottom of the infiltration facility is in existing or newly placed fill, or (b) in materials that exhibit an infiltration rates less than 0.52 inches per hour, or (c) where the groundwater table or bedrock is within 4 feet of the bottom of the infiltration facility.

Based on information revealed from borings, laboratory results, and our visual classification of the recovered soil samples, the encountered subsoils are classified per the USDA classification system and are summarized in following table.

SUMMARY OF SOIL PROPERTIES OF SWM FACILITY				
Boring No.	Sample Depth	USDA Textural Classification	Minimum Infiltration Rate (in/hr)	Hydrologic Soil Grouping
S-1	0.5 to 5 ft	Clay loam	0.09	D
	5 to 10 ft	Loamy sand	2.41	A
S-2	0.5 to 10 ft	Loamy sand	2.41	A
S-3	0.5 to 2 ft	Clay loam	0.09	D
	2 to 30 ft	Loamy sand	2.41	A
S-4	0.5 to 2 ft	Clay loam	0.09	D
	2 to 30 ft	Loamy sand	2.41	A
S-5	0 to 2 ft	Clay loam	0.09	D
	3 to 30 ft	Loamy sand	2.41	A

Considering the USDA classification and no groundwater observed, the proposed infiltration SWM areas of this project is expected to be **feasible** in accordance with general design criteria. However, it is recommended that during construction of the SWM facility, the soil encountered at and below the planned elevation, to be verified along with their infiltration characteristics.

6.0 SITE GRADING AND CONSTRUCTION CONSIDERATIONS

6.1 Site Grading

Grading preparation should include clearing within the limits of construction, grubbing and removal of the organic surficial soils. The potential thickness of material subject to stripping will be on the order of 6 inches. Design and construction should include provisions for temporary storage, hauling, and disposal of stripped materials at an approved off-site location.

Following stripping, cutting, the subgrade should be proof-rolled with a pneumatic roller, loaded tandem-wheel dump truck, or similar equipment prior to placing any fills material. Areas identified during the proof-rolling process as soft or exhibiting "pumping" tendencies should be undercut, processed and recompact or removed and replaced with suitable fill, whichever is appropriate.

6.2 Suitable Fill Material

Fill material for the cutoff/core trench and clay liner should be confirmed to Pond Code-378 specification. Clayey soils use in cutoff/core trench and clay liner construction should be conformed to USCS of high plasticity clay (CH), low plasticity clay (CL), clayey sand (SC), or clayey gravel (GC) that must have at least 30% passing the #200 sieve.

Fill and backfill for general areas include parking lot, roadway, SWM embankment should be free of organics, debris and rock fragments in excess of 3-in. in any dimension. In the upper 18 inches of fill, the maximum particle size should be limited to about 1.5 inches. As per ASTM D2478 classification, imported select fill should consist of sandy gravel (GM), clayey gravel (GC), gravelly sand (SP), silty sand (SM), clayey sand (SC), or low-plasticity sandy clay (CL) with a liquid limit and plasticity index of less than 40 and 15 respectively, or an approved alternate.

6.3 Compaction Requirement

Fill soils should be compacted to a minimum of 95 percent of maximum Standard Proctor dry density (ASTM D698), with a moisture content range of minus to plus 2 percent of optimum. Fill should be placed in a nominal 10-inch-thick loose lifts. Each lift of fill should be properly compacted, tested and approved prior to placing subsequent lifts.

7.0 **CONSTRUCTION CONSIDERATIONS**

Positive surface drainage should be established at the start of work, be maintained during construction and following completion of the project to prevent surface water ponding and subsequent saturation of subgrade soils. Prolonged exposure or saturation of subgrade soils by ponding or runoff water may result in significant changes in strength and compressibility characteristics. Saturated subgrade soils should be excavated and replaced with suitable materials.

Depending upon weather conditions during and prior to construction, groundwater may be encountered in the excavation areas. Any seepage into the construction excavation could be controlled by pumping from sump pits. During site preparation, surface runoff should be directed away from the construction areas.

8.0 GENERAL COMMENTS

The soil classifications presented in this report are based upon the data obtained from the soil borings performed at indicated locations and from any other information discussed in this report. This report does not reflect any variations that may occur across the site. The nature and extent of such variations may not become evident until construction. If variations appear evident, the conclusion and recommendations of this report should then be reviewed by ABC geotechnical engineer in light of the new information.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No other warranties, either expressed or implied, are intended or made. In the event that any changes in the nature, design or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report modified or verified in writing by ABC geotechnical engineer of record.

APPENDIX

A. General Notes

B. Vicinity Map

C. Boring and Coring Plan

D. Boring Logs and Lab Test Results

E. Pavement Core Summary

GENERAL NOTES

Drilling and Sampling Symbols



N = Standard penetration, blows per foot of a 140 lbs hammer for 30" drop
 RQD = Rock Quality Designation
 LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index

Cohesionless Soils

If the sand or silt content of a soil is great enough, the soil becomes non-cohesive or semi-cohesive. The soil classification becomes SAND or SILT with the other soil constituents being modifying.

Based on N-Value

0 to 4 Blows.....Very Loose	30 to 59 Blows.....Dense
5 to 9 Blows.....Loose	Over 60 Blows.....Very Dense
10 to 29 Blows.....Medium Dense	

Cohesive Soils

If clay content is sufficient so that clay dominates soil properties, then CLAY becomes the major soil constituent as modifier. Other minor soil constituents may be added according to classification breakdown for cohesion less soils: i.e. silty clay, trace of some sand, trace of gravel.

Based on N-Value

0 to 3 Blows.....Very Soft	16 to 30 Blows.....Stiff
4 to 5 Blows.....Soft	30 to 60 Blows.....Very Stiff
6 to 16 Blows.....Firm	Over 61 Blows.....Hard

Based on Penetrometer Value

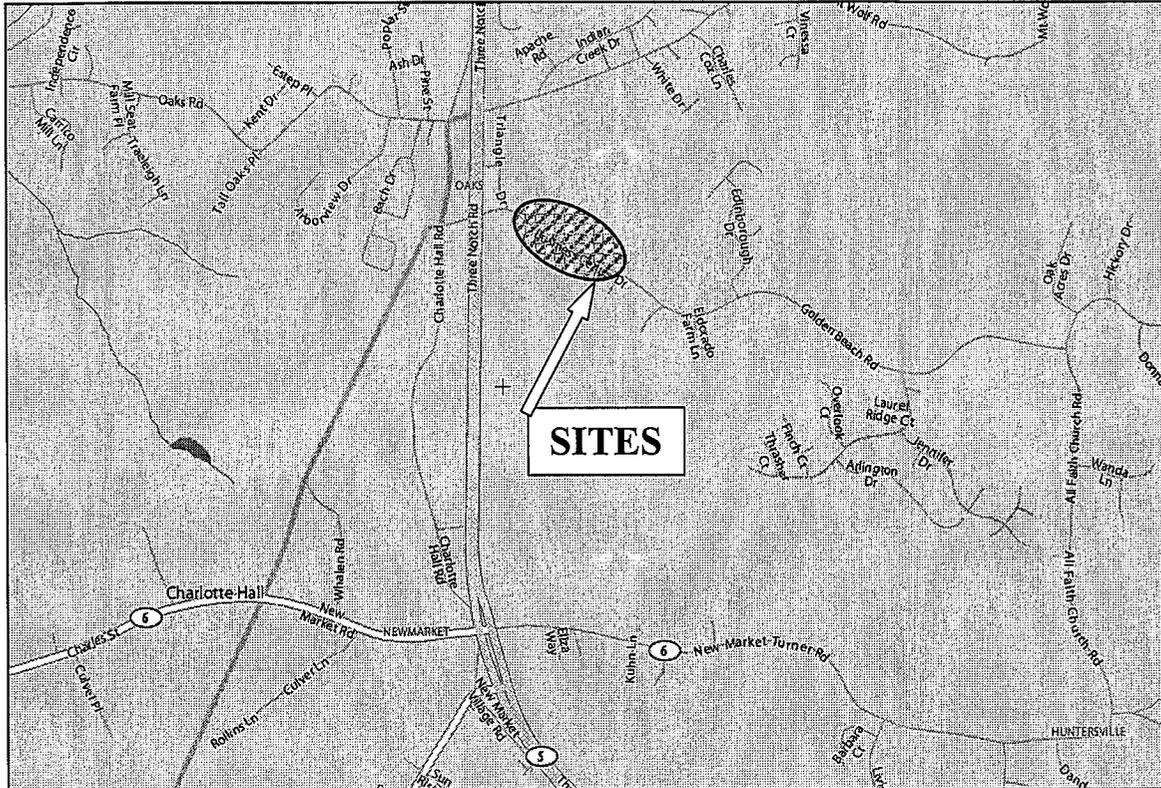
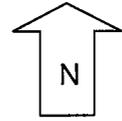
Below 0.25.....Very Soft	1.00 to 1.99.....Stiff
0.25 to 0.49.....Soft	2.00 to 3.99.....Very Stiff
0.50 to 0.99.....Firm	Over 4.00.....Hard

Quantity Modifiers

<u>Term</u>	<u>% of Dry Weight</u>
trace	0 to 10
little	11 to 20
some	21 to 35
and/with	36 to 50

Particle Size Identifications

Boulder	Over 8 inch diameter
Cobbles.....	3 inch to 8 inch
Gravel.....	Coarse.....1 inch to 3 inch
	Medium.....1/2 inch to 1 inch
	Fine.....4.75 mm to 1/2 inch
Sand.....	Coarse.....2 mm to 4.75 mm
	Medium.....0.425 mm to 2 mm
	Fine.....0.075 mm to 0.425 mm
Silt/Clay.....	Below 0.075 mm



VICINITY MAP
Charlotte Hall Park & Ride
Charlotte Hall, St. Mary's County, Maryland

JOB NO.: 09-010
SCALE: N.T.S.
DATE: 11/24/09

BORING LOGS and LAB TEST RESULTS

CLIENT: The Wilson T. Ballard Company PROJECT: Charlotte Hall Park and Ride

ARCHITECT/ENGINEER: SITE: Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES			TESTS					
			BLOWS/6" N - VALUE ROD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2 2" Topsoil			3-3-3 N=6	1	SS	15/18 83%	11				LL = 22 PL = 15 PI = 7
2.0 Loose brown CLAYEY FINE SAND (SC)			7-10-12 N=22	2	SS	5/18 28%	6				
Medium dense brown SILTY SAND (SP-SM) with some gravel		5	9-9-10 N=19	3	SS	18/18 100%	8			12	
		10.0	5-5-6 N=11	4	SS	18/18 100%	3				
End of Boring @ 10 ft											

BORING LOG AB09 09-010.GPJ AB CONS.GDT 12/3/09

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, cave in 6 ft	@ 0 hr
WL	Dry, cave in 6 ft	@ 24 hr



AB Consultants, Inc.
 9450 Annapolis Road
 Lanham, MD 20706
 Phone: 301-306-3091
 Fax: 301-306-3092

STARTED: 10/30/09	FINISHED: 10/30/09
DRILL CO.: Recon	DRILL RIG: 550 ATV
DRILLER: V. Rodas	ASST DRILLER:
LOGGED BY:	APPROVED:

Project No. 09-010

LOG OF BOREHOLE B-2

Sheet 1 of 1

CLIENT:
The Wilson T. Ballard Company

PROJECT:
Charlotte Hall Park and Ride

ARCHITECT/ENGINEER:

SITE:
Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES			TESTS					
			BLOWS/6" N-VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2 2" Topsoil			3-8-8 N=16	1	SS	18/18 100%	21				LL = 63 PL = 37 PI = 26
			6-15-10 N=25	2	SS	18/18 100%	11				
5.0			10-15-20 N=35	3	SS	18/18 100%	6				
			21-20-22 N=42	4	SS	18/18 100%	4			10	
			11-14-20 N=34	5	SS	18/18 100%	3				
20.0			9-11-17 N=28	6	SS	18/18 100%	5				
End of Boring @ 20 ft											

BORING LOG AB09 09-010.GPJ AB CONS.GDT 12/3/09

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, cave in 14 ft	@ 0 hr
WL	Dry, cave in 14 ft	@ 24 hr



AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED: 10/29/09	FINISHED: 10/29/09
DRILL CO.: Recon	DRILL RIG: 550 ATV
DRILLER: V. Rodas	ASST DRILLER:
LOGGED BY:	APPROVED:

Project No. 09-010

LOG OF BOREHOLE B-3

Sheet 1 of 1

CLIENT:
The Wilson T. Ballard Company

PROJECT:
Charlotte Hall Park and Ride

ARCHITECT/ENGINEER:

SITE:
Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES			TESTS					
			BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2 2" Topsoil			2-3-4 N=7	1	SS	18/18 100%	24				
2.0 Loose brown CLAYEY FINE SAND (SC)			5-10-20 N=30	2	SS	18/18 100%	14				
Dense brown and tan SILTY SAND (SM) with some gravel		5	40-50/4"	3	SS	8/10 80%	7			16	
-become very dense between 5 to 8 ft											
		10	14-15-17 N=32	4	SS	18/18 100%	4				
		15	11-13-16 N=29	5	SS	18/18 100%	4				
15.0											
End of Boring @ 15 ft											

WATER LEVEL OBSERVATIONS	
WL	Dry @ Drilling
WL	Dry, cave in 10.5 ft @ 0 hr
WL	Dry, cave in 10.5 ft @ 24 hr



AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED: 10/30/09	FINISHED: 10/30/09
DRILL CO.: Recon	DRILL RIG: 550 ATV
DRILLER: V. Rodas	ASST DRILLER:
LOGGED BY:	APPROVED:

BORING LOG AB09 09-010.GPJ AB. CONS.GDT. 12/3/09

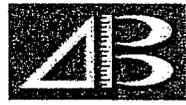
CLIENT: The Wilson T. Ballard Company PROJECT: Charlotte Hall Park and Ride

ARCHITECT/ENGINEER: SITE: Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES			TESTS				REMARKS/ ADDITIONAL DATA
			BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	
0.3	3" Topsoil		1-1-2 N=3	1	SS	15/18 83%	13		40	
2.0	Very soft brown CLAYEY FINE SAND (SC) with trace of gravel									
	Loose brown SILTY SAND (SM) with trace of gravel		2-3-5 N=8	2	SS	18/18 100%	5			
5.0	End of Boring @ 5 ft									

BORING LOG AB09_09-010.GPJ AB_CONS.GDT 12/3/09

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, cave in 3 ft	@ 0 hr
WL	Dry, cave in 3 ft	@ 24 hr



AB Consultants, Inc.
 9450 Annapolis Road
 Lanham, MD 20706
 Phone: 301-306-3091
 Fax: 301-306-3092

STARTED: 10/30/09	FINISHED: 10/30/09
DRILL CO.: Recon	DRILL RIG: 550 ATV
DRILLER: V. Rodas	ASST DRILLER:
LOGGED BY:	APPROVED:

Project No. 09-010

LOG OF BOREHOLE B-5

Sheet 1 of 1

CLIENT:
The Wilson T. Ballard Company

PROJECT:
Charlotte Hall Park and Ride

ARCHITECT/ENGINEER:

SITE:
Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES				TESTS				REMARKS/ ADDITIONAL DATA
			BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	
0.3	3" Topsoil		2-3-4 N=7	1	SS	6/18 33%	24				
2.0	Loose brown CLAYEY FINE SAND (SC)										
	Medium dense brown and tan SILTY FINE SAND (SM)										
	-with few gravel below 5 ft										
		5	5-10-9 N=19	2	SS	18/18 100%	12			20	
		10	8-9-11 N=20	4	SS	18/18 100%	9				
15.0		15	5-8-12 N=20	5	SS	18/18 100%	13				
	End of Boring @ 15 ft										

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, cave in 11 ft	@ 0 hr
WL	Dry, cave in 11 ft	@ 24 hr



AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	10/30/09	FINISHED:	10/30/09
DRILL CO.:	Recon	DRILL RIG:	550 ATV
DRILLER:	V. Rodas	ASST DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 09-010.GPJ AB CONS.GDT 12/3/09

Project No. 09-010

LOG OF BOREHOLE B-6

Sheet 1 of 1

CLIENT:
The Wilson T. Ballard Company

PROJECT:
Charlotte Hall Park and Ride

ARCHITECT/ENGINEER:

SITE:
Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES			TESTS					REMARKS/ ADDITIONAL DATA
			BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Cu (TSF)	% PASSING #200 SIEVE	
0.3	3" Topsoil Soft to stiff reddish brown FINE SANDY CLAY (CL)		2-2-4 N=6	1	SS	15/18 83%	23			87	
			5-8-9 N=17	2	SS	18/18 100%	11				
5.0	Dense brown and tan SILTY SAND (SM) with trace of gravel -become medium dense between 8 to 12 ft	5	23-26-28 N=54	3	SS	18/18 100%	9				
		10	7-6-7 N=13	4	SS	18/18 100%	8			14	
15.0	End of Boring @ 15 ft	15	9-17-20 N=37	5	SS	18/18 100%	4				

BORING LOG AB09 09-010.GPJ AB CONS.GDT 12/3/09

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, cave in 10 ft	@ 0 hr
WL	Dry, cave in 10 ft	@ 24 hr



AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED: 10/30/09	FINISHED: 10/30/09
DRILL CO.: Recon	DRILL RIG: 550 ATV
DRILLER: V. Rodas	ASS'T DRILLER:
LOGGED BY:	APPROVED:

Project No. 09-010

LOG OF BOREHOLE B-7

Sheet 1 of 1

CLIENT: The Wilson T. Ballard Company

PROJECT: Charlotte Hall Park and Ride

ARCHITECT/ENGINEER:

SITE: Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES				TESTS				
			BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2	2" Topsoil		4-5-3 N=8	1	SS	16/18 89%	11			52	
2.0	Firm brown FINE SANDY CLAY (CL)										
	Medium dense brown and tan SILTY SAND (SM) with trace of gravel		4-6-9 N=15	2	SS	18/18 100%	7				
		5	4-6-11 N=17	3	SS	18/18 100%	5				
			6-5-9 N=14	4	SS	18/18 100%	4				
10.0	End of Boring @ 10 ft	10									

BORING LOG AB09 09-010.GPJ AB CONS.GDT 12/3/09

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, cave in 6 ft	@ 0 hr
WL	Dry, cave in 6 ft	@ 24 hr



AB Consultants, Inc.
 9450 Annapolis Road
 Lanham, MD 20706
 Phone: 301-306-3091
 Fax: 301-306-3092

STARTED: 10/29/09	FINISHED: 10/29/09
DRILL CO.: Recon	DRILL RIG: 550 ATV
DRILLER: V. Rodas	ASST DRILLER:
LOGGED BY:	APPROVED:

Project No. 09-010

LOG OF BOREHOLE B-8

Sheet 1 of 1

CLIENT:
The Wilson T. Ballard Company

PROJECT:
Charlotte Hall Park and Ride

ARCHITECT/ENGINEER:

SITE:
Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES				TESTS				REMARKS/ ADDITIONAL DATA
			BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	
0.2 2" Topsoil			6-9-4 N=13	1	SS	14/18 78%	11				LL = 32 PL = 13 PI = 19
2.0 Loose brown CLAYEY FINE SAND (SC) with trace of gravel			3-3-4 N=7	2	SS	5/18 28%	6				
		5	4-4-5 N=9	3	SS	18/18 100%	5			6	
			11-12-17 N=29	4	SS	18/18 100%	5				
10.0		10									
End of Boring @ 10 ft											

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, cave in 6 ft	@ 0 hr
WL	Dry, cave in 6 ft	@ 24 hr



AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED: 10/29/09	FINISHED: 10/29/09
DRILL CO.: Recon	DRILL RIG: 550 ATV
DRILLER: V. Rodas	ASST DRILLER:
LOGGED BY:	APPROVED:

BORING LOG AB09 09-010.GPJ AB CONS.GDT 12/3/09

Project No. 09-010

LOG OF BOREHOLE B-9

Sheet 1 of 1

CLIENT:
The Wilson T. Ballard Company

PROJECT:
Charlotte Hall Park and Ride

ARCHITECT/ENGINEER:

SITE:
Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES			TESTS					
			BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2	2" Topsoil		1-1-2 N=3	1	SS	18/18 100%	19				
2.0	Very soft reddish brown FINE SANDY CLAY (CL) with trace of gravel		6-7-7 N=14	2	SS	18/18 100%	9				
	Medium dense brown and tan SILTY FINE SAND (SM) with trace of gravel		5-5-3 N=8	3	SS	18/18 100%	14			29	
	-with trace of clay and become loose between 5 to 7 ft		11-9-9 N=18	4	SS	18/18 100%	9				
10.0	End of Boring @ 10 ft	10									

WATER LEVEL OBSERVATIONS

WL	Dry @ Drilling
WL	Dry, cave in 6 ft @ 0 hr
WL	Dry, cave in 6 ft @ 24 hr



AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED: 10/29/09	FINISHED: 10/29/09
DRILL CO.: Recon	DRILL RIG: 550 ATV
DRILLER: V. Rodas	ASST DRILLER:
LOGGED BY:	APPROVED:

BORING LOG AB09 09-010.GPJ AB CONS.GDT 12/3/09

Project No. 09-010

LOG OF BOREHOLE S-1

Sheet 1 of 1

CLIENT:
The Wilson T. Ballard Company

PROJECT:
Charlotte Hall Park and Ride

ARCHITECT/ENGINEER:

SITE:
Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES				TESTS			
			BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE
0.2' 2" Topsoil			1-2-3 N=5	1	SS	15/18 83%	17			LL = 25 PL = 17 PI = 8
			1-2-2 N=4	2	SS	10/18 56%	16		41	
5.0'			5-4-5 N=9	3	SS	18/18 100%	6		5	
10.0'			5-7-9 N=16	4	SS	18/18 100%	5			
End of Boring @ 10 ft										

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, cave in 6 ft	@ 0 hr
WL	Dry, cave in 6 ft	@ 24 hr



AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED: 10/30/09	FINISHED: 10/30/09
DRILL CO.: Recon	DRILL RIG: 550 ATV
DRILLER: V. Rodas	ASST DRILLER:
LOGGED BY:	APPROVED:

BORING LOG AB09 09-010.GPJ AB_CONS.GDT 12/3/09

CLIENT: The Wilson T. Ballard Company PROJECT: Charlotte Hall Park and Ride

ARCHITECT/ENGINEER: SITE: Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES				TESTS				
			BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2	2" Topsoil		2-1-1 N=2	1	SS	6/18 33%	10				
	Very loose to loose brown and tan SILTY SAND (SP-SM) with some gravel		1-2-1 N=3	2	SS	10/18 56%	4			5	
		5	2-3-4 N=7	3	SS	18/18 100%	4				
	-become medium dense below 8 ft		8-8-11 N=19	4	SS	18/18 100%	6				
10.0	End of Boring @ 10 ft	10									

BORING LOG AB09 09-010.GPJ AB CONS.GDT 12/3/09

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, cave in 5.5 ft	@ 0 hr
WL	Dry, cave in 5.5 ft	@ 24 hr



AB Consultants, Inc.
 9450 Annapolis Road
 Lanham, MD 20706
 Phone: 301-306-3091
 Fax: 301-306-3092

STARTED:	10/30/09	FINISHED:	10/30/09
DRILL CO.:	Recon	DRILL RIG:	550 ATV
DRILLER:	V. Rodas	ASST DRILLER:	
LOGGED BY:		APPROVED:	

Project No. 09-010

LOG OF BOREHOLE S-3

Sheet 1 of 1

CLIENT: The Wilson T. Ballard Company

PROJECT: Charlotte Hall Park and Ride

ARCHITECT/ENGINEER:

SITE: Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES				TESTS			
			BLOWS/6" N-VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE
0.2	2" Topsoil		2-2-2 N=4	1	SS	18/18 100%	19			LL = 35 PI = 16 PI = 19
2.0	Loose brown CLAYEY FINE SAND (SC)									
	Dense to very dense brown SILTY SAND (SP-SM) with some gravel		12-13-22 N=35	2	SS	18/18 100%	8			
		5	43-46-38 N=84	3	SS	18/18 100%	4			
	-become medium dense below 8 ft		12-13-12 N=25	4	SS	18/18 100%	4		8	
		10								
		15	9-10-11 N=21	5	SS	18/18 100%	5			
		20	7-18-19 N=37	6	SS	18/18 100%	3			
		25	9-14-13 N=27	7	SS	18/18 100%	2			
		30	7-11-16 N=27	8	SS	18/18 100%	4			
30.0	End of Boring @ 30 ft									

BORING LOG AB09 09-010.GPJ AB CONS.GDT 12/3/09

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, cave in 23 ft	@ 0 hr
WL	Dry, cave in 23 ft	@ 24 hr



AB Consultants, Inc.
 9450 Annapolis Road
 Lanham, MD 20706
 Phone: 301-306-3091
 Fax: 301-306-3092

STARTED: 10/29/09	FINISHED: 10/29/09
DRILL CO.: Recon	DRILL RIG: 550 ATV
DRILLER: V. Rodas	ASST DRILLER:
LOGGED BY:	APPROVED:

Project No. 09-010

LOG OF BOREHOLE S-4

Sheet 1 of 1

CLIENT:
The Wilson T. Ballard Company

PROJECT:
Charlotte Hall Park and Ride

ARCHITECT/ENGINEER:

SITE:
Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES				TESTS				
			BLOWS/6" N-VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2	2" Topsoil		2-3-4 N=7	1	SS	18/18 100%	15				
2.0	Firm brown FINE SANDY CLAY (CL) with trace of gravel		12-14-16 N=30	2	SS	18/18 100%	9				
	Dense to medium dense brown SILTY SAND (SP-SM) with some gravel		17-18-20 N=38	3	SS	18/18 100%	7				
	-with tan color below 5 ft		12-14-16 N=30	4	SS	18/18 100%	7				
			6-8-16 N=24	5	SS	18/18 100%	2				
			6-9-12 N=21	6	SS	18/18 100%	2				
			7-8-14 N=22	7	SS	18/18 100%	3			7	
			9-12-12 N=24	8	SS	18/18 100%	2				
30.0	End of Boring @ 30 ft										

BORING LOG AB09 09-010.GPJ AB CONS.GDT 12/4/09

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, cave in 18 ft	@ 0 hr
WL	Dry, cave in 18 ft	@ 24 hr



AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	10/29/09	FINISHED:	10/29/09
DRILL CO.:	Recon	DRILL RIG:	550 ATV
DRILLER:	V. Rodas	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

Project No. 09-010

LOG OF BOREHOLE S-5

Sheet 1 of 1

CLIENT: The Wilson T. Ballard Company

PROJECT: Charlotte Hall Park and Ride

ARCHITECT/ENGINEER:

SITE: Charlotte Hall, St. Mary's County, Maryland

SURFACE ELEV.:	GRAPHIC LOG	DEPTH (FT)	SAMPLES				TESTS			
			BLOWS/6" N - VALUE RQD	NUMBER	TYPE	IN. RECOVERED IN. DRIVEN	MOISTURE (%)	DRY DENSITY (PCF)	Qu (TSF)	% PASSING #200 SIEVE
0.2	2" Topsoil		1-2-3 N=5	1	SS	18/18 89%			88	
2.0	Soft brown FINE SANDY CLAY (CL)									
	Loose to medium dense brown SILTY SAND (SP-SM) with trace of gravel		2-2-4 N=6	2	SS	18/18 100%				
		5	2-5-6 N=11	3	SS	18/18 100%			11	
	-with tan color and more gravel below 8 ft	10	9-11-14 N=25	4	SS	18/18 100%				
	-become dense below 12 ft	15	5-12-19 N=31	5	SS	18/18 100%			6	
		20	12-19-24 N=43	6	SS	18/18 100%				
		25	9-10-11 N=21	7	SS	18/18 100%				
30.0	End of Boring @ 30 ft	30	15-16-17 N=33	8	SS	18/18 100%				

BORING LOG AB09 09-010.GPJ AB CONS.GDT 12/4/09

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, cave in 15.5 ft	@ 0 hr
WL	Dry, cave in 15.5 ft	@ 24 hr

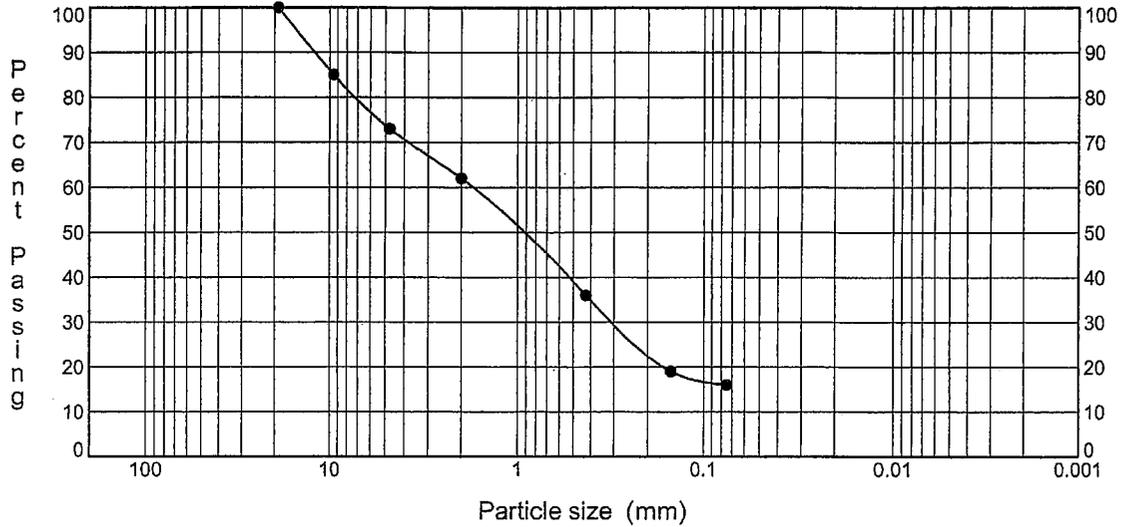


AB Consultants, Inc.
 9450 Annapolis Road
 Lanham, MD 20706
 Phone: 301-306-3091
 Fax: 301-306-3092

STARTED: 10/29/09	FINISHED: 10/29/09
DRILL CO.: Recon	DRILL RIG: 550 ATV
DRILLER: V. Rodas	ASST DRILLER:
LOGGED BY:	APPROVED:

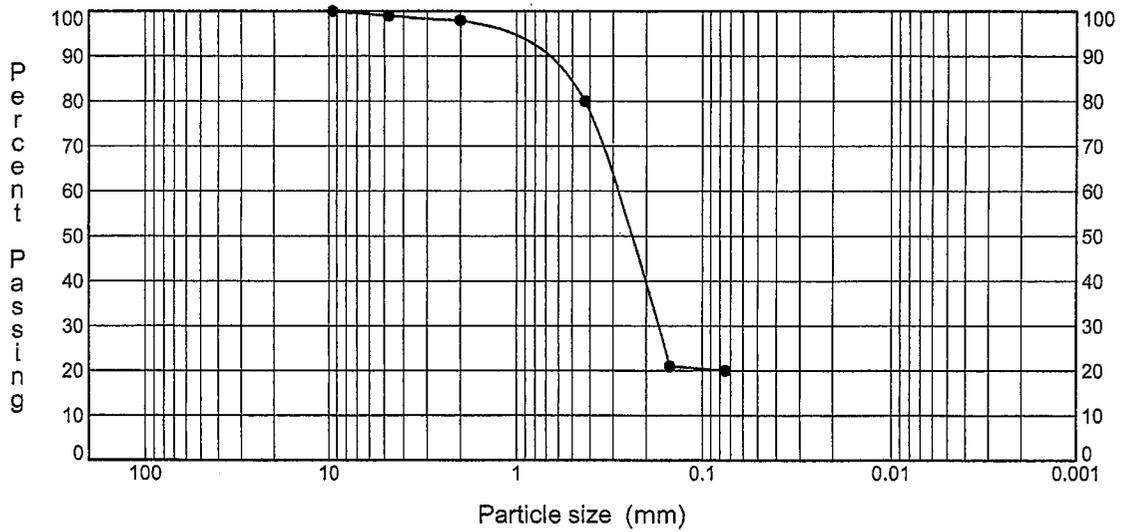
US_GSD_DOUBLE_09-010.GPJ AB_CONS.GDT_12/3/09

BOREHOLE NO. **B-3** DEPTH **5.0**



Cobbles	coarse	fine	coarse	medium	fine	Silt	Clay
	Gravel		Sand				

BOREHOLE NO. **B-5** DEPTH **2.5**



Cobbles	coarse	fine	coarse	medium	fine	Silt	Clay
	Gravel		Sand				



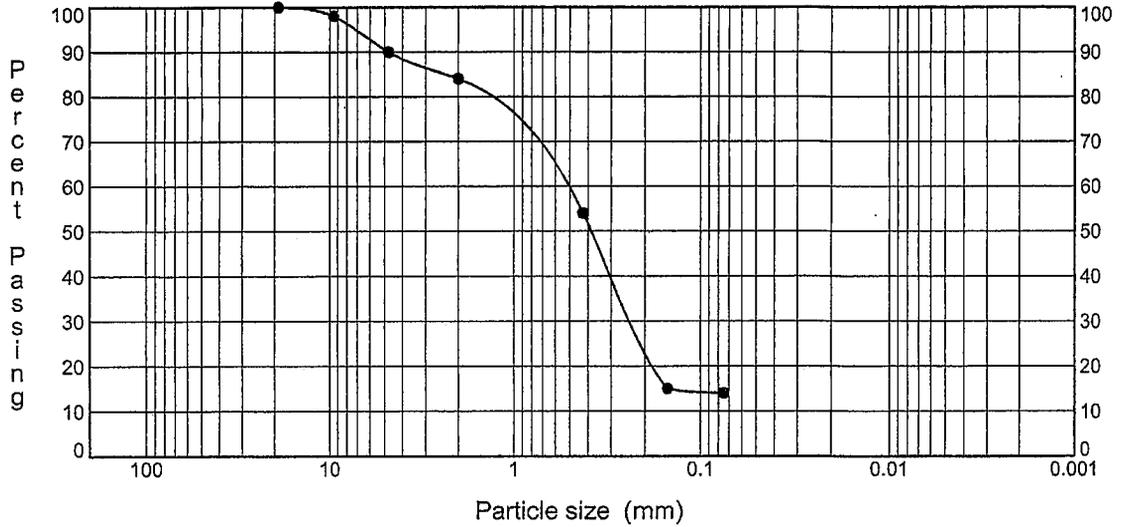
AB Consultants, Inc.
 9450 Annapolis Road
 Lanham, Maryland 20706
 Phone: 301-306-3091
 Fax: 301-306-3092

GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
 PROJECT NO.: 09-010
 PROJECT: Charlotte Hall Park and Ride
 SITE:
 Charlotte Hall, St. Mary's County, Maryland

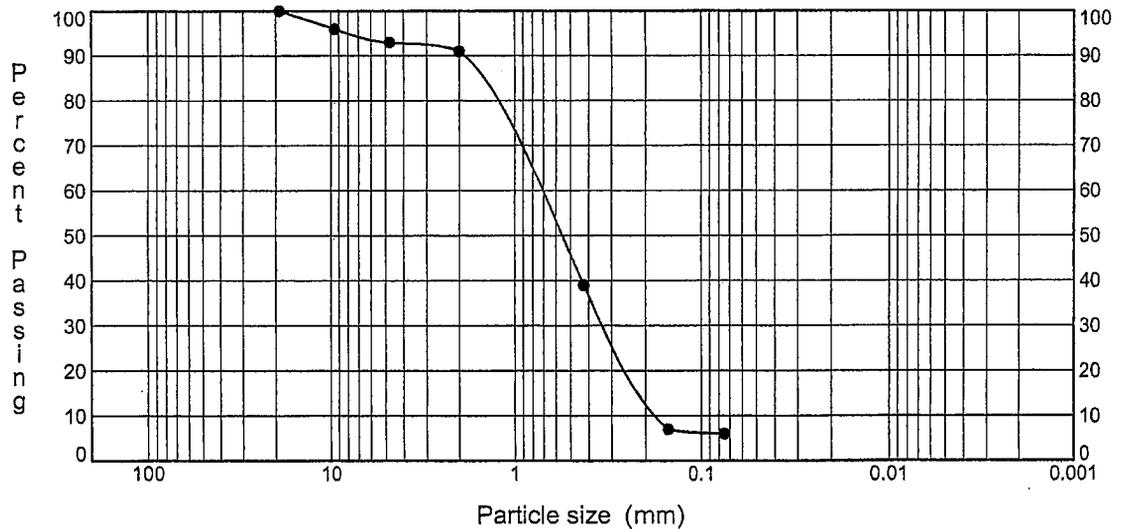
US GSD DOUBLE 09-010.GPJ AB CONS.GDT 12/3/09

BOREHOLE NO. **B-6** DEPTH **8.5**



Cobbles	coarse	fine	coarse	medium	fine	Silt	Clay
	Gravel		Sand				

BOREHOLE NO. **B-8** DEPTH **5.0**



Cobbles	coarse	fine	coarse	medium	fine	Silt	Clay
	Gravel		Sand				



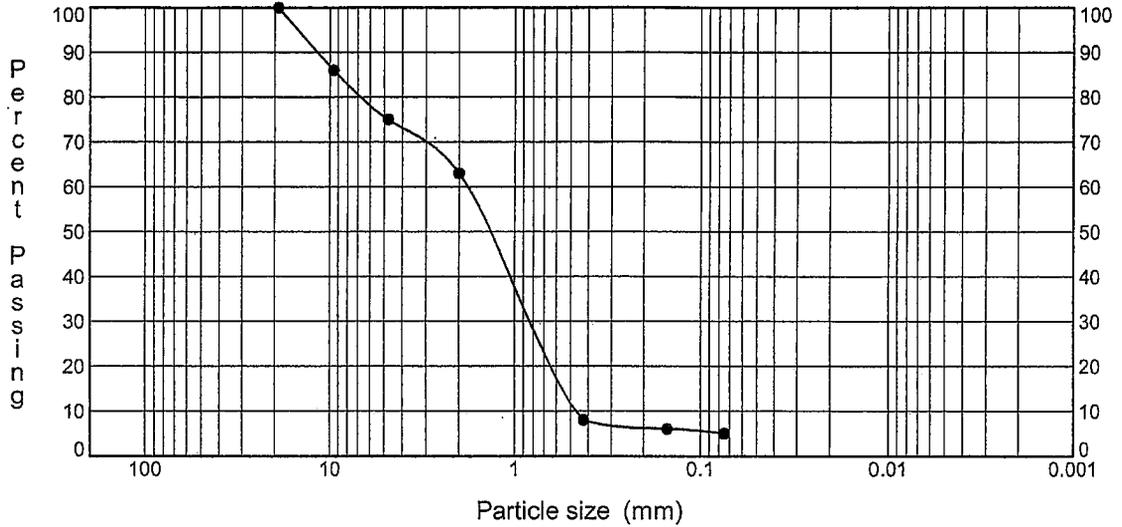
AB Consultants, Inc.
 9450 Annapolis Road
 Lanham, Maryland 20706
 Phone: 301-306-3091
 Fax: 301-306-3092

GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
 PROJECT NO.: 09-010
 PROJECT: Charlotte Hall Park and Ride
 SITE:
 Charlotte Hall, St. Mary's County, Maryland

BOREHOLE NO. S-1

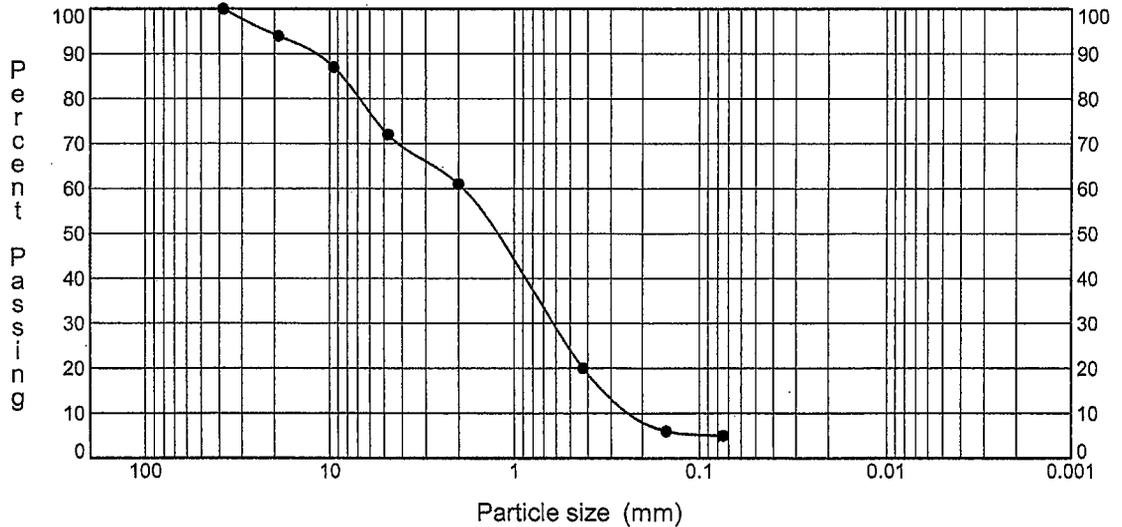
DEPTH 5.0



Cobbles	coarse	fine	coarse	medium	fine	Silt	Clay
	Gravel						

BOREHOLE NO. S-2

DEPTH 2.5



Cobbles	coarse	fine	coarse	medium	fine	Silt	Clay
	Gravel						

US GSD DOUBLE 09-010.GPJ AB CONS.GDT 12/3/09



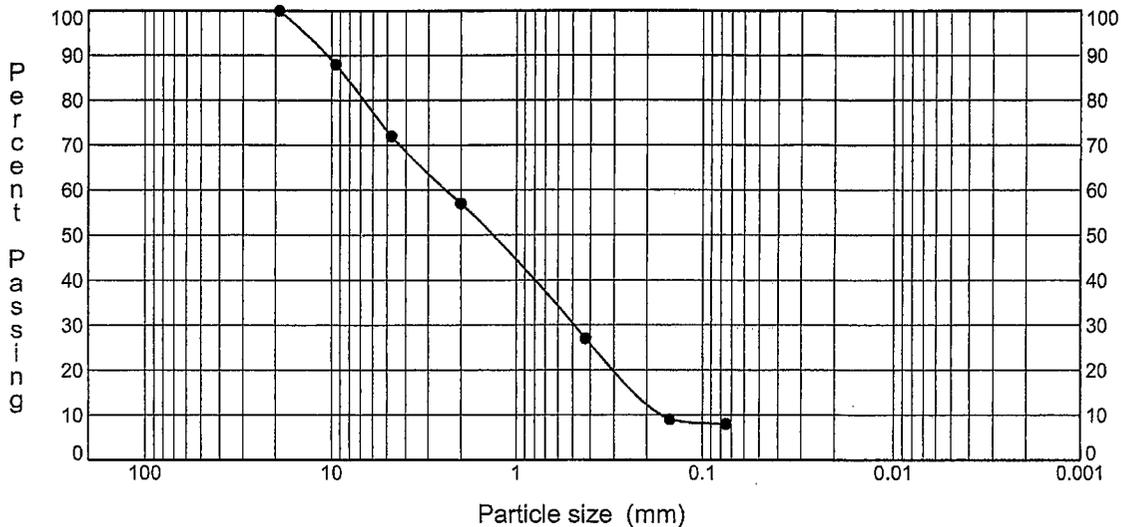
AB Consultants, Inc.
 9450 Annapolis Road
 Lanham, Maryland 20706
 Phone: 301-306-3091
 Fax: 301-306-3092

GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
 PROJECT NO.: 09-010
 PROJECT: Charlotte Hall Park and Ride
 SITE:
 Charlotte Hall, St. Mary's County, Maryland

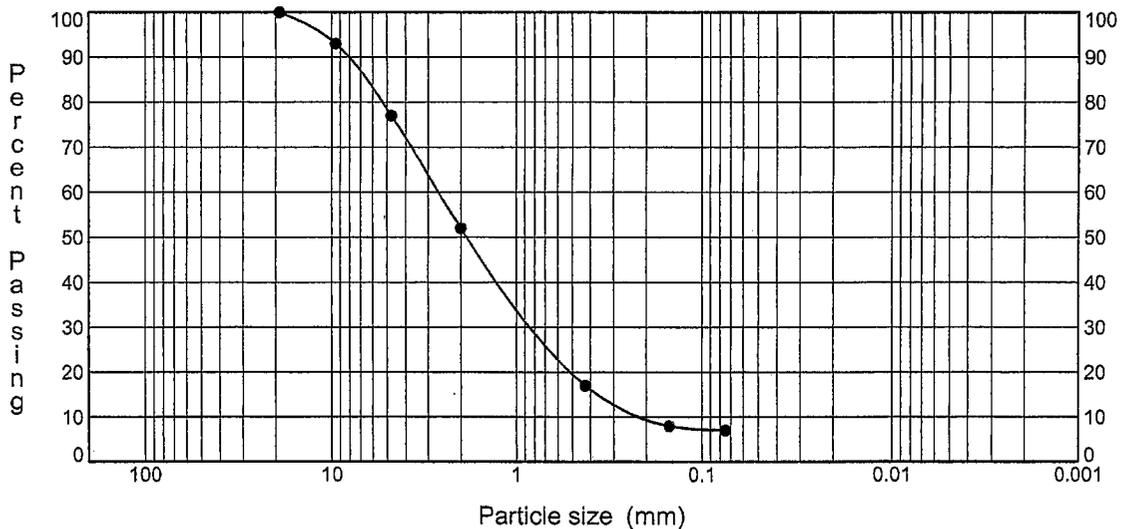
US GSD DOUBLE 09-010.GPJ AB CONS.GDT 12/9/09

BOREHOLE NO. **S-3** DEPTH **8.5**



Cobbles	coarse	fine	coarse	medium	fine	Silt	Clay
	Gravel			Sand			

BOREHOLE NO. **S-4** DEPTH **23.5**



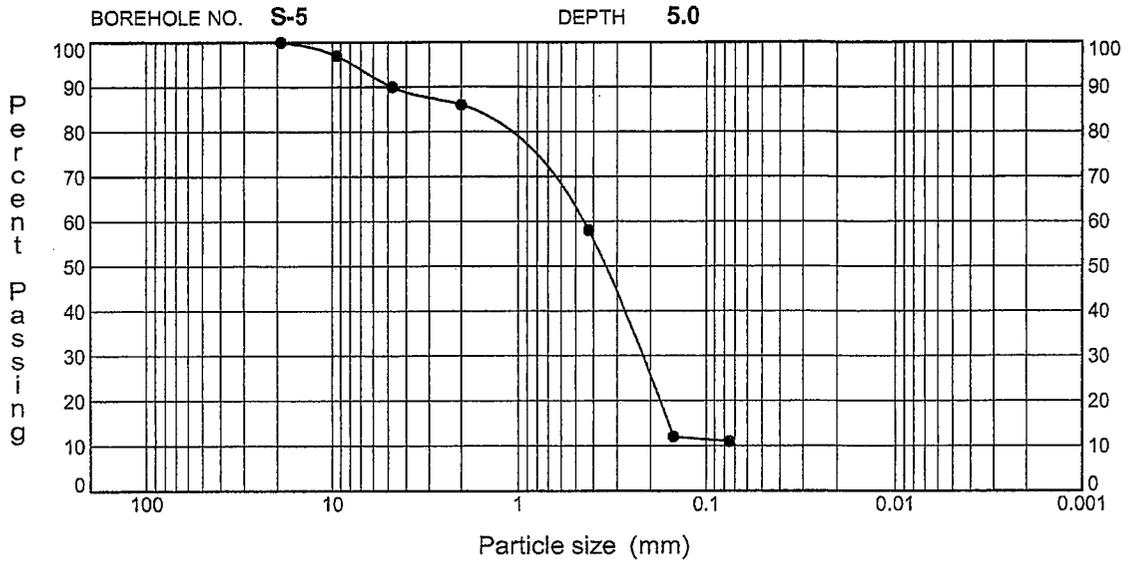
Cobbles	coarse	fine	coarse	medium	fine	Silt	Clay
	Gravel			Sand			



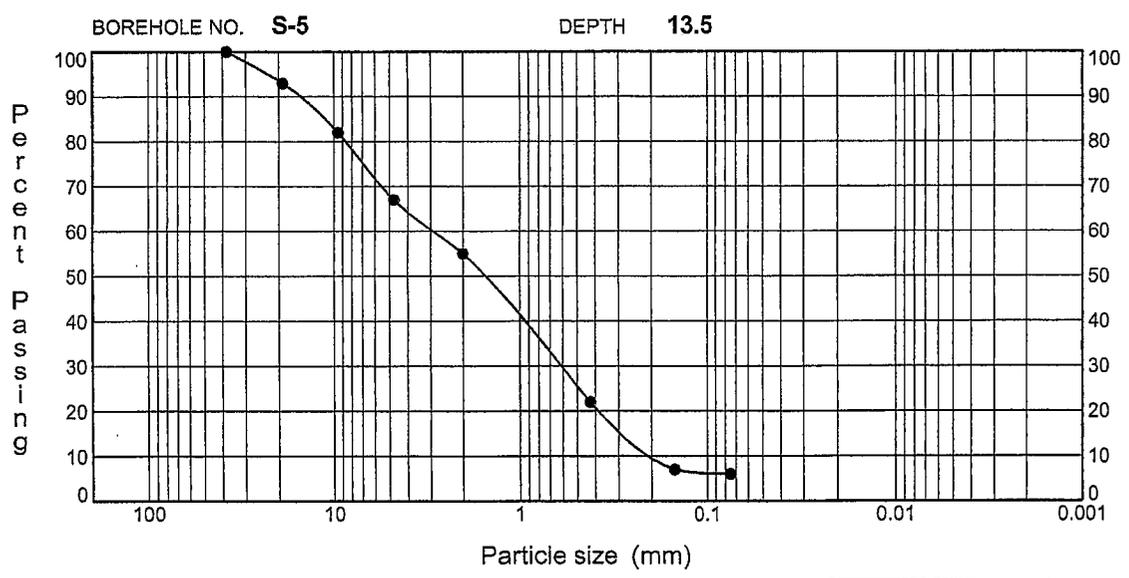
AB Consultants, Inc.
 9450 Annapolis Road
 Lanham, Maryland 20706
 Phone: 301-306-3091
 Fax: 301-306-3092

GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
 PROJECT NO.: 09-010
 PROJECT: Charlotte Hall Park and Ride
 SITE:
 Charlotte Hall, St. Mary's County, Maryland

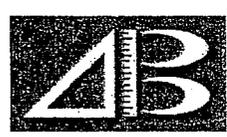


Cobbles	coarse	fine	coarse	medium	fine	Silt	Clay
	Gravel						



Cobbles	coarse	fine	coarse	medium	fine	Silt	Clay
	Gravel						

US GSD DOUBLE 09-010.GPJ AB CONS.GDT 12/3/09



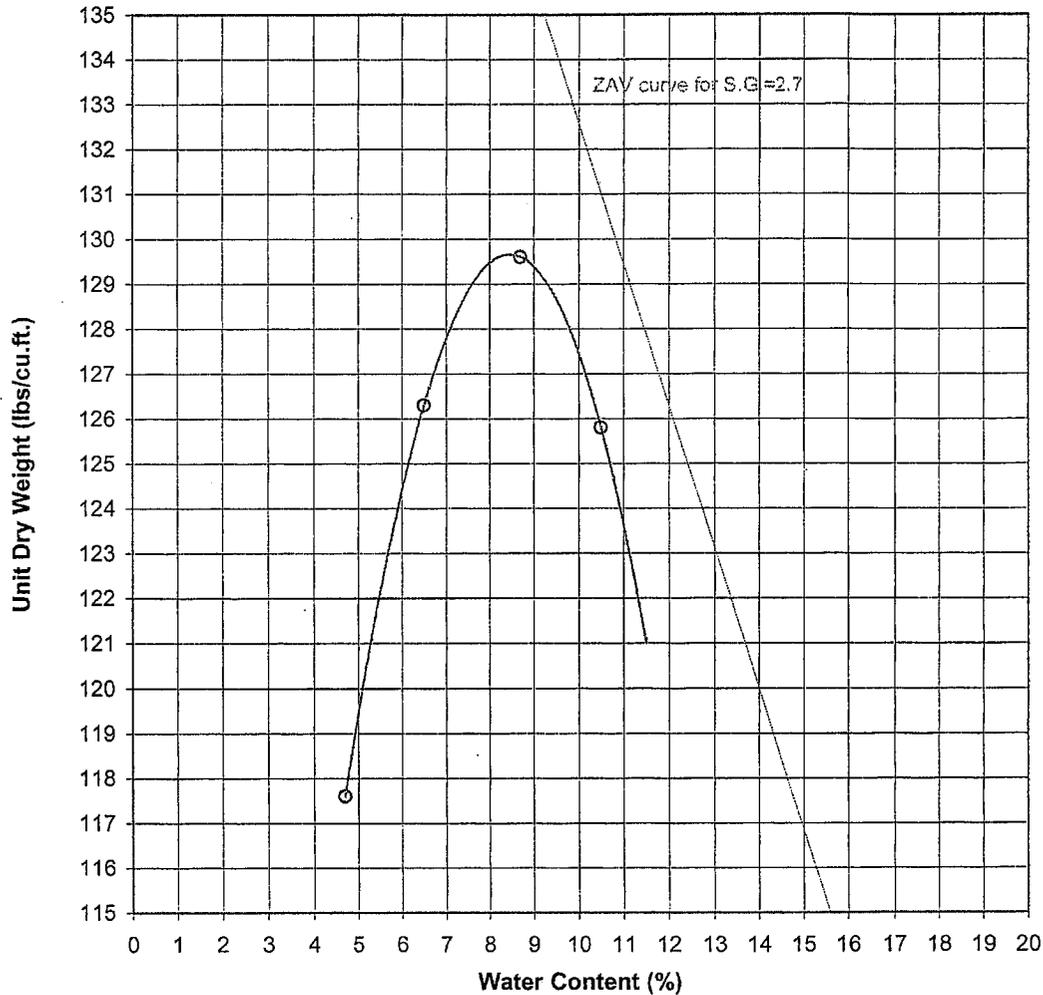
AB Consultants, Inc.
 9450 Annapolis Road
 Lanham, Maryland 20706
 Phone: 301-306-3091
 Fax: 301-306-3092

GRAIN SIZE DISTRIBUTION

CLIENT: The Wilson T. Ballard Company
 PROJECT NO.: 09-010
 PROJECT: Charlotte Hall Park and Ride
 SITE:
 Charlotte Hall, St. Mary's County, Maryland

LABORATORY COMPACTION TEST RESULT

Standard Effort (ASTM D698 / AASHTO T99)



Sample Description: Brown silty sand with some gravel

Classification: SM / A-2-4

Test Method: B

Soil Engineering Properties

Liquid Limit: -

Plastic Limit: -

Plasticity Index: Non-plasticity

Proctor Data and Results

Max. Unit Dry Weight 129.7 lbs/cu.ft.

Opt. Water Content 8.5 %

Corr. Max. Unit Dry Weight n/a

Corr. Opt. Water Content n/a

Gradation

Sieve No.	% Passing
3"	
1 1/2"	
3/4"	100.0
3/8"	97.3
4	86.0
10	76.9
40	48.2
200	21.9

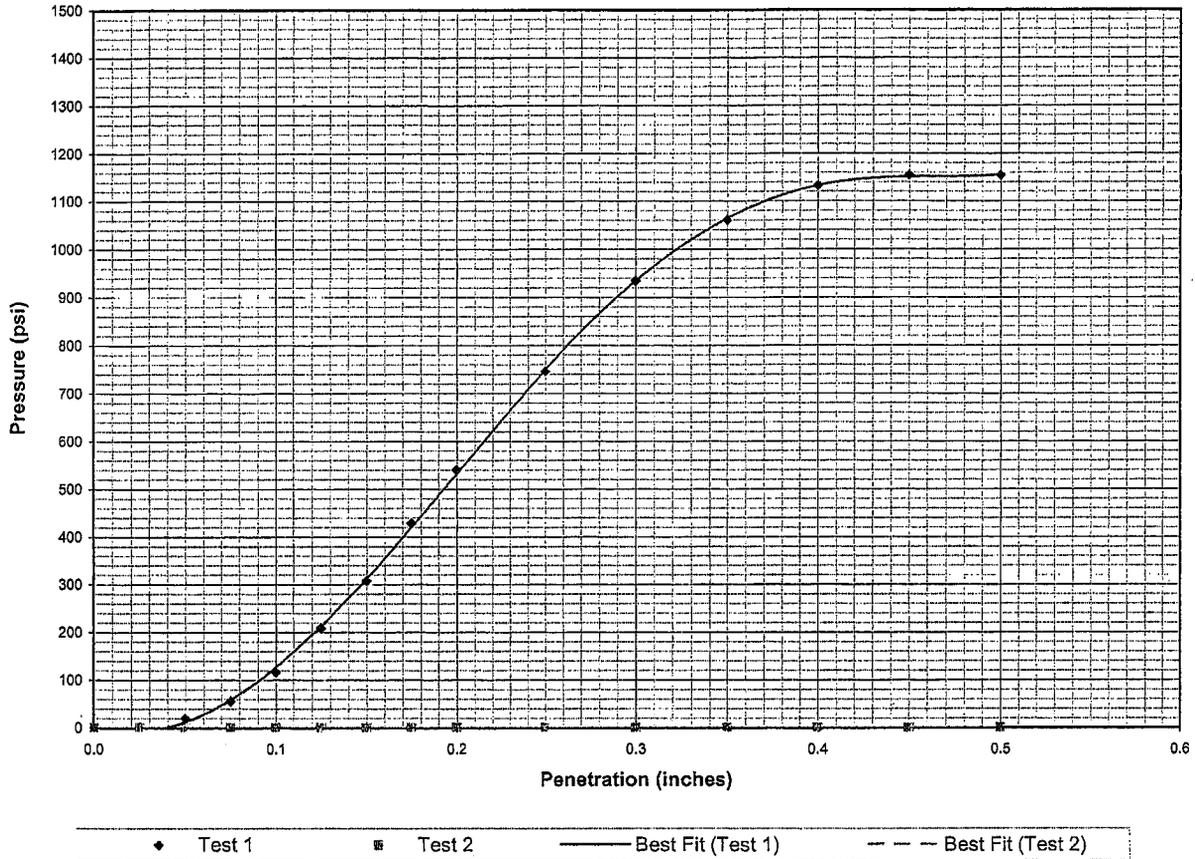


AB CONSULTANTS, INC.
 4950 Annapolis Road
 Lanham, Maryland 20706
 Tel: 301-306-3091
 Fax: 301-306-3092

Job No.: 09-010
 Project: Charlotte Hall Park and Ride
 Sample No.: Bag 1
 Sample Location: B-1 (0 to 5 ft)
 Test Date: 11/9/2009

CALIFORNIA BEARING RATIO (CBR) TEST RESULT

(ASTM D1883 / AASHTO T193)



Sample Description: Brown silty sand with some gravel
 Classification: SM / A-2-4

Soil Engineering Properties

Specific Gravity = _____
 Liquid Limit = Non-plasticity
 Plasticity Index = Non-plasticity
 % Passing #4 = 86
 % Passing #200 = 21.9

CBR Results:

	Test 1	Test 2
CBR @ 0.1" =	<u>11.6</u>	_____
CBR @ 0.2" =	<u>36.0</u>	_____

Swell/Shrink:

	Test 1	Test 2
% Swell =	_____	_____
% Shrink =	<u>-0.11</u>	_____

Proctor Test Results

Compaction Effort = Standard
 Max. Unit Dry Weight = 129.7 lbs/cu.ft.
 Opt. Water Content = 8.5 %

As Molded:

	Test 1	Test 2
Unit Dry Weight =	<u>133.4</u>	_____ lbs/cu.ft
Water Content =	<u>7.6</u>	_____ %

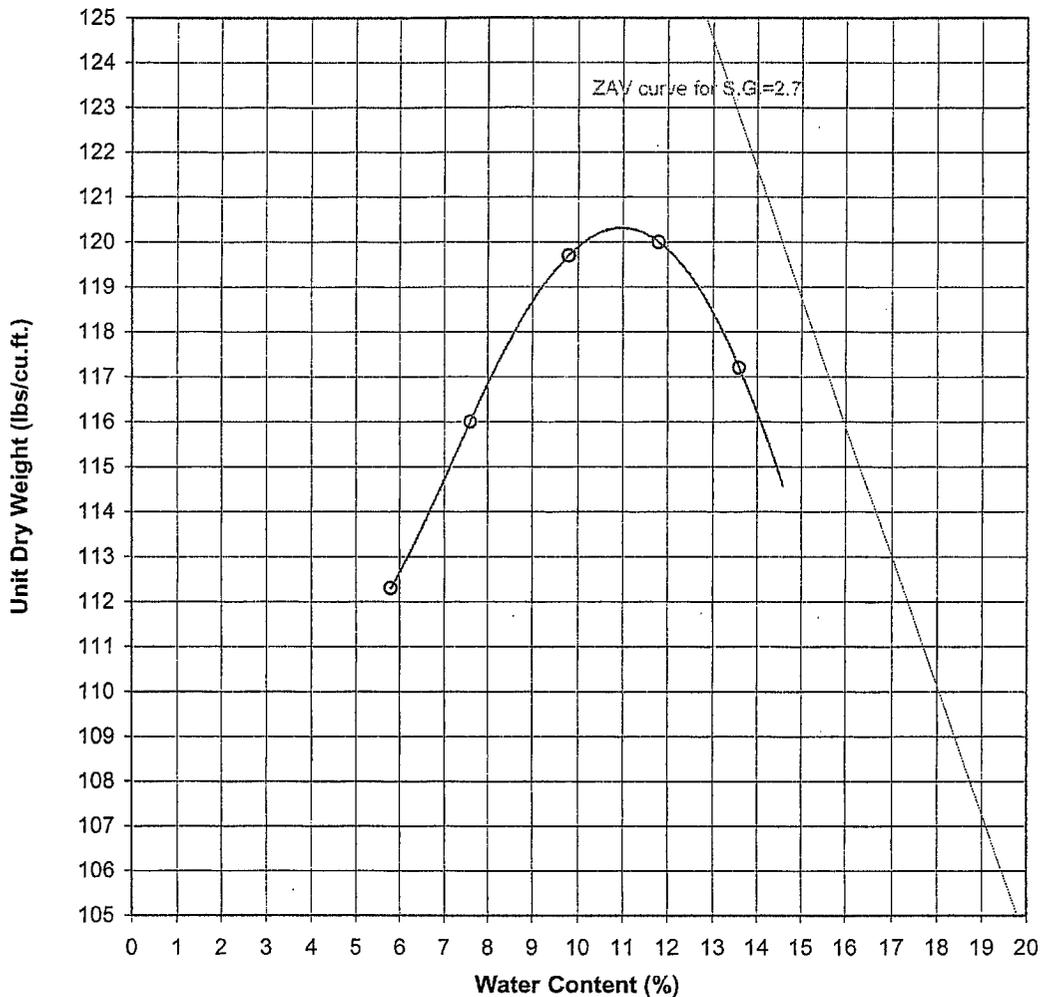


AB CONSULTANTS, INC.
 4950 Annapolis Road
 Lanham, Maryland 20706
 Tel: 301-306-3091
 Fax: 301-306-3092

Job No.: 09-010
 Project: Charlotte Hall Park and Ride
 Sample No.: Bag 1 (0 to 5 ft)
 Sample Location: B-1
 Test Date: 11/9/2009

LABORATORY COMPACTION TEST RESULT

Standard Effort (ASTM D698 / AASHTO T99)



Sample Description: Brown and tan silty sand with trace of gravel

Classification: SM / A-2-4

Test Method: A

Soil Engineering Properties

Liquid Limit: -

Plastic Limit: -

Plasticity Index: Non-plasticity

Proctor Data and Results

Max. Unit Dry Weight 120.3 lbs/cu.ft.

Opt. Water Content 11.0 %

Corr. Max. Unit Dry Weight n/a

Corr. Opt. Water Content n/a

Gradation

Sieve No.	% Passing
3"	
1 1/2"	
3/4"	
3/8"	100.0
4	97.7
10	93.5
40	59.8
200	20.9

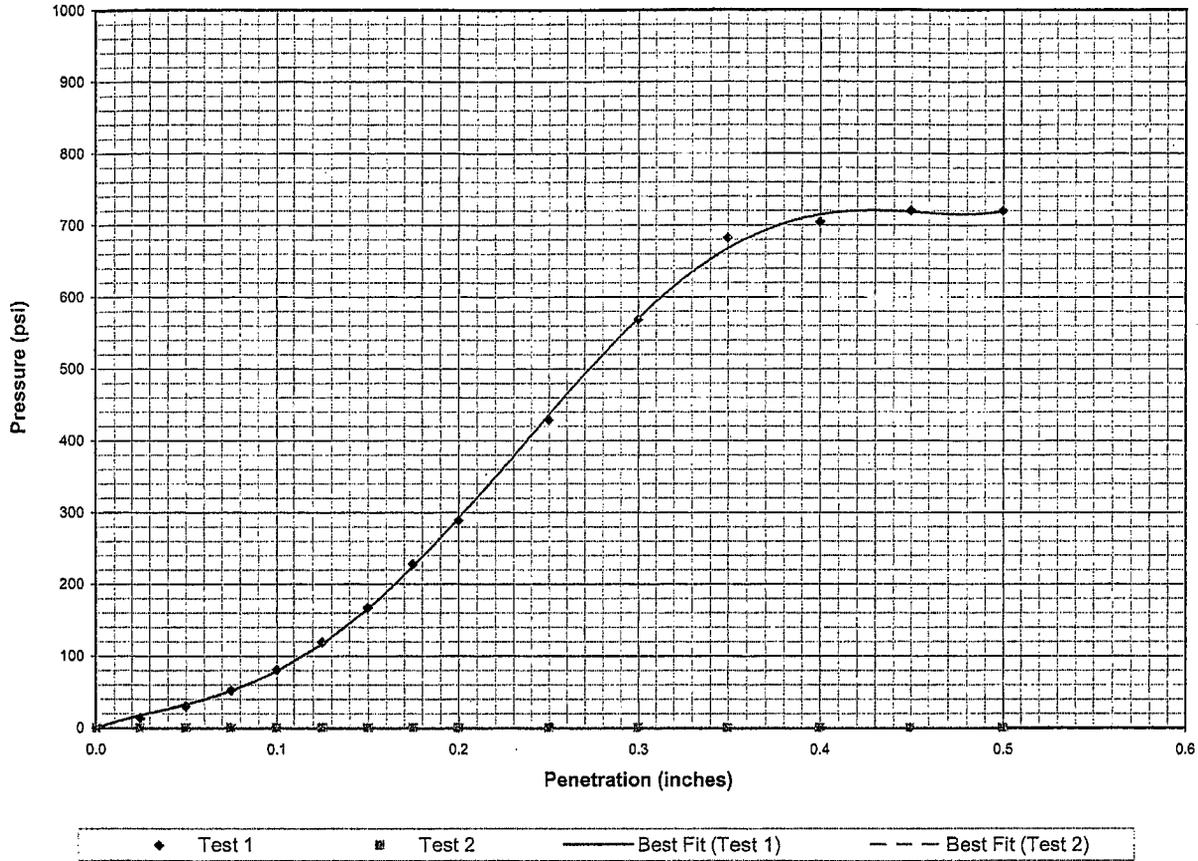


AB CONSULTANTS, INC.
 4950 Annapolis Road
 Lanham, Maryland 20706
 Tel: 301-306-3091
 Fax: 301-306-3092

Job No.: 09-010
 Project: Charlotte Hall Park and Ride
 Sample No.: Bag 1
 Sample Location: B-5 (0 to 5 ft)
 Test Date: 11/9/2009

CALIFORNIA BEARING RATIO (CBR) TEST RESULT

(ASTM D1883 / AASHTO T193)



Sample Description: Brown and tan silty sand with trace of gravel
 Classification: SM / A-2-4

Soil Engineering Properties

Specific Gravity = _____
 Liquid Limit = Non-plasticity
 Plasticity Index = Non-plasticity
 % Passing #4 = 97.7
 % Passing #200 = 20.9

CBR Results:

	Test 1	Test 2
CBR @ 0.1" =	<u>8.1</u>	_____
CBR @ 0.2" =	<u>19.2</u>	_____

Swell/Shrink:

	Test 1	Test 2
% Swell =	_____	_____
% Shrink =	<u>-0.07</u>	_____

Proctor Test Results

Compaction Effort = Standard
 Max. Unit Dry Weight = 120.3 lbs/cu.ft.
 Opt. Water Content = 11.0 %

As Molded:

	Test 1	Test 2
Unit Dry Weight =	<u>120.9</u>	_____ lbs/cu.ft
Water Content =	<u>11.0</u>	_____ %



AB CONSULTANTS, INC.
 4950 Annapolis Road
 Lanham, Maryland 20706
 Tel: 301-306-3091
 Fax: 301-306-3092

Job No.: 09-010
 Project: Charlotte Hall Park and Ride
 Sample No.: Bag 1 (0 to 5 ft)
 Sample Location: B-5
 Test Date: 11/9/2009



MARYLAND DEPARTMENT OF TRANSPORTATION MARYLAND TRANSIT ADMINISTRATION



FACILITIES ENGINEERING DIVISION CHARLOTTE HALL PARK AND RIDE FACILITY CONTRACT NO. T-1041-0140

ADA DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).

1-20-2011
DATE

Paul D. Upton
DESIGNER'S SIGNATURE

MD. REGISTRATION NO. 11147
P.E. R.L.S. OR R.L.A. (CIRCLE)

Paul D. Upton
PRINTED NAME

DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR CURRENT REVISIONS THEREOF, AND DEPARTMENT OF THE ENVIRONMENT STORMWATER MANAGEMENT REGULATIONS."

1-20-2011
DATE

Bryan C. Duszka
DESIGNER'S SIGNATURE

MD. REGISTRATION NO. 33322
P.E. R.L.S. OR R.L.A. (CIRCLE)

BRYAN C. DUSZKA
PRINTED NAME

OWNERS / DEVELOPER CERTIFICATION

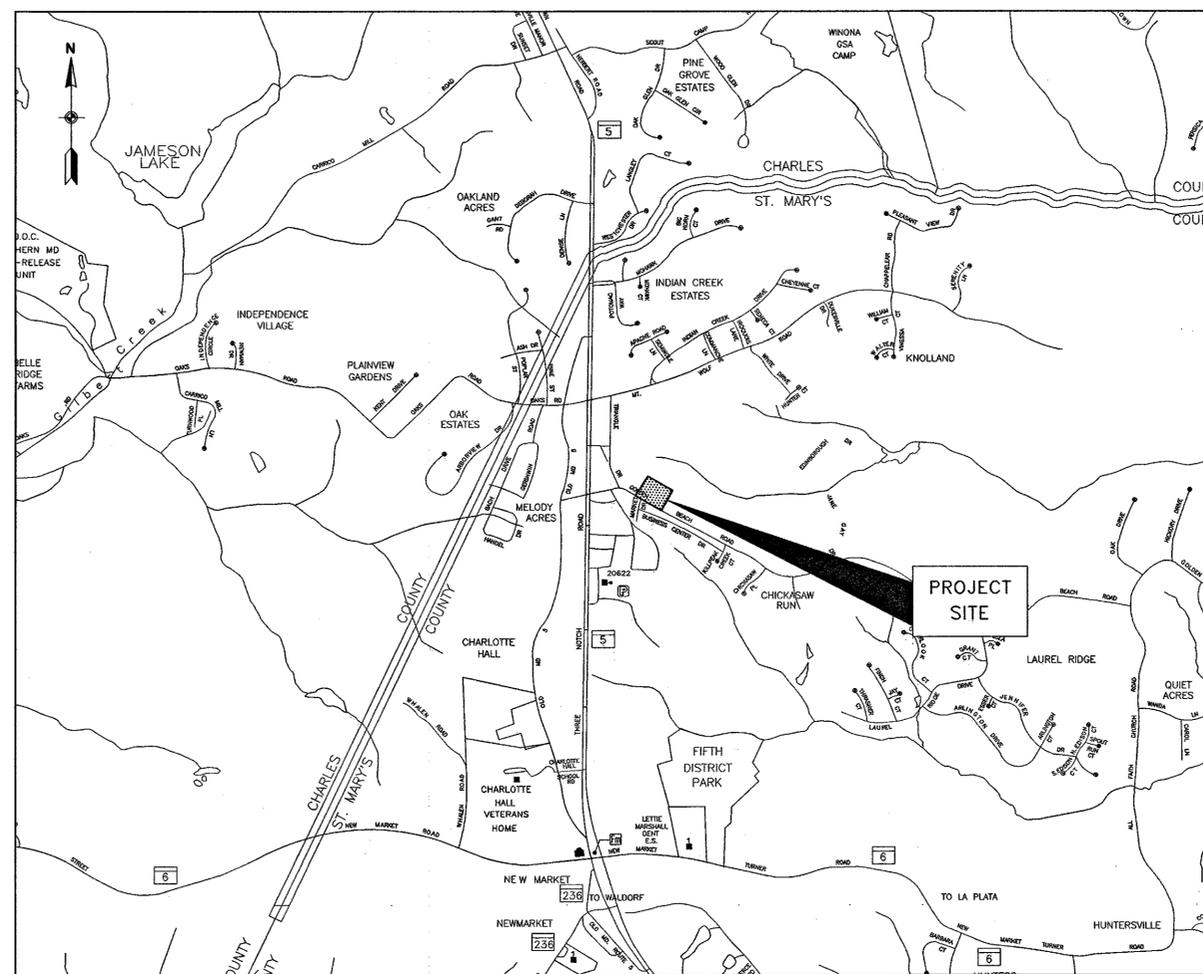
"I/WE HEREBY CERTIFY THAT ALL CLEARING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT, COMPLIANCE INSPECTORS."

Nov. 1, 2011
DATE

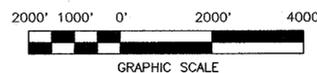
Robert L. Burris
OWNER/DEVELOPER SIGNATURES

43667
CARD NO.

ROBERT L. BURRIS, MGR - CIVIL ENGINEERING
PRINTED NAME AND TITLE



VICINITY MAP



MARYLAND TRANSIT ADMINISTRATION

DATE: 11/02/11 APPROVED: *Leslie P. Salgado*
LESLIE SALGADO-TAMAYO
MANAGER - FACILITIES ENGINEERING & ADA

THE WILSON T. BALLARD CO. CONSULTING ENGINEERS OWINGS MILLS, MARYLAND CONSULTANT	CONTRACT NO. T-1041-0140
	DRAWING NO. G-1
	1 OF 96



MARYLAND TRANSIT ADMINISTRATION

MARYLAND DEPARTMENT OF TRANSPORTATION

Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Beverley K. Swaim-Staley, Secretary • Ralign T. Wells, Administrator

TO: All Planholders
FROM: Maryland Transit Administration
SUBJECT: **ADDENDUM NO. 1**
Contract No.: T-1041-0140
Charlotte Hall Park and Ride Facility
DATE: November 8, 2011

Enclosed and effective this date is Addendum No. 1 to the subject Contract. This change delays the Bid Opening Date to November 22, 2011. A site visit has been scheduled for November 16, 2011.

A conformed copy of the revised specification sections is attached. A list of the changes made to this contract is attached to this Addendum. Responses to questions received will be addressed in the next Addendum.

The Bidder shall acknowledge receipt of this Addendum by completing and returning this form with the bid package.

All other terms and conditions remain unchanged.

Sincerely,

Gary R. Lockett, Procurement Officer
Professional Services/Construction/Installation Section
Procurement Division

Acknowledgement of receipt of ADDENDUM # 1 to Solicitation #T-1041-0140

Vendor Name: _____

Authorized Representative's Signature

Date

ADDENDUM NO.: 1
DATE: 11/08/11
CONTRACT NO.: T-1041-0140

The following additions, deletions, and modifications are hereby made a part of the Contract Documents of Charlotte Hall Park and Ride Facility, Contract No.: T-1041-0140.

Item No.	Section	Page	Modification
I. CONTRACT SPECIFICATIONS			
1	Notice to Contractors	1 thru 7	Replaced in its entirety – Site visit has been scheduled for November 16, 2011 Revised Bid Opening date to read " November 22, 2011 "
2	Bid Form	1 thru 3	Inserted Project Description Revised " Bid Opening Date " from November 10, 2010 to November 22, 2011

Also attached are the answers to contractors' questions, if any.

**STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
NOTICE TO CONTRACTORS**

Charlotte Hall Park and Ride Facility

CONTRACT NO.: T-1041-0140

DATE: October 13, 2011

1. DESCRIPTION OF WORK

A. This Contract is for the construction of a parking facility that will accommodate approximately 500 vehicles on the north side of Golden Beach Road in Charlotte Hall, St. Mary's County, Maryland. The project will include two access points to Golden Beach Road (one of which is an extension of Market Drive.)

B. Estimated value for this work is in the range of \$5,000,001 to \$10,000,000

2. PRE-BID MEETING & SITE VISIT

A Pre-Bid meeting for the purpose of explaining the Project will be held on October 20, 2011 at 10:00 a.m., local time at the Administration Headquarters, 6 St. Paul Street, 7th Floor Conference Room(s) 731-732, Baltimore, Maryland 21202-1614.

A site visit has been scheduled for November 16, 2011. All site visits are by appointment only. For more information, you must contact the Procurement Officer, Mr. Lockett, at glockett@mta.maryland.gov.

It is strongly suggested that the person(s) responsible for the preparation of bid documents for bidders attend the Pre-Bid Meeting and the site visit. **INSTRUCTIONS CRITICAL TO THE PREPARATION OF THE CONTRACT DOCUMENTS WILL BE PRESENTED AT THE PRE-BID MEETING.**

3. DEADLINE FOR QUESTIONS

Questions regarding the work should be directed in writing to Mr. Gary Lockett at the Administration Offices or via Internet address glockett@mta.maryland.gov. Facsimile messages will not be accepted unless accompanied by telephone notification at (410) 767-3360. Our fax number is (410) 333-4810. Questions directed to this office must be received no later than October 28, 2011 at the close of the business day. Questions should be submitted on company letterhead. No interpretations other than written shall be binding on the Administration.

4. **BID DUE DATE & TIME**

Sealed Bids addressed to the Maryland Transit Administration, Procurement Division, 6 St. Paul Street, Baltimore, Maryland 21202-1614, and marked "Bid for Contract No. T-1041-0140 – Charlotte Hall Park and Ride Facility", will be received at the above address until but not after 2:00 P.M. local time, November 22, 2011. At that time, the Bids will be publicly opened and read aloud at a location at the same address. Hand delivered bids should be deposited in the Bid Box located on the 7th Floor before the 2:00 P.M. deadline. Any bids received after the date and time specified shall not be considered.

5. **ELECTRONIC VERSION OF BID DOCUMENTS**

The bid documents will be available by electronic means. The Bidder acknowledges and accepts full responsibility to ensure that the Bidder has made no changes to the Administration's bid documents. In the event of a conflict between the versions of the bid documents in the bidder's possession and the version maintained by the Procurement Officer, the version maintained by the Procurement Officer shall govern.

6. **AVAILABILITY OF DOCUMENTS**

Specifications may be downloaded from the MTA web site located at www.mta.maryland.gov. Bidders will be required to register the first time specifications are downloaded and a login number will be assigned. This number should be used every time the bidder downloads the documents for this contract. Bidders must supply accurate information in order to receive notice of all subsequent addenda.

TO OBTAIN THE SPECIFICATIONS: Please visit MTA's website (www.mta.maryland.gov), follow the links for "Business" – "Procurement" – "Bids/Solicitation", and download the Specifications for this procurement.

TO OBTAIN THE DRAWINGS: E-mail Gary Lockett at glockett@mta.maryland.gov requesting the contract drawings and supplying the following information: the contact person, company name, mailing address, phone # and e-mail address. The drawings (CD) will be mailed to you at no cost. You also have the option of picking up the CD containing the drawings at: 6 Saint Paul Street, Baltimore, MD 21202, Wm Donald Schaefer Bldg., 7th floor.

7. **ADDENDA**

Bidders are required to acknowledge all addenda with their bid package. Although the MTA endeavors to send out all addenda to this solicitation in a timely manner, it is the responsibility of the contractors to make sure they received all appropriate documents prior to the bid due date.

8. EMARYLAND MARKETPLACE REGULATIONS

Use of “e-Maryland Marketplace”

“e-Maryland Marketplace” is an electronic commerce system administered by the Maryland Department of General Services.

Registration is free and will provide a means for your business to receive e-mail notifications of upcoming contracting opportunities in specified areas of interest and expertise. This means that all such information is immediately available to subscribers to e-Maryland Marketplace. Because of the instant access afforded by e-Maryland Marketplace, it is recommended that all Bidders interested in doing business with Maryland State agencies subscribe to e-Maryland Marketplace. For more eMM registration information, visit the website: <http://ebidmarketplace.com>.

9. BID BOND

Each bid exceeding \$100,000 must be accompanied by a Bid Bond in the amount of five percent (5%) of the Bid Price. Bid, payment, and performance security may be in the form of: (1) a bond executed by a surety company authorized to do business in the State; (2) a bond executed by an individual surety that meets certain criteria; (3) another form of security required by State or federal law; or (4) another form of security satisfactory to the unit awarding the contract. Sections 13-207, 13-216, 17-104 of the State Finance and Procurement Article, Annotated Code of Maryland.

10. PAYMENT AND PERFORMANCE BONDS

Payment and Performance Bonds in the amount of the Contract Price will be required by the awardee. Upon receiving notification of contract award, the Contractor shall deliver the bond to the MTA no later than the time the Contractor executes the contract. Bid, payment, and performance security may be in the form of: (1) a bond executed by a surety company authorized to do business in the State; (2) a bond executed by an individual surety that meets certain criteria; (3) another form of security required by State or federal law; or (4) another form of security satisfactory to the unit awarding the contract. Sections 13-207, 13-216, 17-104 of the State Finance and Procurement Article, Annotated Code of Maryland.

11. ELECTRONIC FUNDS TRANSFER

On every solicitation for a contract expected to exceed \$200,000, the bidder will be required to accept payments by electronic funds transfer (EFT) unless the State Comptroller’s Office grants an exemption.

12. **DISADVANTAGED BUSINESS ENTERPRISE PROGRAM**

A. DISADVANTAGED BUSINESS ENTERPRISES ARE ENCOURAGED TO RESPOND TO THIS SOLICITATION NOTICE.

B. The Maryland Transit Administration hereby notifies all bidders that, in regard to any Contract entered into pursuant to this advertisement, Disadvantaged Business Enterprises will be afforded full opportunity to submit Bids in response to this Notice, and will not be subjected to discrimination on the basis of political or religious opinion or affiliation, race color, creed, sex, age or national origin in consideration for an award.

C. It is the goal of the Administration that Disadvantaged Business Enterprises participate in all Contracts. Each Contract will contain goals for Disadvantaged Business Enterprise participation on a contract-to-contract basis. A subcontracting goal of thirty percent (30%) has been established for this procurement. All bidders must submit with their bid a fully executed copy of the Certified DBE Utilization and Fair Solicitation Affidavit (MDOT DBE FORM A) and DBE Participation Schedule (MDOT DBE FORM B). If the bidder fails to submit these completed forms with the bid as required, the procurement officer shall deem the bid non-responsive or shall determine that the offer is not reasonably susceptible of being selected for award. **ALL DBE FIRMS MUST BE CERTIFIED BY THE MARYLAND DEPARTMENT OF TRANSPORTATION. NO OTHER CERTIFICATIONS WILL BE ACCEPTED.**

D. **A contractor may count toward its DBE goal 60 percent of its expenditures for materials and supplies required under the contract and obtained from a DBE regular dealer, and 100 percent of such expenditures to a DBE manufacturer. The DBE credited supplies may not exceed 60 percent of the entire contract goal.**

E. New versions of Sections 13-103, 13-104 and 14-303 of the State Finance and Procurement Article of the Maryland Code, relating to increased bid/proposal documentation of DBE commitments, are effective as of October 1, 2004. The Contract under this solicitation will be awarded in accordance with these new requirements. As a result, new bid submission requirements, including certain revised DBE documents, are in effect for this solicitation. These new requirements are set forth elsewhere in this solicitation.

F. As a result of the revisions to Sections 13-103, 13-104 and 14-303, certain existing portions of the Code of Maryland Regulations (COMAR) relating to post bid/proposal submission of DBE subcontractors are inconsistent with the revised statute. To the extent the provisions of COMAR relating to post bid identification of DBE subcontractors are inconsistent with the requirements of this solicitation, the requirements of this solicitation shall control the award of a Contract. Questions or concerns regarding the DBE requirements of this

solicitation must be raised prior to the opening of bids or receipt of initial proposals

- G. Effective on October 1, 2009, Minority Business Enterprise (MBE) firms may elect to be dually certification as woman-owned businesses and as members of an ethnic or racial category. For purposes of achieving any gender or ethnic/racial MBE participation subgoals in a particular contract, an MBE firm that has dual certification may participate in the contract either as a woman-owned business or as a business owned by a member of a racial or ethnic minority group, **but not both**.

WARNING – PLEASE READ:

- ◆ **A firm must be listed in the MDOT MBE/DBE Directory with the gender category in order to be used to meet the gender subgoal.**
- ◆ **A firm must be listed in the MDOT MBE/DBE Directory with an ethnic/racial category in order to be used to meet the ethnic/racial subgoal.**
- ◆ **A firm must be listed in the MDOT MBE/DBE Directory with both the gender and ethnic/racial categories in order for a contractor to have the option of selecting which of those categories it will use for the firm on a State contract.**
- ◆ **Contractors should designate whether the MBE firm will be used as a woman-owned business or as a business owned by a member of a racial/ethnic group before calculating the percentage of MBE participation goals and subgoals they intend to meet.**

Maryland's MBE/DBE Directory will reflect the dual certification status beginning October 1, 2009. You can access the MBE/DBE Directory at <http://mbe.mdota.state.md.us>. Firms with dual certification will now be listed as follows:

Example:

ABC Corporation, Inc.
123 Corporate Circle
Hanover, MD 21076
Female/African American
00-000

13. AFFIRMATIVE ACTION REQUIREMENTS

Bidders on this Work will be required to comply with MTA Affirmative Action Requirements and all applicable Equal Employment Opportunity Laws and Regulations.

14. FEDERAL FUNDING

Any contract resulting from bids submitted is subject to a Financial Assistance Contract between the Administration and the U.S. Department of Transportation. Federal funds will be used to finance eighty percent (80%) of the cost of this contract.

15. SUSPENSION AND DEBARMENT CERTIFICATION

All bidders will be required to certify that they are not on the GSA List of Parties Excluded from Procurement and the List of Contractors Suspended or Debarred from Contracting with the State of Maryland. All bidders must also be in good standing with the State Assessment & Taxation Department.

16. CONTRACTOR'S QUESTIONNAIRE

All Bidders shall submit a fully executed copy the Contractor's Questionnaire Pre-Award Evaluation Data Form with the bid package.

17. INSURANCE REQUIREMENTS

The Administration has chosen to provide Workers' Compensation, General Liability, Excess Liability, Builders Risk, Pollution Liability and Railroad Protective coverage on behalf of Contractors and subcontractors working on this project. This approach to project insurance is commonly called a wrap-up or owner controlled insurance program (OCIP). Specific information regarding Liability Insurance Requirements is contained in the Contract Specifications.

Please note that an Insurance Cost Worksheet must be included with each bid package.

18. USE OF BIDDER'S OWN FORCES

The bidder with his own forces shall perform not less than fifty percent (50 %) of the work at the project site.

19. BUY AMERICA REQUIREMENTS

This contract is subject to Section 165, "Buy America", of the Surface Transportation Assistant Act of 1982, U.S. Public Law 197-424, and regulations and/or guidance implementing this statutory provision issued by the Federal Transit Administration of the U.S. Department of Transportation. The contract is further subject to the Buy American Steel requirements of Chapter 02 of subtitle 11 of the Code of Maryland Regulations, Title 21, State Procurement Regulations.

20. CANCELLATION OR REJECTION OF BIDS

Notice to Contractors may be canceled in accordance with State Procurement Regulations.

The Administration reserves the right to reject any and all bids and/or waive technical defects if, in its judgment, the interests of the Administration so require.

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
BID FORM
FOR
CONTRACT NO.: T-1041-0140

TO: MARYLAND TRANSIT ADMINISTRATION
ATTN: PROCUREMENT DIVISION
6 SAINT PAUL STREET, 7TH FLOOR
BALTIMORE, MD 21202-1614

BID OPENING DATE:
NOVEMBER 22, 2011
BID OPENING TIME:
2:00 PM

BID OF: _____
(Bidder's Name)

PROJECT DESCRIPTION:

This Contract is for the construction of a parking facility that will accommodate approximately 500 vehicles on the north side of Golden Beach Road in Charlotte Hall, St. Mary's County, Maryland. The project will include two access points to Golden Beach Road (one of which is an extension of Market Drive.)

1. This bid is hereby submitted to the Maryland Transit Administration (hereinafter sometimes called the "Administration") in response to NOTICE TO CONTRACTORS dated _____.
2. The UNDERSIGNED has thoroughly examined, acknowledges receipt of, and is familiar with the Contract Documents as well as the various instructions, information, and requirements covering the same, all as mentioned herein and in said NOTICE TO CONTRACTORS.
3. In compliance with said NOTICE TO CONTRACTORS the UNDERSIGNED hereby proposes to furnish all labor, equipment, and materials and perform all work described and in strict accordance with the provisions of the Contract Documents for the consideration of the amounts, lump sum and unit prices listed in the attached Unit Price Schedule, and agrees that, upon Notice of Award, within one hundred fifty (150) calendar days after the date of opening of bids, unless mutually extended, he will within ten (10) calendar days after receipt of the prescribed forms, execute the Contract and furnish a performance bond and payment bond (if such bonds are required by the Contract Documents) on forms furnished by the Administration with good and sufficient surety or sureties.
4. The UNDERSIGNED agrees and understands that the time of completion is as specified in the Special Provisions, unless the completion dates are extended as provided for in the Contract Documents.
5. The UNDERSIGNED agrees to pay liquidated damages in the amount specified in the Special Provisions for each and every calendar day after the completion date that the work remains incomplete unless an extension is granted as provided for in the Contract Documents.
6. The UNDERSIGNED hereby certifies that the _____

(Bidder's Name) / ___ / is, / ___ / is not (CHECK ONE) included on the GSA list of Parties Excluded from Procurement. **AND**

The UNDERSIGNED hereby certifies that the _____
(Bidder's Name) / ___ / is, / ___ / is not (CHECK ONE) included on the List of Contractors Suspended or Debarred from Contracting with the State of Maryland.

7. The UNDERSIGNED, as the Contractor, will perform on the Site, with its own organization, _____ percent (___ %) of the total amount of work to be performed under this contract.

8. PARENT COMPANY

a. The UNDERSIGNED represents that it / ___ / is, / ___ / is not, (CHECK ONE) owned or controlled by a parent company. For this purpose a parent company is defined as one which either owns or controls the activities and basic business policies of the UNDERSIGNED. To own another company means the parent company must own at least a majority (more than 50 percent) of the voting rights in that company. To control another company such ownership is not required; if another company is able to formulate, determine or veto basic business policy decisions of the bidder, such other company is considered the parent of the bidder. This control may be exercised through the use of dominant minority voting rights, use of proxy voting, contractual arrangements, or otherwise.

b. If UNDERSIGNED is owned or controlled by a parent company, insert in the space below the name and main office address of the parent company

Name

Address

9. ARREARAGES

By submitting a response to this solicitation, the undersigned shall be deemed to represent that it is not in arrears in the payment of any obligations due and owing the State of Maryland, including the payment of taxes and employee benefits, and that it shall not become so arrears during the term of the contract if selected for contract award.

10. CERTIFICATION OF NON-MARYLAND CORPORATION (FOREIGN CORPORATION)

a. A corporation not incorporated in the State of Maryland is considered to be a foreign corporation and, therefore, is required to be registered with the Maryland State Department of Assessment and Taxation if awarded this contract.

b. Where a foreign corporation is currently registered with the Department of

Assessments and Taxation, such a bidder shall submit with his bid a copy of the department's certification of his registration or qualification acknowledgment.

c. If a foreign corporation is not currently registered, such a bidder shall submit with his bid his certification that, if notified of his apparent award of the contract, he will register with the Maryland State Department of Assessments and Taxation and provide a copy of the department's certification of his registration or qualification acknowledgment along with the executed contract.

11. The Contractor shall, prior to the time of execution of the contract, obtain all applicable licenses and comply with all applicable laws and regulations in the Annotated Code of Maryland.

12. All bidders must submit with their bid the following documents fully executed.

- a. Bid Bond in the Amount of \$ _____
Or 5% of the bid price (if applicable).
or
Individual Surety Bid Bond in the Amount of
\$ _____ Or 5% of the bid price (if applicable) and a
executed Affidavit of Individual Surety (Attachment A) & Surety Affidavit
(Attachment B).
- b. Contractor's Questionnaire Pre-Award Evaluation Data
- c. Bid/Proposal Affidavit.
- d. Buy America Certificate.
- e. Certification Regarding Lobbying.
- f. MDOT DBE Form A, "Certified DBE Utilization and Fair Solicitation Affidavit".
- g. MDOT DBE Form B, "DBE Participation Schedule".
- h. Signed copy of the Cover Letter for each Addendum issued by MTA.
- i. Completed Insurance Cost Worksheet