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DEPARTMENT OF TRANSPORTATION
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November 20, 2015

Contract No. T200811301
Federal Aid Project NH-2015 (20)
US 301, MARYLAND STATE LINE TO LEVELS ROAD
New Castle County

Ladies and Gentlemen:

Enclosed is Addendum No. 1 for the referenced contract consisting of the following:

1. The Bid Proposal Cover, revised, to be substituted for the same page in the Proposal.
2. Four (4) pages, Table of Contents, page xiv, xv, xvi and xvii, revised, to be substituted for the same page in the Proposal.
3. The following Special Provisions, on pages 297, 298, 299 & 306 have been deleted: 749516, 749517, 749518, 749521, 749522, 749523, 749550, 749581 and 749582.
4. Three (3) pages, Special Provisions 605501-Ground Mount Breakaway Type Sign Supports and Foundation, pages 138-A, 138-B and 138-C have been added to the Proposal.
5. Twenty Five (25) pages, Bid Proposal Forms, pages 19-43 revised, to be substituted with pages 19-42.
6. Two (2) pages, Breakout Sheets 10 & 10-A, have been added to the Proposal.
7. Two (2) pages, Plan Sheets 474 & 788, revised, to be substituted for the same pages in the Proposal.
8. Eight (8) pages, Environmental Requirements Statement, revised, no longer stipulated, to be substituted for the same pages in the Proposal.
9. Expedite Bid File, Addendum No. 1.

Please note the revision listed above and submit your bid based upon this information.

Sincerely,

signature on file

James H. Hoagland
Contract Services Administrator

:jhh
Enclosure

STATE OF DELAWARE



DEPARTMENT OF TRANSPORTATION

BID PROPOSAL

for

CONTRACT T200811301.01

FEDERAL AID PROJECT NO. NH-2015 (20)

US 301, MARYLAND STATE LINE TO LEVELS ROAD

NEW CASTLE COUNTY

ADVERTISEMENT DATE: November 10, 2015

COMPLETION TIME: 850 Calendar Days

SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
DELAWARE DEPARTMENT OF TRANSPORTATION
AUGUST 2001

Bids will be received in the Bidder's Room at the Delaware Department of Transportation's Administration Building, 800 Bay Road, Dover, Delaware until 2:00 P.M. local time **December 22, 2015**

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~~749516 – REINFORCED CONCRETE SIGN FOUNDATION, W-6~~
~~749517 – REINFORCED CONCRETE SIGN FOUNDATION, W-8~~
~~749518 – REINFORCED CONCRETE SIGN FOUNDATION, W-10~~
~~749519 – REINFORCED CONCRETE SIGN FOUNDATION, W-12~~
~~749520 – REINFORCED CONCRETE SIGN FOUNDATION, W-14~~
749581 - REINFORCED CONCRETE SIGN FOUNDATION, W-18

Description:

— This work consists of furnishing all material and installing sign foundations.

Materials:

— Bar Reinforcement shall conform to the requirements of Subsection 603.02 of the Standard Specifications.

— Portland Cement Concrete shall be Class B and shall conform to the requirements of Section 812 of the Standard Specifications.

— Anchors shall be fabricated from 304 Stainless Steel for the threaded ferrule portion, and 1058 steel rod and coil for cage portion of anchor.

— Nuts, Bolts and Cap Screws shall meet AASHTO M 164 (m 164M). All nuts, bolts and cap screws shall be within a hardness range of Rockwell C23 to C31 prior to hot dip galvanizing per AASHTO M232/M 232M.

Construction Methods:

— The bases shall conform to the dimensions and details as indicated on the Plans.

— Excavation for the foundation may not exceed the dimension of the foundation by more than 1 foot (300 mm) in any one direction. If a form is used in the excavation more than 18 inches (460 mm) below the ground surface, it is necessary that the excavation be filled and tamped on all sides in layers not to exceed 6 inches (150 mm).

— The excavated material shall be disposed of and the area shall be properly graded. After grading, the area shall be returned to its original condition around the supports with mulching, seeding or other landscaping as necessary or as directed by the Engineer.

— Anchor bolts shall be set to template for alignment and elevation and shall be secured in position to prevent displacement while concrete is being placed. The steel reinforcement and conduit elbows shall have been placed and secured before the placing of concrete.

Method of Measurement:

— The quantity of sign foundations will be measured as the number of foundations for the specified size of beam constructed in accordance with these specifications, complete in place, and accepted.

Basis of Payment:

— The quantity of sign foundations will be paid for at the contract unit price per each foundation of the type specified. Price and payment will constitute full compensation all materials and sign foundation installation complete in place and for all labor, equipment, tools, and incidentals required to complete the work. Payment will also include returning the area around the sign post to its original conditions by mulch, seeding or other landscaping necessary.

10/27/2009

~~749521 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-6~~
~~749522 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-8~~
~~749523 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-10~~
~~749524 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-12~~
~~749525 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-14~~
~~749563 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-4~~
~~749582 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-18~~

Description:

— This work consists of furnishing all materials for ground mount breakaway type sign posts and breakaway assemblies to the job order site in conformance with the details and notes shown on the Plans, and as directed by the Engineer.

Materials:

— Structural Steel shall meet the applicable requirements of Subsection 605.02 of the Standard Specifications and AASHTO M 270/M 270M, GR36 (GR250), GR50 (GR345), or GR50W (GR 345W) as detailed on the plans. Steel posts shall be galvanized in accordance with the requirements of AASHTO M 111/M 111M.

— ~~Breakaway Couplings shall be made from alloy steel which conforms to AISI 4340, 4130 or an equivalent material, and shall have a minimum tensile yield stress of 175,000 psi (1200 MPa). The Rockwell C hardness shall be 26 minimum. The couplings shall have tensile breaking strength ranges as noted below; and shall be of the type as shown on the Plans:~~

— ~~Type A — 17,000 — 21,000 lb (75 — 93 kN)~~
 — ~~Type B — 47,000 — 57,000 lb (209 — 253 kN)~~

— ~~This steel shall conform to the requirements of the current ASTM designation A-370.~~

— ~~The couplings shall be clean, dry and free from any foreign material and shall be primed and coated with a suitable paint which shall be baked or fused with a polyurethane additive. The color of the coating shall be as follows:~~

— ~~Type A — Yellow~~
 — ~~Type B — Red~~

— ~~Chipped areas on the coating surface shall be repaired. All threaded surfaces, after coating, shall be cleaned to all them to function properly.~~

— ~~Brackets shall be made from aluminum alloy 6061 T-6 or an equivalent material. Upper brackets shall incorporate the load concentrating member or bass which shall be made from the following material:~~

— ~~Type A — Aluminum alloy 6061 T-6 or equivalent as part of brackets~~
 — ~~Type B — Stainless steel 416 or equivalent ASTM A582-Rockwell C35-C45~~

— ~~The type of bass shall be as shown on the Plans.~~

— ~~Location holes for the breakaway coupling shall be accurately positioned relative to the load concentrating member in accordance with the Engineer's requirements. All Brackets shall be permanently labeled with bracket number to reflect the hole positioning.~~

~~—Hinge Plates shall be made from alloy steel which conforms to AISI 4340, 4130 or an equivalent material and shall have a minimum tensile yield stress of 90,000 psi (620 MPa). The hinge plates shall have tensile breaking strength ranges as follows:~~

— HH-10	— 11,450 – 13,900 lb (50.9 – 61.8 kN)
— HH-1	— 16,400 – 19,700 lb (72.9 – 87.6 kN)
— HH-2	— 6,700 – 8,100 lb (29.8 – 36.0 kN)

~~—Nuts, Bolts and Cap Screws shall meet AASHTO M 164 (m 164M). All nuts, bolts and cap screws shall be within a hardness range of Rockwell C23 to C31 prior to hot dip galvanizing per AASHTO M232/M 232M.~~

Construction Methods:

~~—Working Drawings. Working drawings shall be submitted in accordance with subsection 105.04 of the Standard Specifications. Minor variations in details may be permitted; however, any major departure from the design will not be accepted.~~

~~—Fabrications. Loading, transporting, unloading and erection of structural materials shall be done so that the metal will be kept clean and free from injury in handling.~~

~~—Structural materials shall be stored above the ground upon platforms, skid or other supports and shall be kept free from accumulation of dirt, oil, acids or other foreign matter.~~

~~—Structural material which has been deformed shall be straightened before being laid out, punched, drilled or otherwise worked upon in the shop. Sharp kinks or bends will be cause for rejection.~~

~~—When sign support structures are subcontracted, the subcontract shall be in accordance with Subsection 108.01 of the Standard Specifications except that the value of the subcontract will be based on the value of the work for fabrication.~~

~~—Repair Galvanizing. Galvanized areas damaged during shipping or erection shall be repaired by any of the three methods specified under ASTM A780. In all cases, the repair shall achieve the minimum coating thickness specified.~~

~~—Erection. Material shall not be dropped, thrown or dragged over the ground. The Contractor shall supply detailed, written instructions and drawings for the erection of all sign structure components.~~

Method of Measurement:

~~—The quantity of supplying ground mount breakaway type sign posts and breakaway assemblies will be measured as linear feet for the length and size of ground mount breakaway sign post furnished as specified and accepted.~~

Basis of Payment:

~~—The quantity of supplying ground mount breakaway type sign posts and breakaway assemblies will be paid for at the Contract unit price per linear feet for the length and size of ground mount breakaway sign post specified. Price and payment will constitute full compensation for furnishing hinge plates, breakaway couplings, nuts, bolts and cap screws and all other materials for the sign posts and breakaway assemblies in accordance with the details and notes shown on the Plans, and as directed by the Engineer; and for all labor, equipment, tools and incidentals necessary to complete the work.~~

3/6/08

~~749550 - INSTALLATION OF BREAKAWAY I-BEAM SIGN POSTS~~
~~749551 - REMOVAL OF BREAKAWAY I-BEAM SIGN POSTS~~

Description:

~~———— This work consists of installing or removing breakaway I-beam sign posts and breakaway assemblies on sign bases previously installed or installed under other items in this contract.~~

Materials:

~~———— Steel I-beams and all mounting hardware to be used will be paid for under other items of this contract or may be furnished by the Department. The supply of the material will be designated in the job order. All I-beams will be cut to the correct length and marked for the area they are to be installed.~~

Construction Methods:

~~———— The I-beams are to be installed in a manner as not to damage the base that the I-beam is to be installed on and care taken to not interfere with overhead utility lines.~~

~~———— When re-installing an existing sign post and breakaway assemblies, removal of broken couplings and bolts in existing I-beams and removal of broken anchor bolts in existing bases shall be considered part of this item.~~

~~———— Where an existing sign has been knocked down, this item will pay for the repair of breakaway couplings and standing up the existing sign. No additional compensation will be made for removal or installation of sign unless a new sign is required.~~

~~———— In the removal of the I-beams, all hardware is to be returned to the Department at the Dover Sign Shop.~~

Method of Measurement:

~~———— The quantity of installation or removal of breakaway posts and breakaway assemblies will be measured as the number of breakaway posts and breakaway assemblies installed as specified, complete and in place, or removed and returned to the Department at the Dover Sign Shop.~~

Basis of Payment:

~~———— The quantity of installation or removal of breakaway posts and breakaway assemblies will be paid for at the contract unit price per each. Price and payment will constitute full compensations for all labor, equipment, tools, and incidentals required to complete the work.~~

10/26/05

605501 - GROUND MOUNT BREAKAWAY TYPE SIGN SUPPORTS AND FOUNDATION

Description:

This work consists of furnishing all materials and constructing ground mount breakaway type sign supports including foundations in conformance with the details and notes shown on the Plans, and as directed by the Engineer.

Materials:

Structural Steel shall meet the applicable requirements of Subsection 605.02 of the Standard Specifications and AASHTO M 270/M 270M, GR36 (GR250), GR50 (GR 345), or GR50W (GR 345W) as detailed on the plans. Steel posts shall be galvanized in accordance with the requirements of AASHTO M 111/M 111M.

Bar reinforcement shall conform to the requirements of Subsection 603.02 of the Standard Specifications.

Portland Cement Concrete shall be Class B and shall conform to the requirements of Section 812 of the Standard Specifications.

Breakaway Couplings shall be made from alloy steel which conforms to AISI 4340, 4130 or an equivalent material, and shall have minimum tensile yield stress of 175,000 psi. The Rockwell C hardness shall be 26 minimum. The couplings shall have tensile breaking strength ranges as noted below; and shall be of the type as shown on the Plans:

Type A	17,000 - 21,000 lb
Type B	47,000 - 57,000 lb

This steel shall conform to the requirements of the current ASTM designation A-370.

The couplings shall be clean, dry and free from any foreign material and shall be primed and coated with a suitable paint which shall be baked or fused with a polyurethane additive. The color of the coating shall be as follows:

Type A	Yellow
Type B	Red

Chipped areas on the coating surface shall be repaired. All threaded surfaces, after coating, shall be cleaned to allow them to function properly.

Brackets shall be made from aluminum alloy 6061 T-6 or an equivalent material. Upper brackets shall incorporate the load concentrating member or boss which shall be made from the following materials:

Type A	Aluminum alloy 6061 T-6 or equivalent as part of brackets
Type B	Stainless steel 416 or equivalent ASTM A582-Rockwell C35-C45

The type of boss shall be as shown on the Plans.

Location holes for the breakaway coupling shall be accurately positioned relative to the load concentrating member in accordance with the Engineer's requirements. All Brackets shall be permanently labeled with bracket number to reflect the hole positioning.

Anchors shall be fabricated from 304 Stainless Steel for the threaded ferrule portion, and 1058 steel rod and coil for cage portion of anchor.

Hinge plates shall be made from alloy steel which conforms to AISI 4340, 4130 or an equivalent material and shall have a minimum tensile yield stress of 90,000 psi. The hinge plates shall have tensile breaking strength ranges as follows:

HI-10	11,450 - 13,900 lb
HI-1	16,400 - 19,700 lb
HI-2	6,700 - 8,100 lb

Nuts, Bolts and Cap Screws shall meet AASHTO M 164. All nuts, bolts and cap screws shall be within a hardness range of Rockwell C23 to C31 prior to hot dip galvanizing per AASHTO M 232.

Construction Methods:

Shop Drawings. Shop drawings shall be submitted in accordance with Subsection 105.04 of the Standard Specifications. Minor variations in details may be permitted; however, any major departure from the design will not be accepted.

Fabrications. Loading, transporting, unloading and erection of structural materials shall be done so that the metal will be kept clean and free from injury in handling.

Structural materials shall be stored above the ground upon platforms, skids, or other supports and shall be kept free from accumulation of dirt, oil, acids or other foreign matter.

Structural material which has been deformed shall be straightened before being layed out, punched, drilled or otherwise worked upon in the shop. Sharp kinks or bends will be cause for rejection.

When sign support structures are subcontracted, the subcontract shall be in accordance with Subsection 108.01 of the Standard Specifications except that the value of the subcontract will be based on the value of the work for fabrication.

Repair Galvanizing. Galvanized areas damaged during shipping or erection shall be repaired by any of the three methods specified under ASTM A780. In all cases, the repair shall achieve the minimum coating thickness specified.

Erection. Material shall not be dropped, thrown or dragged over the ground. The Contractor shall supply detailed, written instructions and drawings for the erection of all sign structure components.

For constructing the concrete foundation, the excavation shall be done by augering of suitable diameter as detailed on the Plans. The excavated material shall be disposed of and the area shall be properly graded.

Anchor bolts shall be set to template for alignment and elevation and shall be secured in position to prevent displacement while concrete is being placed. The steel reinforcement and conduit elbows shall have been placed and secured before the placing of concrete.

Method of Measurement:

The quantity of ground mount breakaway type sign supports and foundations will not be measured.

Basis of Payment:

The quantity of ground mount breakaway sign supports and foundations will be paid for at the Contract lump sum. Price and payment will constitute full compensation for furnishing all materials and constructing the sign supports and foundations in accordance with the details and notes shown on the Plans, and as directed by the Engineer; and for all labor, equipment, tools and incidentals necessary to complete the work.

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NOTE

On a breakout sheet found in the Proposal, the Contractor shall submit a price for each Sign Support Structure with foundation, when more than one structure is required. The Lump Sum bid price for the item shall be the sum of the prices for each Sign Support Structure listed.

The Department reserves the right to delete from the contract construction of one or more individual sign structure(s), and the Lump Sum price to be paid will be reduced in accordance with the Contractor's itemized price list for that individual sign structure. There shall be no extra compensation to the Contractor if such deletion is made.

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			DOLLARS	CTS	DOLLARS	CTS
1760	748567 RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, 13"	395.000 LF				
1770	749500 SIGN PANEL	2553.000 SF				
1840	749532 SUPPLY OF FLAT SHEET ALUMINUM SIGN PANEL, TYPE IX RETROREFLECTIVE SHEETING	20.000 SF				
1880	749687 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGN POST	196.000 EACH				
1890	749688 INSTALLATION OF 4" DIAMETER HOLE, LESS THAN OR EQUAL TO 6" DEPTH	10.000 EACH				
1900	749689 INSTALLATION OF 4" DIAMETER HOLE, GREATER THAN 6" DEPTH	4.000 EACH				
1910	749690 INSTALLATION OR REMOVAL OF TRAFFIC SIGNS ON MULTIPLE SIGN POSTS	1069.000 SF				
1920	753503 INSTALLING SANITARY SEWER, PVC, 12"	262.000 LF				
1930	758000 REMOVAL OF EXISTING PORTLAND CEMENTCONCRETE PAVEMENT, CURB, SIDEWALK, ETC.	19253.000 SY				

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			DOLLARS	CTS	DOLLARS	CTS
1940	759506 FIELD OFFICE, TYPE II.22 SPECIAL COMPLEX	30.000 EAMO				
1950	760012 RUMBLE STRIPS, BIKE-FRIENDLY, HOT-MIX	22362.000 LF				
1960	760017 RUMBLE STRIPS, CONCRETE	59567.000 LF				
1970	760507 PROFILE MILLING, BITUMINOUS CONCRETE	6786.000 SYIN				
1980	762001 SAW CUTTING, BITUMINOUS CONCRETE	4764.000 LF				
1990	762002 SAW CUTTING, CONCRETE, FULL DEPTH	697.000 LF				
2000	763000 INITIAL EXPENSE	LUMP	LUMP			
2010	763501 CONSTRUCTION ENGINEERING	LUMP	LUMP			
2020	763503 TRAINEE	2000.000 HOUR		0.80000		1600.00
2030	763508 PROJECT CONTROL SYSTEM DEVELOPMENT PLAN	LUMP	LUMP			

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			DOLLARS	CTS	DOLLARS	CTS
2040	763509 CPM SCHEDULE UPDATES AND/OR REVISED UPDATES	30.000 EAMO				
2050	763597 UTILITY CONSTRUCTION ENGINEERING	100.000 HOUR				
2060	763619 WEIGH IN MOTION SYSTEM (WIM)	LUMP	LUMP			
2070	763689 STRUCTURAL WORK, GANTRY	LUMP	LUMP			
2080	900500 ENVIRONMENTAL PERFORMANCE INCENTIVE (DISINCENTIVE)	LUMP	LUMP			488000.00
2090	905001 SILT FENCE	12571.000 LF				
2100	905002 REINFORCED SILT FENCE	45734.000 LF				
2110	905003 SEDIMENT TRAP	1303.000 CY				
2120	905004 INLET SEDIMENT CONTROL, DRAINAGE INLET	16.000 EACH				
2130	905005 INLET SEDIMENT CONTROL, CURB INLET	11.000 EACH				

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			DOLLARS	CTS	DOLLARS	CTS
2140	906001 PORTABLE SEDIMENT TANK	1.000 EACH				
2150	906002 DEWATERING BAG	9.000 EACH				
2160	906003 SUMP PIT	1.000 EACH				
2170	906004 SKIMMER DEWATERING DEVICE	11.000 EACH				
2180	907011 STONE CHECK DAM	47.000 TON				
2190	908010 TOPSOILING, 6" DEPTH	500754.000 SY				
2200	908014 PERMANENT GRASS SEEDING, DRY GROUND	519169.000 SY				
2210	908015 PERMANENT GRASS SEEDING, WET GROUND	450305.000 SY				
2220	908017 TEMPORARY GRASS SEEDING	468154.000 SY				
2230	908019 STREAMBANK SEED MIX, SEEDING	50.000 SY				

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			DOLLARS	CTS	DOLLARS	CTS
2240	908020 EROSION CONTROL BLANKET MULCH	123047.000 SY				
2250	908021 TURF REINFORCEMENT MATTING, TYPE 1	1824.000 SY				
2260	908023 STABILIZED CONSTRUCTION ENTRANCE	1259.000 TON				
2270	908503 WETLAND MITIGATION GRASS SEEDING	25854.000 SY				
2280	909002 SANDBAG DIVERSION	54.000 CF				
2290	909005 STREAM DIVERSION	LUMP	LUMP			
2300	910004 CLAY BORROW, CUT-OFF TRENCH	2981.000 CY				
2310	910007 OUTLET STRUCTURE	LUMP	LUMP			
2320	910009 INFILTRATION TRENCH	200.000 LF				
4040	605501 GROUND MOUNT BREAKAWAY TYPE SIGN SUPPORTS AND FOUNDATION	LUMP	LUMP			
	SECTION 0001 TOTAL					

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
SECTION 0002 BRIDGE 1-486 STANDARD ITEMS						
2330	202505 SETTLEMENT PLATFORM	EACH 4.000				
2340	207000 EXCAVATION AND BACKFILL FOR STRUCTURES	CY 216.000				
2350	602006 PORTLAND CEMENT CONCRETE MASONRY, PIER FOOTING, CLASS B	CY 94.000				
2360	602007 PORTLAND CEMENT CONCRETE MASONRY, PIER ABOVE FOOTING, CLASS A	CY 70.000				
2370	602013 PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	CY 195.000				
2380	602014 PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D	CY 110.000				
2390	602015 PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING, CLASS A	CY 70.000				
2400	602017 PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A	CY 50.000				
2410	602772 MECHANICALLY STABILIZED EARTH WALLS	LUMP		LUMP		

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2420	604000 BAR REINFORCEMENT, EPOXY COATED	135000.000 LB				
2430	608000 COARSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL	20.000 TON				
2440	623003 PRESTRESSED REINFORCED CONCRETE MEMBERS, BULB T BEAM	LUMP	LUMP			
2450	727507 BRIDGE SAFETY FENCE	290.000 LF				
	SECTION 0002 TOTAL					

SECTION 0003 BRIDGE 1-486 PILE ALTERNATE 1

2460	618062 STEEL H PILES, HP 14 X 73	854.000 LF				
2470	618065 STEEL H TEST PILES, HP 14 X 73	142.000 LF				
2480	619042 INSTALL STEEL H PILES, HP 14 X 73	854.000 LF				
2490	619045 INSTALL STEEL H TEST PILES, HP 14 X 73	142.000 LF				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2500	619501 PRODUCTION PILE RESTRIKE	1.000 EACH	500.00000		500.00	
2510	619502 TEST PILE RESTRIKE	1.000 EADY	1000.00000		1000.00	
2520	619519 DYNAMIC PILE TESTING BY CONTRACTOR	4.000 EACH				
2530	619539 SIGNAL MATCHING ANALYSIS BY CONTRACTOR	4.000 EACH				
	SECTION 0003 TOTAL					

SECTION 0004 BRIDGE 1-486 PILE ALTERNATE 2

2540	618552 FURNISH PIPE PILE, SCHEDULE 40, OPEN END, 14"	924.000 LF				
2550	618557 FURNISH TEST PIPE PILE, SCHEDULE 40, OPEN END, 14"	152.000 LF				
2560	619501 PRODUCTION PILE RESTRIKE	1.000 EACH	500.00000		500.00	
2570	619502 TEST PILE RESTRIKE	1.000 EADY	1000.00000		1000.00	
2580	619519 DYNAMIC PILE TESTING BY CONTRACTOR	4.000 EACH				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2590	619539 SIGNAL MATCHING ANALYSIS BY CONTRACTOR	4.000 EACH				
2600	619540 INSTALL PIPE PILE, SCHEDULE 40, OPEN END, 14"	924.000 LF				
2610	619558 INSTALL TEST PIPE PILE, SCHEDULE 40, OPEN END, 14"	152.000 LF				
	SECTION 0004 TOTAL					

SECTION 0005 BRIDGE 1-482 STANDARD ITEMS

2620	202505 SETTLEMENT PLATFORM	4.000 EACH				
2630	207000 EXCAVATION AND BACKFILL FOR STRUCTURES	313.000 CY				
2640	602006 PORTLAND CEMENT CONCRETE MASONRY, PIER FOOTING, CLASS B	178.000 CY				
2650	602007 PORTLAND CEMENT CONCRETE MASONRY, PIER ABOVE FOOTING, CLASS A	111.000 CY				
2660	602013 PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	443.000 CY				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2670	602014 PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D	CY 237.000				
2680	602015 PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING, CLASS A	CY 120.000				
2690	602017 PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A	CY 51.000				
2700	602772 MECHANICALLY STABILIZED EARTH WALLS	LUMP		LUMP		
2710	604000 BAR REINFORCEMENT, EPOXY COATED	LB 258953.000				
2720	608000 COARSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL	TON 18.000				
2730	623003 PRESTRESSED REINFORCED CONCRETE MEMBERS, BULB T BEAM	LUMP		LUMP		
2740	727507 BRIDGE SAFETY FENCE	LF 354.000				
	SECTION 0005 TOTAL					

SECTION 0006 BRIDGE 1-482 PILE ALTERNATE 1

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2750	618062 STEEL H PILES, HP 14 X 73	1836.000 LF				
2760	618065 STEEL H TEST PILES, HP 14 X 73	135.000 LF				
2770	619042 INSTALL STEEL H PILES, HP 14 X 73	1836.000 LF				
2780	619045 INSTALL STEEL H TEST PILES, HP 14 X 73	135.000 LF				
2790	619501 PRODUCTION PILE RESTRIKE	1.000 EACH	500.00000		500.00	
2800	619502 TEST PILE RESTRIKE	1.000 EADY	1000.00000		1000.00	
2810	619519 DYNAMIC PILE TESTING BY CONTRACTOR	4.000 EACH				
2820	619539 SIGNAL MATCHING ANALYSIS BY CONTRACTOR	4.000 EACH				
	SECTION 0006 TOTAL					

SECTION 0007 BRIDGE 1-482 PILE ALTERNATE 2

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			DOLLARS	CTS	DOLLARS	CTS
2830	618552 FURNISH PIPE PILE, SCHEDULE 40, OPEN END, 14"	2156.000 LF				
2840	618557 FURNISH TEST PIPE PILE, SCHEDULE 40, OPEN END, 14"	155.000 LF				
2850	619501 PRODUCTION PILE RESTRIKE	1.000 EACH	500.00000		500.00	
2860	619502 TEST PILE RESTRIKE	1.000 EADY	1000.00000		1000.00	
2870	619519 DYNAMIC PILE TESTING BY CONTRACTOR	4.000 EACH				
2880	619539 SIGNAL MATCHING ANALYSIS BY CONTRACTOR	4.000 EACH				
2890	619540 INSTALL PIPE PILE, SCHEDULE 40, OPEN END, 14"	2156.000 LF				
2900	619558 INSTALL TEST PIPE PILE, SCHEDULE 40, OPEN END, 14"	155.000 LF				
	SECTION 0007 TOTAL					

SECTION 0008 BRIDGE 1-482 PILE ALTERNATE 3

2910	618050 FURNISH STEEL SHELL PILES, 14"	1612.000 LF				
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			DOLLARS	CTS	DOLLARS	CTS
2920	618051 FURNISH TEST STEEL SHELL PILES, 14"	121.000 LF				
2930	619055 INSTALL STEEL SHELL PILES, 14"	1612.000 LF				
2940	619056 INSTALL TEST STEEL SHELL PILES, 14"	121.000 LF				
2950	619501 PRODUCTION PILE RESTRIKE	1.000 EACH	500.00000		500.00	
2960	619502 TEST PILE RESTRIKE	1.000 EADY	1000.00000		1000.00	
2970	619519 DYNAMIC PILE TESTING BY CONTRACTOR	4.000 EACH				
2980	619539 SIGNAL MATCHING ANALYSIS BY CONTRACTOR	4.000 EACH				
	SECTION 0008 TOTAL					

SECTION 0009 MARYLAND QUANTITIES

2990	202000 EXCAVATION AND EMBANKMENT	56440.000 CY				
3000	202569 POND ACCESS ROAD, MARYLAND	2602.000 SY				

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			DOLLARS	CTS	DOLLARS	CTS
3010	208000 EXCAVATION AND BACKFILLING FOR PIPE TRENCHES	333.000 CY				
3020	208001 FLOWABLE FILL	6.000 CY				
3030	209002 BORROW, TYPE B	2837.000 CY				
3040	211002 REMOVAL OF STRUCTURES AND OBSTRUCTIONS (GUARDRAIL)	63.000 LF				
3050	255502 GABION OUTLET STRUCTURE, MARYLAND	3.000 TON				
3060	272511 POND OUTLET STRUCTURE, CONCRETE, MARYLAND		LUMP	LUMP		
3070	302007 GRADED AGGREGATE BASE COURSE, TYPE B	966.000 CY				
3080	302012 DELAWARE NO. 57 STONE	2923.000 TON				
3090	304501 PERMEABLE TREATED BASE, 4"	14264.000 SY				
3100	304502 SOIL CEMENT BASE COURSE, 6"	13852.000 SY				

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			DOLLARS	CTS	DOLLARS	CTS
3110	304506 PORTLAND CEMENT	247.000 TON				
3120	401801 BITUMINOUS CONCRETE, SUPERPAVE, TYPE C, 160 GYRATIONS PG 64-22 (CARBONATE STONE)	547.000 TON				
3130	401810 BITUMINOUS CONCRETE, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 64-22	63.000 TON				
3140	401819 BITUMINOUS CONCRETE, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22	2232.000 TON				
3150	401825 BITUMINOUS CONCRETE, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 64-22, WEDGE	33.000 TON				
3160	401827 BITUMINOUS CONCRETE, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (NON-CARBONATE STONE)	2772.000 TON				
3170	501006 PORTLAND CEMENT CONCRETE PAVEMENT, 12"	14264.000 SY				
3180	612022 REINFORCED CONCRETE PIPE, 18", CLASS IV	70.000 LF				

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			DOLLARS	CTS	DOLLARS	CTS
3190	612023 REINFORCED CONCRETE PIPE, 24", CLASS IV	362.000 LF				
3200	612205 REINFORCED CONCRETE ELLIPTICAL PIPE, 19"X30", CLASS IV	88.000 LF				
3210	612210 REINFORCED CONCRETE ELLIPTICAL PIPE, 22"X34", CLASS IV	66.000 LF				
3220	612505 PVC PIPE, 12"	291.000 LF				
3230	612526 CORRUGATED POLYETHYLENE PIPE, TYPE S, 36"	100.000 LF				
3240	612535 CLEANING DRAINAGE PIPE, 15"-24" DIA	70.000 LF				
3250	612536 CLEANING DRAINAGE PIPE, GREATER THAN 24" DIA	255.000 LF				
3260	617519 CONCRETE END SECTION, 24", MARYLAND	4.000 EACH				
3270	617520 CONCRETE END SECTION, 19"X 30", MARYLAND	1.000 EACH				
3280	617521 CONCRETE END SECTION, 22"X34", MARYLAND	1.000 EACH				

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			DOLLARS	CTS	DOLLARS	CTS
3290	708660 DRAINAGE INLET, TYPE K, SINGLE, MARYLAND	6.000 EACH				
3300	712005 RIPRAP, R-4	783.000 SY				
3310	712552 RIPRAP SLOPE PROTECTION, MARYLAND	476.000 SY				
3320	713003 GEOTEXTILES, RIPRAP	3713.000 SY				
3330	715001 PERFORATED PIPE UNDERDRAINS, 6"	3238.000 LF				
3340	715004 PERFORATED PIPE UNDERDRAINS, 12"	520.000 LF				
3350	715500 UNDERDRAIN OUTLET PIPE, 6"	273.000 LF				
3360	720043 GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-27	653.000 LF				
3370	720044 GALVANIZED STEEL BEAM GUARDRAIL, TYPE 2-27	63.000 LF				
3380	720050 GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	300.000 LF				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3390	720051 GALVANIZED STEEL BEAM GUARDRAIL, TYPE 2-31	50.000 LF				
3400	720585 GUARDRAIL END TREATMENT ATTENUATOR, TYPE 1-31	1.000 EACH				
3410	720611 FLEXIBLE DELINEATOR, PERMANENT	17.000 EACH				
3420	727552 RESOURCE PROTECTION FENCE	1785.000 LF				
3430	727553 DIVERSION FENCE, MARYLAND	335.000 LF				
3440	734555 TEMPORARY VEGETATIVE STABILIZATION, MARYLAND	91022.000 SY				
3450	734556 PERMANENT VEGETATIVE STABILIZATION, MARYLAND	82149.000 SY				
3460	737531 PLANTINGS, MARYLAND	LUMP		LUMP		
3470	743003 ARROWPANELS, TYPE C	4.000 EADY				
3480	743004 FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	72.000 EADY				

DELAWARE DEPARTMENT OF TRANSPORTATION
SCHEDULE OF ITEMS

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DATE:

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All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3490	743006 PLASTIC DRUMS	57020.000 EADY				
3500	743010 FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	223.000 EADY				
3510	743015 FURNISH AND MAINTAIN PORTABLE PCC SAFETY BARRIER	2205.000 LF				
3520	743016 RELOCATION PORATBLE SAFETY BARRIER	1190.000 LF				
3530	743023 TEMPORARY BARRICADES, TYPE III	10650.000 LFDY				
3540	743024 TEMPORARY WARNING SIGNS AND PLAQUES	32564.000 EADY				
3550	743025 INSTALL TEMPORARY IMPACT ATTENUATOR	5.000 EACH				
3560	743029 FURNISH TEMPORARY IMPACT ATTENUATOR - NON-GATING, REDIRECTIVE, TEST LEVEL 3	2.000 EACH				
3570	743030 RELOCATE TEMPORARY IMPACT ATTENUATOR	2.000 EACH				
3580	744506 CONDUIT JUNCTION WELL, TYPE 7, PRECAST POLYMER CONCRETE	2.000 EACH				

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			DOLLARS	CTS	DOLLARS	CTS
3590	744530 CONDUIT JUNCTION WELL, TYPE 11, PRECAST CONCRETE/ POLYMER LID-FRAME	EACH 9.000				
3600	744531 CONDUIT JUNCTION WELL, TYPE 14, PRECAST CONCRETE/ POLYMER LID-FRAME	EACH 4.000				
3610	745602 FURNISH & INSTALL UP TO 4" SCHEDULE 80 HDPE CONDUIT (BORE)	LF 295.000				
3620	745604 FURNISH & INSTALL UP TO 4" SCHEDULE 80 PVC CONDUIT (TRENCH)	LF 2880.000				
3630	745606 FURNISH & INSTALL UP TO 4" GALVANIZED STEEL CONDUIT (TRENCH)	LF 5.000				
3640	746586 RELOCATE SIGN	SF 52.000				
3650	746852 POLE BASE, TYPE 6	EACH 2.000				
3660	748032 TEMPORARY MARKINGS, PAINT, 5"	LF 9079.000				
3670	748034 TEMPORARY MARKINGS, PAINT, 10"	LF 810.000				
3680	748525 TEMPORARY MARKINGS, TAPE, 4"	LF 10915.000				

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			DOLLARS	CTS	DOLLARS	CTS
3690	748527 TEMPORARY MARKINGS, TAPE, WORDS/SYMBOLS	SF 120.000				
3700	748530 REMOVAL OF PAVEMENT STRIPING	SF 3551.000				
3710	748560 5" WHITE PERMANENT PATTERNED REFLECTIVE PAVEMENT MARKING TAPE, MARYLAND	LF 20532.000				
3720	748563 SNOWPLOWABLE RAISED PAVEMENT MARKERS, MARYLAND	EACH 115.000				
3730	749500 SIGN PANEL	SF 320.000				
3790	749687 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGN POST	EACH 26.000				
3800	749690 INSTALLATION OR REMOVAL OF TRAFFIC SIGNS ON MULTIPLE SIGN POSTS	SF 477.000				
3810	756000 SAND	TON 143.000				
3820	760006 PAVEMENT - MILLING, HOT-MIX, 2" DEPTH	SY 21343.000				
3830	760016 RUMBLE STRIPS, HOT-MIX	LF 11700.000				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3840	760017 RUMBLE STRIPS, CONCRETE	5800.000 LF				
3850	760507 PROFILE MILLING, BITUMINOUS CONCRETE	2887.000 SYIN				
3860	762001 SAW CUTTING, BITUMINOUS CONCRETE	2763.000 LF				
3870	763573 SIGN, MARYLAND	1.000 EACH				
3880	763656 ASBUILT CERTIFICATION, MARYLAND	LUMP	LUMP			
3890	763686 TRAFFIC OFFICER, MARYLAND	432.000 HOUR	98.16000		42405.12	
3900	763691 FLAGGER, MARYLAND, STATE	500.000 HOUR				
3910	763692 FLAGGER, MARYLAND, STATE, OVERTIME	100.000 HOUR				
3920	905001 SILT FENCE	216.000 LF				
3930	905003 SEDIMENT TRAP	2818.000 CY				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3940	905004 INLET SEDIMENT CONTROL, DRAINAGE INLET	7.000 EACH				
3950	905500 SUPER SILT FENCE	5311.000 LF				
3960	906002 DEWATERING BAG	1.000 EACH				
3970	907011 STONE CHECK DAM	9.000 TON				
3980	908010 TOPSOILING, 6" DEPTH	53274.000 SY				
3990	908020 EROSION CONTROL BLANKET MULCH	7828.000 SY				
4000	908023 STABILIZED CONSTRUCTION ENTRANCE	529.000 TON				
4010	910002 INFILTRATION STONE, NO. 8	844.000 TON				
4020	910004 CLAY BORROW, CUT-OFF TRENCH	4926.000 CY				
4030	910500 BIORETENTION SOIL MIX	290.000 CY				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
4050	605501 GROUND MOUNT BREAKAWAY TYPE SIGN SUPPORTS AND FOUNDATION	LUMP	LUMP			
	SECTION 0009 TOTAL					
	TOTAL BID					

BREAKOUT SHEET - 10

CONTRACT NO. T200811301.01

ITEM 605501 - GROUND MOUNT BREAKAWAY TYPE SIGN SUPPORTS AND FOUNDATION (in DE)

ITEM NO.	APPROX. QTY.	UOM	DESCRIPTION	UNIT PRICE	AMOUNT
1	1	LS	GM - 1	\$	\$
2	1	LS	GM - 3	\$	\$
3	1	LS	GM - 4	\$	\$
4	1	LS	GM - 5	\$	\$
5	1	LS	GM - 6	\$	\$
6	1	LS	GM - 7	\$	\$
7	1	LS	GM - 9	\$	\$
8	1	LS	GM - 10	\$	\$
9	1	LS	GM - 11	\$	\$
10	1	LS	GM - 12	\$	\$
11	1	LS	GM - 15	\$	\$
12	1	LS	GM - 16	\$	\$
13	1	LS	GM - 17	\$	\$

TOTAL ITEM 605501 - GROUND MOUNT BREAKAWAY TYPE SIGN SUPPORTS AND FOUNDATION (in DE) \$ _____
(LUMP SUM BID PRICE FOR ITEM 605501)

BREAKOUT SHEET – 10A		CONTRACT NO. T200811301.01			
ITEM 605501 - GROUND MOUNT BREAKAWAY TYPE SIGN SUPPORTS AND FOUNDATION (in MD)					
ITEM NO.	APPRO X. QTY.	UOM	DESCRIPTION	UNIT PRICE	AMOUNT
1	1	LS	GM - 8	\$	\$
2	1	LS	GM - 18	\$	\$
3	1	LS	GM - 19	\$	\$
TOTAL ITEM 605501 - GROUND MOUNT BREAKAWAY TYPE SIGN SUPPORTS AND FOUNDATION (in MD) \$ _____ (LUMP SUM BID PRICE FOR ITEM 605501)					

EROSION AND SEDIMENT CONTROL - GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE ADMINISTRATION (WMA) AT (410) 537-3510 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE ADMINISTRATION, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF WMA.
- THE CONTRACTOR MUST NOTIFY WMA IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS:
 - THE REQUIRED PRE-CONSTRUCTION MEETING.
 - FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES.
 - DURING THE INSTALLATION OF SEDIMENT BASINS (TO BE CONVERTED INTO PERMANENT STORMWATER MANAGEMENT STRUCTURES) AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION OF EACH STEP IS MANDATORY.
 - PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
 - PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES.
 - PRIOR TO FINAL ACCEPTANCE.
- THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE AGENCY INSPECTOR OR WMA INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE WMA INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM WMA INSPECTOR AND AGENCY INSPECTOR. THE CONTRACTOR MUST OBTAIN PRIOR AGENCY AND WMA APPROVAL FOR CHANGES TO THE SEDIMENT CONTROL PLAN AND / OR SEQUENCE OF CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.
- THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIMES AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM WMA INSPECTOR AND AGENCY INSPECTOR.
- ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, SWALES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN THREE (3) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.
- THE CONTRACTOR SHALL APPLY SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS AND STOCKPILES WITHIN THREE (3) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED IN THE AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.
- PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NOT LATER THAN SEVEN (7) CALENDAR DAYS AFTER ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.
- THE SITE'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF WMA AND THE AGENCY RESPONSIBLE FOR PROJECT.

- SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF A CUT OR FILL SLOPE UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. PROTECTIVE METHODS MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.
- PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING, RIP-RAP, OR BY OTHER APPROVED STABILIZATION MEASURES.
- TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED, WITH PERMISSION OF WMA INSPECTOR AND AGENCY INSPECTORS, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.
- NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.
- FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS TO PREVENT WATER FROM PONDING FOR MORE THAN TWENTY FOUR (24) HOURS AFTER THE END OF A RAINFALL EVENT. DRAINAGE COURSES AND SWALE FLOW AREAS MAY TAKE AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL EVENT TO DRAIN. AREAS DESIGNED TO HAVE STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.
- SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION THAT EXISTS OR IS UNDER CONSTRUCTION. NO STRUCTURE MAY BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.
- THE WMA INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.
- ALL TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS MUST HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.
- VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING, AND GROUND COVERS.
- SEDIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OR BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE TRAP OR BASIN BOTTOM TO THE CREST OF THE OUTLET.
- SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PIT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.
- ALL WATER REMOVED FROM EXCAVATED AREAS SHALL BE PASSED THROUGH A WMA APPROVED DEWATERING PRACTICE OR PUMPED TO A SEDIMENT TRAP OR BASIN PRIOR TO DISCHARGE TO A FUNCTIONAL STORM DRAIN SYSTEM OR TO STABLE GROUND SURFACE.

- SEDIMENT CONTROL FOR UTILITY CONSTRUCTION FOR AREAS OUTSIDE OF DESIGNED CONTROLS OR AS DIRECTED BY ENGINEER OR WMA INSPECTOR:
 - CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK.
 - EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
 - TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED, AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY, UNLESS:
 - TEMPORARY SILT FENCE SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN ONE DAY.
- WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL BUILDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENTS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE MUST BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.
- OFF-SITE SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY MUST HAVE PRIOR APPROVAL BY WMA AND OTHER APPLICABLE STATE, FEDERAL, AND LOCAL AGENCIES. OTHERWISE APPROVAL MUST BE GRANTED BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE MUST BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.
- SITES WHERE INFILTRATION DEVICES ARE USED FOR THE CONTROL OF STORMWATER, EXTREME CARE MUST BE TAKEN TO PREVENT RUNOFF FROM UNSTABILIZED AREAS FROM ENTERING THE STRUCTURE DURING CONSTRUCTION. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISH GRADE BOTTOM ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING A SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF INFILTRATION DEVICE.
- WHEN A STORM DRAIN SYSTEM OUTFALL IS DIRECTED TO A SEDIMENT TRAP OR SEDIMENT BASIN AND THE SYSTEM IS TO BE USED FOR TEMPORARILY CONVEYING SEDIMENT LADEN WATER, ALL STORM DRAIN INLETS IN NON-SUMP AREAS SHALL HAVE TEMPORARY ASPHALT BERMS CONSTRUCTED AT THE TIME OF BASE PAVING TO DIRECT GUTTER FLOW INTO THE INLETS TO AVOID SURCHARGING AND OVERFLOW OF INLETS IN SUMP AREAS.
- SITE INFORMATION:
 - TOTAL AREA OF FACILITY 25.67 ACRES (BASE, CAMPUS, PARK, ETC.)
 - AREA DISTURBED 20.9139 ACRES
 - AREA TO BE ROOFED OR PAVED 3.4165 ACRES
 - TOTAL CUT 8,712 CUBIC YARDS
 - TOTAL FILL 22,508 CUBIC YARDS
 - OFF-SITE WASTE / BORROW AREA LOCATION TBD

NOTE TO CONTRACTOR: EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED.

SUPPLEMENTAL EROSION AND SEDIMENT CONTROL NOTES:

STAGING AND STOCKPILING:
THE CONTRACTOR SHALL ESTABLISH STAGING AND STOCKPILE AREAS AT LOCATIONS APPROVED BY THE ENGINEER AND WMA INSPECTOR. THESE AREAS SHALL BE ESTABLISHED SUCH THAT WETLAND, WETLAND BUFFERS, FORESTED AREAS, AND OTHER ENVIRONMENTALLY SENSITIVE AREAS ARE NOT IMPACTED. EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILT FENCE SHALL BE INSTALLED DOWNGRADE OF THE STAGING AND STOCKPILING AREAS AS DIRECTED BY THE ENGINEER AND WITH THE APPROVAL OF THE MDE INSPECTOR.

STABILIZED CONSTRUCTION ENTRANCE LOCATIONS:
THE LOCATIONS OF STABILIZED CONSTRUCTION ENTRANCES ON THE PLANS ARE RECOMMENDED AND HAVE BEEN APPROVED BY MDE. THE CONTRACTOR MAY DETERMINE OTHER LOCATIONS FOR INGRESS/EGRESS TO THE CONSTRUCTION SITE WITH THE APPROVAL OF THE ENGINEER AND WMA INSPECTOR.

STORM DRAIN AND DITCH CONSTRUCTION:
STORM DRAIN SYSTEMS AND PERMANENT DITCHES/SWALES SHALL BE CONSTRUCTED FROM DOWNSTREAM TO UPSTREAM UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER.

COORDINATION WITH MAINTENANCE OF TRAFFIC PLAN:
THE SEDIMENT AND EROSION CONTROL SEQUENCES SHALL BE COORDINATED WITH THE MAINTENANCE OF TRAFFIC PLANS TO MAINTAIN CONTINUITY OF THE PRACTICES DURING ALL PHASES OF THE PROPOSED WORK. CONCURRENT CONSTRUCTION WITHIN THE VARIOUS PHASES MAY BE UNDERTAKEN IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC PLAN. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO BEGINNING CONCURRENT WORK. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON COMPLETION OF THEIR INTENDED FUNCTION. PERMANENT STABILIZATION OF CONTRIBUTORY DRAINAGE AREA AND PRIOR APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR. SEDIMENT AND EROSION CONTROL MEASURES NECESSARY FOR SUBSEQUENT PHASE OF THE WORK SHALL BE MAINTAINED AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.

DEWATERING:
ANY EFFLUENT FROM DEWATERING FOUNDATIONS, TRENCHES AND OTHER DISTURBED AREAS MUST BE TREATED BY AN APPROVED SEDIMENT CONTROL DEVICE BEFORE BEING DISCHARGED.

SEQUENCE OF CONSTRUCTION:
THE SEQUENCE OF CONSTRUCTION INCLUDED IN THESE PLANS IS APPROVED BY THE MDE. THIS SEQUENCE OF CONSTRUCTION MAY BE MODIFIED BY THE CONTRACTOR. HOWEVER, THE CONTRACTOR MUST OBTAIN MDE APPROVAL FOR ANY MODIFICATIONS PRIOR TO IMPLEMENTING A REVISED SEQUENCE OF CONSTRUCTION IN THE FIELD.

OWNER'S/DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, 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 EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I/WE HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY APPROPRIATE INSPECTION AND ENFORCEMENT AUTHORITY OR THE STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT.

10/8/15 DATE
 [Signature] OWNER/DEVELOPER SIGNATURE
 3449 CARD NUMBER
 Division Chief, MDSA-OHD-HHD PRINTED NAME AND TITLE

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN

- NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE.
- PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO THE NONTIDAL WETLAND, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- REPAIR AND MAINTAIN SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR PERMANENT MODIFICATIONS OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES:

ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLEA SP.) AND/OR RYE (SECALE CERALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS:

CLASS 1 WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
- STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
- CULVERTS SHALL BE CONSTRUCTED AND ANY RIP RAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

APPROVED

10/30/2015

SEDIMENT & STORMWATER PLAN REVIEW DIVISION



DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES 1 AND 11 INCLUDING SUPPLEMENTS, THE ENVIRONMENTAL ARTICLE SECTIONS 4-101 THROUGH 116 AND SECTIONS 4-201 AND 215, AND THE CODE OF MARYLAND REGULATIONS (COMAR) 26.17.01 AND COMAR 26.17.02 FOR EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT, RESPECTFULLY.

SEPTEMBER 24, 2015 DATE
 [Signature] DESIGNER'S SIGNATURE
 37140
 MARYLAND REGISTRATION NUMBER, P.E. R.L.S. OR R.L.A. (circle)
 SEAN K. HINZE PRINTED NAME

PROFESSIONAL CERTIFICATION

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37140, EXPIRATION DATE 7/19/17."

INFORMATION ON THIS SHEET PERTAINS TO MARYLAND WORK ONLY

CS-010



ADDENDUMS / REVISIONS
▲ CERTIFICATION SIGNATURES, SKH

NOT TO SCALE

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.
T20081301	
COUNTY	DESIGNED BY: MFM/DJJ
CECIL	CHECKED BY: SKH/SGS

CONSTRUCTION PHASING,
M.O.T., AND EROSION
CONTROL PLAN

SHEET NO.	474
TOTAL SHTS.	850

J:\2008 PROJECTS\334801\750ADD\750ADD\MOT_GENERAL_CS_301MET_010.DGN

MDE No. 10-SF-0061

GUIDE SIGN STEEL SUPPORT CHART

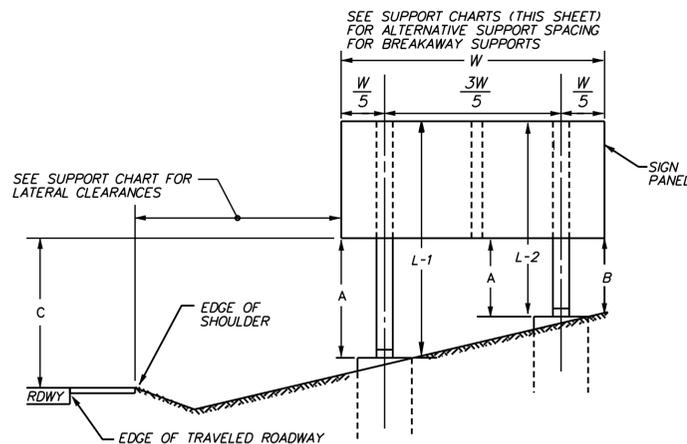
SIGN NO.	SIGN SIZE (WXH)	PLAN SHEET NO.	DETAIL SHEET NO.	POST SIZE	BW OR NBW*	SUPPORT L-1	SUPPORT L-2	SUPPORT L-3	LATERAL CLEARANCE		SUPPORT SPACING FROM LEFT EDGE OF SIGN
									OFFSET	OBJECT**	
GM-1	14'x18'	SS-10	SS-49	W18x40	BW	25.95'	26.71'	-	6.0'	ES	2.8'-8.4'-2.8'
GM-2	14'x18'	SS-13	SS-49	W18x40	BW	27.24'	28.65'	-	6.0'	ES	2.8'-8.4'-2.8'
GM-3	23'x15'	SS-14	SS-49	W18x40	BW	23.63'	24.75'	28.75'	6.0'	ES	3.8'-7.7'-7.7'-3.8'
GM-4	18'x5.5'	SS-16	SS-49	W6x15	BW	13.33'	13.75'	-	6.0'	ES	3.6'-10.8'-3.6'
GM-5	18'x5.5'	SS-17	SS-49	W6x15	BW	13.86'	14.61'	-	6.0'	ES	3.6'-10.8'-3.6'
GM-6	23'x15'	SS-18	SS-49	W18x40	BW	23.63'	24.75'	29.88'	6.0'	ES	3.8'-7.7'-7.7'-3.8'
GM-7	14'x5.5'	SS-25	SS-49	W6x15	BW	14.50'	15.92'	-	6.0'	ES	2.8'-8.4'-2.8'
GM-8	12'x17'	SS-05	SS-50	W18x40	BW	25.58'	26.71'	-	6.0'	ES	2.2'-7.6'-2.2'
GM-9	15'x10'	SS-11	SS-50	W8x21	BW	18.75'	20.25'	-	6.0'	ES	3.0'-9.0'-3.0'
GM-10	11'x12.5'	SS-23	SS-50	W10x26	BW	21.92'	25.21'	-	6.0'	ES	1.7'-7.6'-1.7'
GM-11	11'x12.5'	SS-27	SS-50	W10x26	BW	21.88'	25.21'	-	6.0'	ES	1.7'-7.6'-1.7'
GM-12 (DI-3)	13'x5'	SS-26	SS-51	W6x15	BW	13.92'	15.63'	-	6.0'	ES	2.6'-7.8'-2.6'
GM-15	14.5'x17'	SS-44	SS-51	W18x40	BW	26.29'	23.38'	-	6.0'	ES	2.9'-8.7'-2.9'
GM-16	11'x11.5'	SS-44	SS-51	W6x15	BW	19.00'	16.79'	-	6.0'	ES	1.7'-7.6'-1.7'
GM-17	11'x11.5'	SS-44	SS-51	W6x15	BW	18.83'	16.63'	-	6.0'	ES	1.7'-7.6'-1.7'
GM-18	8'x6'	SS-02	-	W6x15	BW	16.00'	17.36'	-	6.0'	ES	1.6'-4.8'-1.6'
GM-19	9'x7.5'	SS-06	-	W6x15	BW	16.56'	17.30'	-	6.0'	ES	1.8'-5.4'-1.8'

* BW-BREAKAWAY, NBW-NON-BREAKAWAY

NOTES:

- ~~SUPPLY OF NON-BREAKAWAY I-BEAMS WILL BE PAID FOR UNDER THE RESPECTIVE SUPPLY OF BREAKAWAY I-BEAM SIGN POST ITEM. COST OF FURNISHING AND INSTALLING NON-BREAKAWAY BASE PLATE WILL NOT BE MEASURED AND PAID FOR, BUT WILL BE INCIDENTAL TO THE RESPECTIVE BREAKAWAY I-BEAM SIGN POST ITEM.~~
- GM-2 SHOWN FOR INFORMATION ONLY. TO BE INSTALLED UNDER CONTRACT T200911303.

SIGN CLEARANCE



VERTICAL CLEARANCE OF SIGNS

- A. 7'-6" MINIMUM FOR BREAKAWAY SUPPORTS OR 5'-6" FOR NON-BREAKAWAY SUPPORTS.
 - B. 2'-0" MINIMUM
 - C. 7'-6" MINIMUM & PREFERABLE. THIS DIMENSION IS TO BE INCREASED ONLY WHEN REQUIRED TO MEET A = 7'-6" FOR BREAKAWAY OR A (MIN.) = 5'-6" FOR NON-BREAKAWAY AND B (MIN.) 2'-0"
- ALL DIMENSIONS ARE TO BOTTOM OF SIGN

TOTAL WEIGHT BELOW THE HINGES SHOULD BE LESS THAN 600 POUNDS

LATERAL CLEARANCE

SEE SUPPORT CHARTS

OBJECT CODES

- W = FACE OF W-BEAM TRAFFIC BARRIER
- FOC = FACE OF CURB
- ES = EDGE OF SHOULDER
- ETR = EDGE OF TRAVELED ROADWAY
- CM = CENTERED IN MEDIAN (LEFT OBJECT/ RIGHT OBJECT)
- CG = CENTERED IN GORE (LEFT OBJECT/ RIGHT OBJECT)
- B = FACE OF CONCRETE TRAFFIC BARRIER

FOUNDATION SELECTION MATRIX

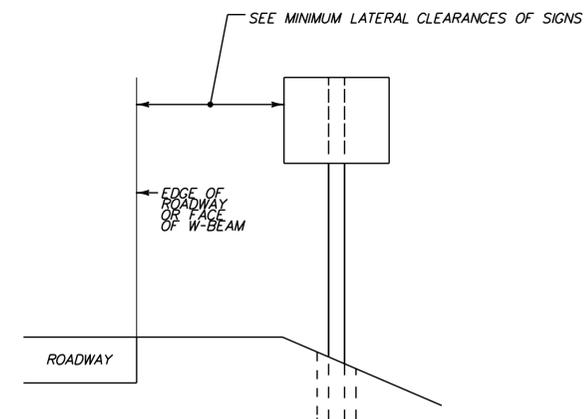
POST SIZE	FOUNDATION DIAMETER	ROADWAY CUT / FILL SLOPE										
		≥2:1	3:1	4:1	5:1	6:1	7:1	8:1	9:1	10:1	12:1	≤13:1
W6x9	30"	*	C	C	C	C	B	B	B	A	A	A
W6x12 or TS 5"x5"x1/4"	30"	*	C	C	C	C	B	B	B	A	A	A
W6x15, W6x16 or TS 6"x6"x1/4"	30"	*	C	C	C	C	B	B	B	A	A	A
W8x18	30"	*	C	C	C	C	B	B	B	A	A	A
W8x21 or TS 7"x7"x1/4"	30"	*	C	C	C	C	B	B	B	A	A	A
W10x22 or TS 8"x8"x1/4"	36"	*	*	C	C	C	C	B	B	B	A	A
W10x26	36"	*	*	C	C	C	C	B	B	B	A	A
W12x26	36"	*	*	C	C	C	C	B	B	B	A	A
W14x30	36"	*	*	C	C	C	C	B	B	B	A	A
W16x31	36"	*	*	C	C	C	C	B	B	B	A	A
W18x35 or W18x40	36"	*	*	C	C	C	C	B	B	B	A	A
W21x44	42"	*	*	C	C	C	C	C	B	B	B	A

* IF A FOUNDATION EXCEEDS THE 4" AASHTO CRITERIA, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR APPROPRIATE GUIDANCE.

STEEL POST BREAKAWAY SYSTEM SELECTION CHART

SYSTEM TYPE	ASSOCIATED POST SIZE
A16	W6x9
B525	W6x12, W6x15, W6x16, W8x18, W8x21, 5"x5" & 6"x6" SQUARE
B650	7"x7" AND 8"x8" SQUARE AND ALL I-BEAMS LARGER THAN W8x21

STANDARD SIGN VERTICAL AND LATERAL CLEARANCE DETAIL



MINIMUM LATERAL CLEARANCE OF SIGNS:

- 1 = EDGE OF SIGN 6' FROM FACE OF W-BEAM TRAFFIC BARRIER
- 2 = EDGE OF SIGN 6' FROM EDGE OF SHOULDER
- 3 = EDGE OF SIGN 6' PREFERABLE MIN. (2' ABSOLUTE MIN.) FROM EACH EDGE OF SHOULDER IN MEDIAN

NOTE: ALL SUPPORTS WITHIN THE CLEAR ZONE SHALL BE BREAKAWAY UNLESS PROTECTED.

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STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

November 18, 2015

ENVIRONMENTAL REQUIREMENTS

for

U.S. 301, Maryland State Line to Levels Road (Contract #3)
State Contract No.: T200811301
Federal Aid Project Number: NH-2015(20)

In accordance with the procedural provisions for implementing the National Environmental Policy Act of 1969, as amended, the referenced project has been processed through the Department's Environmental Review Procedures and has been classified as a Level A/ Class I Action.

PERMIT REQUIREMENTS:

The proposed construction work for this portion of U.S. 301, requires permit approval from those agencies listed below. It is the responsibility of the contracting agency, the Delaware Department of Transportation, Division of Transportation Solutions to obtain the necessary permits to ensure that the contractor complies with the requirements and conditions established by the regulatory agencies.

REQUIRED PERMITS AND APPROVAL STATUS:

- U.S. Army Corps of Engineers (USACE) – Individual Permit – **Approved 01-07-2013**, CENAP-OP-R-2006-6071-1, Expiration 12-31-2023
- Delaware Department of Natural Resources and Environmental Control (DNREC) Subaqueous Lands Permit – **Approved 01-30-2012**, SP-233/11, Expiration 01-30-2017
- DNREC – 401 Water Quality Certification – **Approved 01-30-2012**, WQ-276/11, Expiration 01-30-2017

- DNREC – Coastal Zone Consistency – **Approved 09-14-2007, modification of condition 3 – 04-04-2011** – No expiration
- New Castle County Floodplain Permit – **Approved 01-31-2012**, SLD# 20110732 – No expiration
- Maryland Department of the Environment (MDE) Water Management Administration Nontidal Wetlands and Waterways Permit- **Approved 12-13-2011 modification on 12-13-2014**, 10-NT-0112/2010603687, Expiration 12-13-2017
- Maryland Department of the Environment (MDE) Stormwater Management and Sediment & Erosion Control – **Approved 10-30-2015**, 10-SF-0061, Expiration 10-30-2017
- Maryland Department of the Environment (MDE) NPDES Discharge Permit – **Approved 11-04-2015**, MDRCHS0CM, Expiration 12-31-2019

SPECIFIC REQUIREMENTS:

Compliance with all requirements of the permits is the responsibility of the contractor. The contractor will follow all special conditions or requirements as stated within those permits or as indicated below. The contractor will be subject to penalties, fines, and the risk of shut down as mandated by law if conditions of the permits or other additional requirements are violated or ignored.

Additional requirements by DeIDOT not specified within the permits, but listed below, or on the Environmental Compliance Sheets are also the responsibility of the contractor and are subject to risk of shut down at the contractor's expense.

1. The contractor shall employ measures during construction to prevent spills of fuels, or lubricants, if a spill should occur, efforts shall be undertaken to prevent its entry into wetlands, aquatic, or drainage areas. Any spills entering wetlands, aquatic, or drainage areas shall be removed immediately. The Division of Water Resources (DNREC), Wetlands & Aquatic Protection Branch, 302-739-4691, shall be notified of any spill(s) within six (6) hours of their occurrence. That office will determine the effectiveness of spill and contamination removal and specify remediation efforts as necessary.
2. All construction debris, excavated material, brush, rocks, and refuse incidental to such work shall be placed either on shore above the influence of flood waters or on some suitable disposal site approved by the department.
3. The disposal of trees, brush, and other debris in any stream corridor, wetland surface water or any drainage ditch is prohibited.
4. There shall be no stockpiling of construction materials or temporary fills in wetlands or subaqueous lands unless otherwise specified on project plans and approved by permitting

agencies that govern them. It is the contractor's responsibility to coordinate and secure those additional permits/amendments in deviating from the plan.

5. The effort shall be made to keep construction debris from entering adjacent waterways, wetlands, ground cover, or drainage areas. Any debris that enters these areas shall be removed immediately. Netting, mats, or establishing confined work areas in stages may be necessary to address these issues.
6. If routine maintenance of worker equipment and heavy machinery is necessary during the construction period, refuse material is prohibited from being disposed or deposited onto or into the ground. All used oils and filters must be recycled or disposed of properly.
7. Harmful chemical wash water applied to clean equipment or machinery shall be discouraged. If undertaken, the residue water and/or material must be collected or contained such that it will be disposed of properly. By no means, shall it be deposited or disposed of in waterways, streams, wetlands, or drainage areas.
8. The contractor shall follow all requirements as indicated in the Environmental Compliance Sheet. It will be the contractor's responsibility, expense, & effort to ensure that workers also follow these requirements. As part of the restrictions, please note the timetables reflected in the contract for the in-stream/water work for endangered species protection.

9. **Environmental Monitor:**

DelDOT has designated an environmental monitoring team to help and ensure compliance with the Project's environmental commitments contained in NEPA documentation, Permits, and shown on the Environmental Compliance Sheets. The environmental monitoring team will attend relevant pre-construction and construction meetings and monitor construction activities adjacent to protected resources. The environmental monitoring team will track compliance with Project commitments and report regularly to DelDOT Environmental Studies. The environmental monitor will work closely with the Engineer to resolve any environmental issues, or concerns in a timely but environmentally suitable fashion.

10. **Resource Protection Fence:**

Resource protection fence is being used to prevent impacts to sensitive resources near the Project. Resource protection fence is shown in the Project's Environmental Compliance Sheets and shall be installed immediately after stakeout of the LOC. The Contractor shall ensure that all employees understand and comply with the purpose of the resource protection fence.

CULTURAL RESOURCE REQUIREMENTS:

1. The contractor will submit to the District, the location(s) of permanent disposal sites to be used for the disposition of clean wasted materials resulting from the construction contract. The contractor will submit at the Preconstruction meeting, a location map and a plot plan (sketch or diagram) of where on the property clean wasted material is to be placed. The limits of the site(s) will be physically staked or surveyed on the property. The District will submit the contractor's disposal site location(s) to the State Historic Preservation Office for approval.

The SHPO will determine if a cultural resource survey is required before the site can be approved. If additional survey work is required, it will be the contractor's responsibility to hire a qualified professional to assess the site(s) for the presence or absence of cultural resources (i.e. historic or prehistoric archeological sites). The contractor's consultant will be responsible for producing documentation of the survey results for submission to the SHPO.

If the contractor proposes the use of disposal sites outside the State of Delaware, the contractor must provide written approval from the State Historic Preservation Office of each respective state.

A project's disposal operation will not commence until the SHPO has notified the DelDOT District office that the site location(s) is approved for use.

The use of the disposal site will not result in discharge of materials into the Corps of Engineer or DNREC jurisdictional wetlands or waters. It is the responsibility of the contractor to provide any site surveys or wetland delineations needed to preclude wetland encroachment.

The contractor will be responsible for all sediment and erosion control measures and subsequent approvals required for the disposal site(s) operations.

It is the contractor's responsibility to obtain all other appropriate Federal, State, or local approvals required by law for use of the disposal site(s).

NATURAL RESOURCES SPECIFIC REQUIREMENTS :

The contractor shall pay special attention to specific construction requirements listed below [**MDE conditions unless noted**]:

The following requirements apply to activities taking place in Maryland.

1. Disposal of Excess: Unless otherwise shown on the Approved Plan, all excess fill, spoil material, debris, and construction material shall be disposed of outside of nontidal wetlands, nontidal wetlands buffers, and the 100-year floodplain, and in a location and manner which does not adversely impact surface or subsurface water flow into or out of nontidal wetlands.

2. Temporary Staging Areas: Temporary construction trailers or structures, staging areas and stockpiles shall not be located within nontidal wetlands, nontidal wetlands buffers, or the 100-year floodplain unless specifically included on the Approved Plan.
3. Instream Construction Prohibition: To protect important aquatic species, motor driven construction equipment shall not be allowed within stream channels unless on authorized ford crossings. Activities within stream channels are prohibited as determined by the classification of the stream (COMAR 26.08.02.08): Sassafra River is a Use 1 waterway; in-stream work may not be conducted from March 1 through June 15 inclusive, of any year.
4. Minimum Disturbance: Any disturbance of stream banks, channel bottom, wetlands, and wetlands buffer authorized by Permit or Approved Plan shall be the minimum necessary to conduct permitted activities. All disturbed areas shall be stabilized vegetatively no later than seven (7) days after construction is completed or in accordance with the approved grading or sediment and erosion control plan.

The contractor shall pay special attention to specific construction requirements listed below [**USACE conditions unless noted**]:

1. Any deviation in construction methodology or project design of the regulated activities from that shown on the construction plan sheets must be approved by Corps of Engineers Philadelphia Office, in writing, prior to performance of the work. All modifications to the construction plans shall be approved, in writing by the Corps of Engineers. No work shall be performed prior to written approval of the Corps of Engineers.
2. Prior to the placement of temporary fill in any Waters of the United States including wetlands, a removal and restoration plan of the fill must be submitted to and approved by the Corps of Engineers. This plan should include but shall not be limited to: reason for temporary fill; location, quantity and type of temporary fill; methods of installation and removal; restoration procedures; and Corps of Engineers final inspection provisions. This condition does not apply to temporary fills associated with erosion and sediment controls. The following shall be considered when utilizing temporary fills:
 - a. Earthen materials shall not be used in the deployment of temporary stream diversions, crossings, or cofferdams, due to the potential for washout during storm events, unless those materials are properly contained and stabilized as shown on approved plans.

- b. Any temporary stream crossings will be completely removed when no longer needed and the stream banks restored by planting native woody vegetation.
 - c. Any pre-existing riparian vegetation that is disturbed will be replanted after the removal of temporary disturbance.
 - d. Temporary stream crossings shall be located within the approved limits of disturbance.
3. The permittee will continue to coordinate project plan development for work in regulated wetlands and waters of the United States to assure that the identified impacts remain the same, and that if possible, further reductions in impacts to the aquatic environment may be identified.
4. The permittee is responsible for ensuring that the contractor and/or workers executing the activity(s) authorized by this permit have knowledge of the terms and conditions of the authorization and that a copy of the permit document is at the project site throughout the period the work is underway.
5. All fill materials shall be clean and free from fines, oils, grease, debris, wood, asphalt and other contaminants. **[DNREC]**
6. Waterways temporarily diverted in association with construction activities authorized herein shall be re-diverted to their original channels within 72 hours of completion of the culvert installation. **[DNREC]**
7. Culverts conveying the stream base flow, and capable of passing aquatic life, will be depressed so that a natural substrate will accumulate in the culvert. The Permittee shall design culverts to address the specific geomorphic characteristics of the stream to avoid downstream scour and channel degradation, and to maintain ecological functions such as aquatic habitat, flood attenuation, sediment transport, and stream channel stability.
8. In order to maintain stream channel connectivity at U.S. 301 Station 126+00, the following additional culvert designs shall be implemented at this station: a) The culvert invert shall be installed at a depth of at least 12 inches below the existing streambed in alignment with the thalweg of the stream, b) The riprap at the inlet and/or outlet of the culverts shall be placed in the stream so that the top of the riprap is at the same elevation as the invert of the culvert, c) The riprap placed at the inlet and/or outlet of the culvert shall then be choked with clean materials to fill voids, and d) The stream shall be backfilled with natural streambed materials to match the pre disturbance elevations of the stream. **[DNREC]**

9. If riprap is needed in a stream channel for energy dissipation at either end of a stream culvert, or to protect a buried utility, riprap and stream substrate material shall be placed together, to establish a stream invert that will not impede fish passage during low flows.
10. The permittee is responsible to ensure that, after construction, the stream shall not be “lost” or infiltrate beneath the channel or culvert. If flow is lost from the stream, the permittee shall take corrective action to restore flow to the stream. **[DNREC]**
11. No stockpiling or storage of equipment, materials, or structural steel; no staging areas; and no installation of ancillary facilities such as concrete or asphalt plants or construction trailers shall be permitted within any wetland or stream areas outside of identified storage areas as approved by the Corps of Engineers. No construction materials, aggregates, or earth shall be stockpiled or stored in a manner that would affect wetlands or streams, and such stockpiles shall have erosion and sediment controls approved by DeIDOT.
12. Where utility lines are being relocated by DeIDOT and pass through or along the boundaries of wetland areas, measures must be taken to prevent the porous bedding and backfill material from acting as a French drain that would drain the wetland. Examples of acceptable measures would be clay collars or trench plugs installed, at a minimum, every 100 feet, with a collar located at the entrance point and exit point of the utility lines into and out of the wetland area.
13. As a part of the earthen grading activities associated with surface water management and runoff, and/or the restoration of temporary drainage and diversion activities associated with project construction, the permittee shall assure that any wetlands or waters of the United States outside of the approved limit of construction (LOC) and not shown as impacted on the plans identified in special condition 1 are not adversely affected by the project. These adverse effects would include, but are not limited to, the removal of wetland hydrology (surface or subsurface), and the increased scour and erosion of stream channels within the project area. In the event that any adverse effects are identified, the permittee will immediately contact this office and coordinate with this office to develop and implement corrective or remedial measures.
14. All excess excavated material not used in highway or compensatory mitigation site construction shall be disposed of at upland, non-wetland disposal site(s). The excavated material shall be properly contained and stabilized to prevent its entry into any adjacent wetlands or waterways. No disposal/wasting operation shall commence until the permittee obtains written approval of any disposal site(s) from the Corps of Engineers to ensure that there are no unauthorized discharges of fill into waters of the United States, including jurisdictional wetlands.

Any changes to or deviations from these plans requested by the contractor must be reviewed and approved by the Engineer and Environmental Monitor prior to conducting any work. Approval may take a significant amount of time to complete and all changes may not be approved. The contractor shall have no claim against the department for costs or delays associated with the approval or rejection of requested changes or deviations from these plans