

HOWARD COUNTY

Capital Project #D-1160

Cedar Lane Park North Entrance Storm Water Management Retrofit

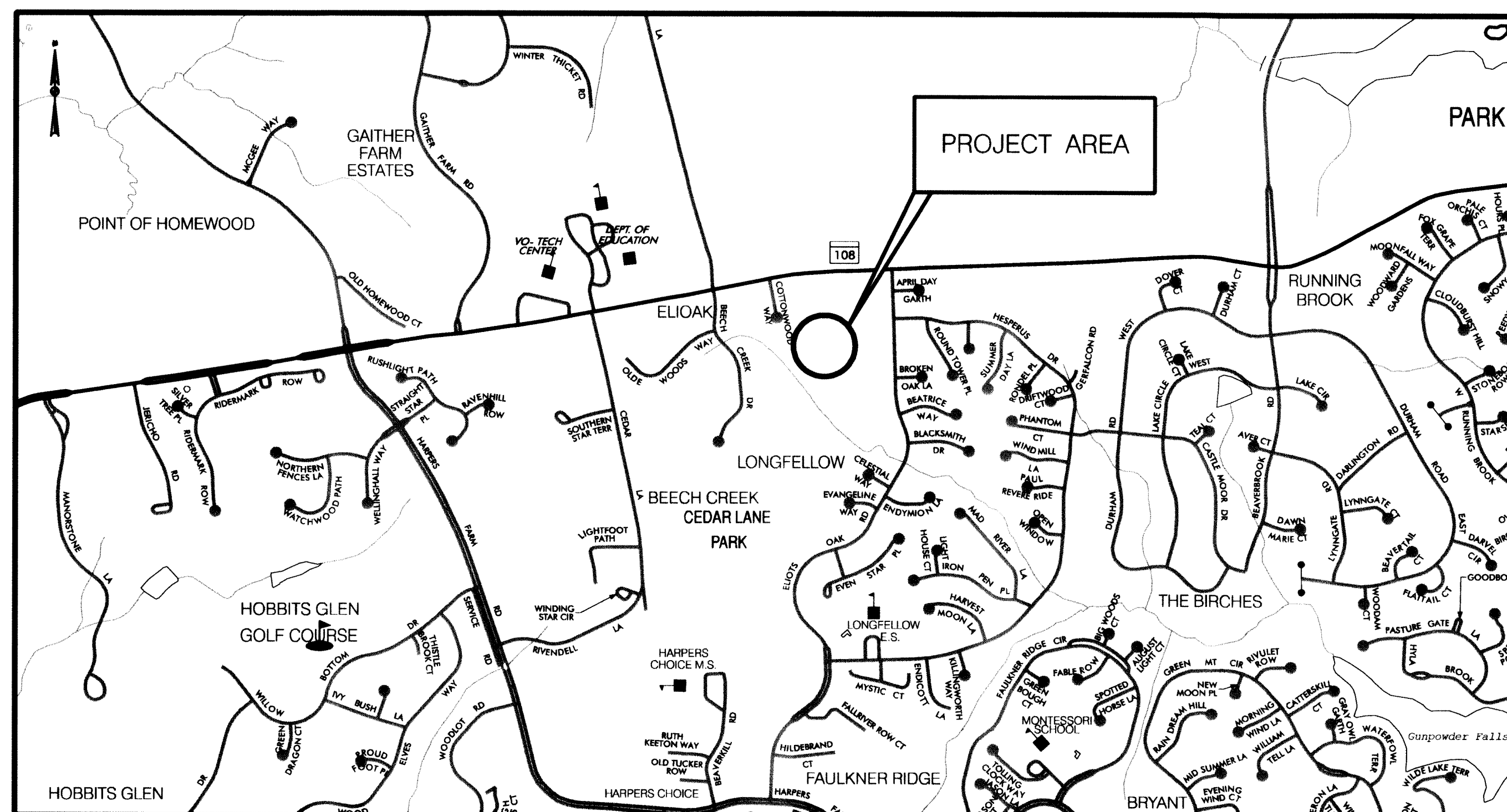
Storm Water Management Division
Bureau Of Environmental Services

INDEX OF SHEETS

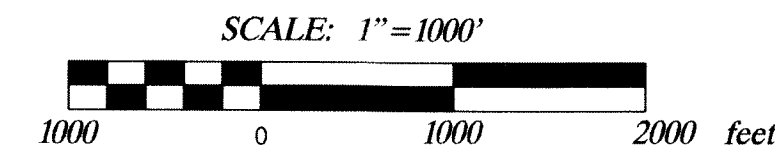
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3	SPECIFICATIONS AND DETAILS
4	EROSION AND SEDIMENT CONTROL PLAN
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6	LANDSCAPE PLAN

LEGEND

PROPOSED MEDIAN BARRIER	
ELECTRICAL HAND BOX - SIGNALS	
FLOW LINE	
STATE, COUNTY OR CITY LINES	
PROPOSED TRAFFIC BARRIER	
EXISTING TRAFFIC BARRIER	
PROPOSED FENCE LINE	
EXISTING FENCE LINE	
RIGHT OF WAY LINE	
EXISTING ROADWAY	
BASE OR SURVEY LINE	
TRAVERSE POINT	
APPROXIMATE LIMITS OF CUT AND/OR FILL	
PROPOSED MAJOR CONTOUR	
PROPOSED MINOR CONTOUR	
LIMIT OF DISTURBANCE	
EXISTING MAJOR CONTOURS	
EXISTING MINOR CONTOURS	
EXISTING PIPE/CULVERT	
EXISTING DROP INLET	
WETLAND	
HEDGE /TREE LINE	
BUSH /TREE	
CONIFEROUS TREE	
LIGHT POLE	



HORIZONTAL DATUM	NAD 83 /91
VERTICAL DATUM	NAVD 88



GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FIVE (5) WORKING DAYS PRIOR TO ANY WORK BEING DONE.
- THIS PLAN IS PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS /DEPARTMENT OF RECREATION AND PARKS AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- SURVEY OF THIS SITE WAS PERFORMED BY AB CONSULTANTS, INC-DECEMBER 2009.
- THE COORDINATES SHOWN HEREON ARE BASED ON HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. BENCHMARKS SHOWN HEREON WERE PROVIDED BY AB CONSULTANTS INC.
- STORMWATER MANAGEMENT IS NOT REQUIRED FOR THIS PROJECT SINCE THE PROJECT WILL NOT ADD IMPERVIOUS AREA.
- OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND MCCORMICK TAYLOR DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTOR MUST VERIFY SUCH INFORMATION TO HIS OWN SATISFACTION.
- THE EXISTING INFORMATION SHOWN ON THESE PLANS WAS TAKEN FROM THE BEST AVAILABLE SOURCES AND SHALL BE VERIFIED BEFORE STARTING CONSTRUCTION. HOWARD COUNTY DOES NOT GUARANTEE THE COMPLETENESS OR THE CORRECTNESS OF THE SHOWN INFORMATION.
- THE CONTRACTORS SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY. ALL UTILITIES SHALL HAVE A CLEARANCE BY A MINIMUM OF 6 INCHES VERTICALLY AND A MINIMUM OF 5 FEET HORIZONTALLY.
- SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY MCCORMICK TAYLOR IMMEDIATELY TO RESOLVE THE SITUATION.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

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. 25819, EXPIRATION DATE: 2/25/2011

DESIGN CERTIFICATION

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

OWNER'S/DEVELOPER'S CERTIFICATION

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

6-29-2010
DATE

DESIGNER'S SIGNATURE

7/1/10
DATE

OWNER/DEVELOPER SIGNATURE

MARYLAND
REGISTRATION
NUMBER 25819

CHRIS BROOKS, P.E.
PRINTED NAME

Howard E. Saltzman, Chief, Stormwater Mgmt
PRINTED NAME AND TITLE
Division

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

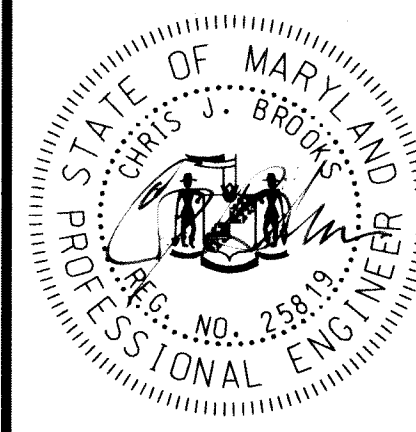
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DATE

McCormick
Engineers & Planners
Since 1946
Taylor

509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

Howard County
MARYLAND

Storm Water Management Division
Bureau of Environmental Services
6751 Columbia Gateway Drive, Suite 514
Columbia, Maryland 21046-3143
(410) 313-6444



DES: WC					
DRN: MR					
CHK: CB					
DATE: 6/29/10	BY	NO.	REVISION	DATE	

HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
CEDAR LANE PARK, N. ENTRANCE SWM RETROFIT PROJECT
CAPITAL PROJECT D-1160

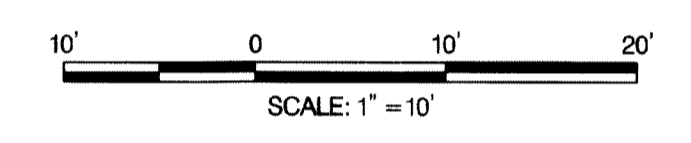
TITLE SHEET

SCALE
AS SHOWN
SHEET
1 OF 6

AS BUILT 9-20-10

CONSTRUCTION TRAFFIC SHALL USE CAUTION WHEN ENTERING AND EXITING THE WORK AREA. CHILDREN, PEDESTRIAN AND VEHICLE TRAFFIC MAY CONFLICT WITH EQUIPMENT INGRESS AND EGRESS.

- NOTES:
- PERFORATED PIPE SHALL MEET THE FOLLOWING SPECIFICATIONS
 SLOT WIDTH: 1/8" (3mm)
 TOTAL COMBINED SLOT LENGTH: MAX 2" (50mm)
 DISTANCE BETWEEN SLOTS: MIN. 1" (25mm) CC
 PERFORATED PIPE SHALL CONFORM TO AASHTO M 304
 - UNDERDRAIN CLEANOUTS SHALL CONSIST OF 6" DIAMETER PPWP SCH. 40 PIPE WRAPPED IN 1/4" GALVANIZED HARDWARE CLOTH WITH TOP OF WELL ELEVATION SET TO THE PROPOSED SURFACE ELEVATION. SEE SHEET 3 OF 6 FOR TYPICAL DETAILS.
 - EASTERN SIDE OF SITE TO BE USED FOR CONSTRUCTION ACCESS. OCF REMOVED FOR ACCESS TO BE REPLACED AT THE END OF EACH WORK DAY.
 - HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS:
 - 19.0 MM BASE (2.0" MIN TO 4.0" MAX)
 - 9.5 MM SURFACE (1.0" MIN TO 2.0" MAX)
 - GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 6" MAX COMPACTED THICKNESS LAYERS.
 - WORK TO BE DONE DURING DRY FORECAST IN THE EVENT OF RAIN, THE CONTRACTOR SHALL INSTALL INLET PROTECTION OVER INLET AS SPECIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN.
 - AFTER INSTALLATION OF THE FILTER MEDIA, AT THE END OF EACH WORK DAY, ALL DISTURBED AREAS SHALL BE STABILIZED WITH NON WOVEN CLASS SE TYPE I GEOTEXTILE FABRIC UNTIL ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED WITH SOD AS SHOWN ON THE LANDSCAPE PLANS. EXTREME CARE SHOULD BE TAKEN TO MINIMIZE THE CHANCE OF SEDIMENT LADEN RUNOFF FROM ENTERING THE FILTER MEDIA.



SOD		WOOD MULCH*	
QTY (SY)	REMARKS	QTY (CY)	REMARKS
70	SIDE STABILIZATION	9	2" DEPTH

*FOR FACILITY SURFACE

CLASS PE TYPE I GEOTEXTILE	
QUANTITY (SY)	REMARKS
69	SIDE STABILIZATION (SEE PAGE 3 OF 6)

CONSTRUCTION BASELINE		
STATION	NORTHING	EASTING
0+00.0	570690.55	1345333.48
0+80.0	570688.54	1345253.50

CURB*		
ITEM	QUANTITY (LF)	REMARKS
7" CURB	85'	SEE PG. 3 OF 6
PATCH	7'	SW CORNER

*COST OF SAWCUT INCIDENTAL TO COST OF NEW CURB.

OBSERVATION WELL		
STATION	OFFSET	QUANTITY (EA)
0+38.6	26' LEFT	1

STRIPING		
ITEM	QUANTITY (LF)	REMARKS
ERADICATION	680'	SAND BLAST OR GRIND
NEW	725'	5" WHITE WATERBORNE

EXCAVATION		
TYPE	QUANTITY (CY)	REMARKS
SOIL	380	
PAVEMENT	43	10" DEPTH

BIORETENTION QUANTITY		
ITEM	QUANTITY (CY)	REMARKS
FILTER MEDIA	102	24" DEPTH
PEA GRAVEL	17	4" DEPTH
NO. 57 STONE	82	19.4" DEPTH

UNDERDRAIN CLEANOUTS			
SIZE (IN.)	TYPE	STATION	OFFSET
6	PVC	0+18.9	37' LEFT
6	PVC	0+19.3	17' LEFT
6	PVC	0+60.0	18' LEFT

PAVEMENT QUANTITY*		
ITEM	QUANTITY	REMARKS
G.A.B.	8 SY	GRADED AGGREGATE BASE: 4.0" DEPTH
BASE	14 TON	HMA SUPERPAVE BASE 19.0 MM, PG. 64-22, LEVEL 1 (ESAL): 3.5" DEPTH
SURFACE	10 TON	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG. 64-22, LEVEL 1 (ESAL): 2.5" DEPTH

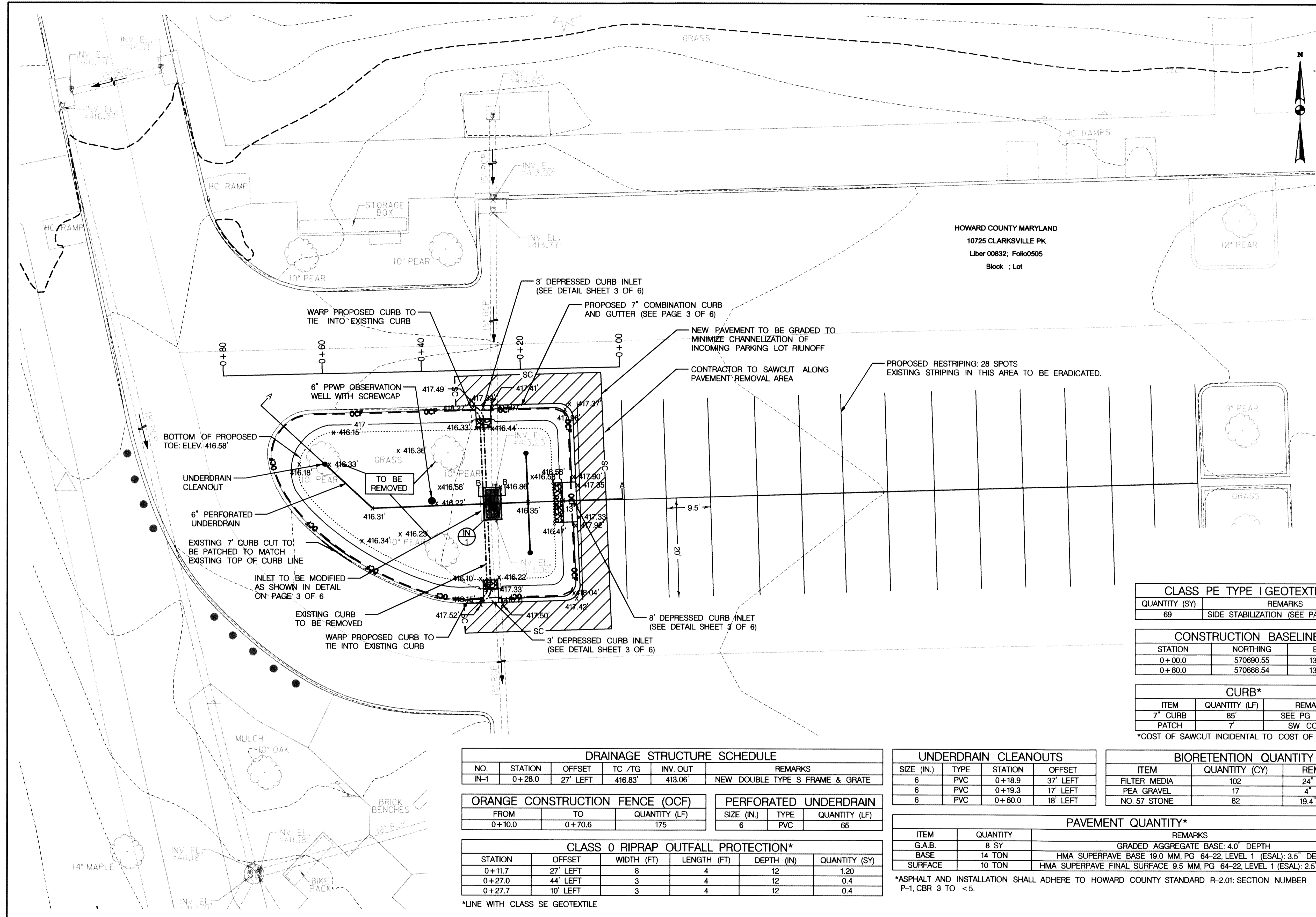
*ASPHALT AND INSTALLATION SHALL ADHERE TO HOWARD COUNTY STANDARD R-2.01: SECTION NUMBER P-1, CBR 3 TO <5.

DRAINAGE STRUCTURE SCHEDULE					
NO.	STATION	OFFSET	TC /TG	INV. OUT	REMARKS
IN-1	0+28.0	27' LEFT	416.83'	413.06'	NEW DOUBLE TYPE S FRAME & GRATE

ORANGE CONSTRUCTION FENCE (OCF)			PERFORATED UNDERDRAIN		
FROM	TO	QUANTITY (LF)	SIZE (IN.)	TYPE	QUANTITY (LF)
0+10.0	0+70.6	175	6	PVC	65

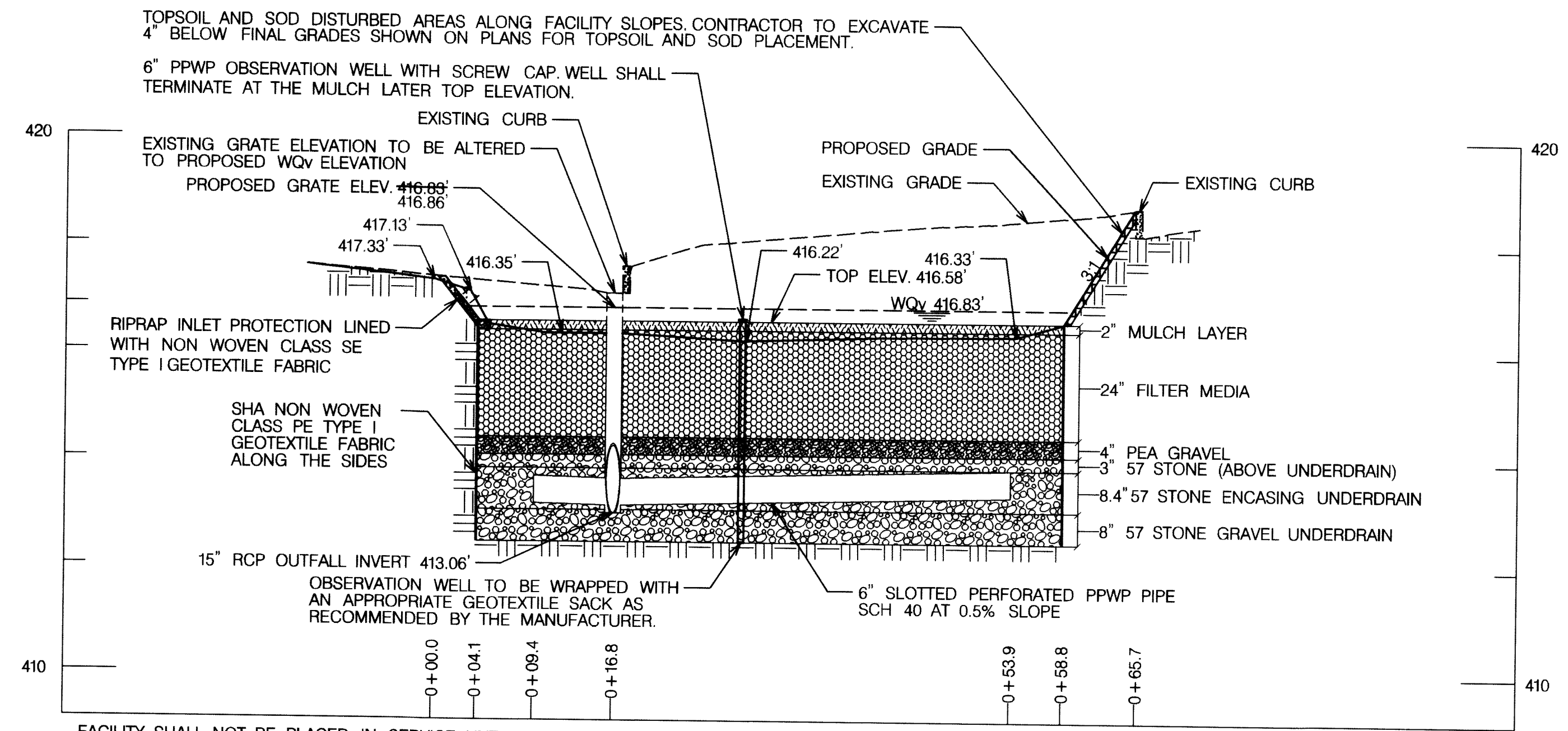
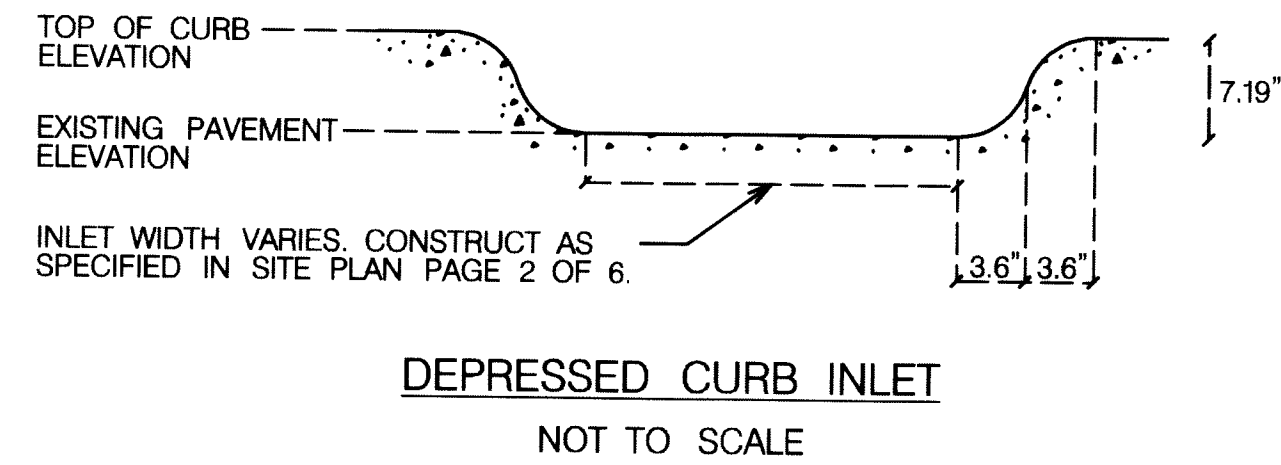
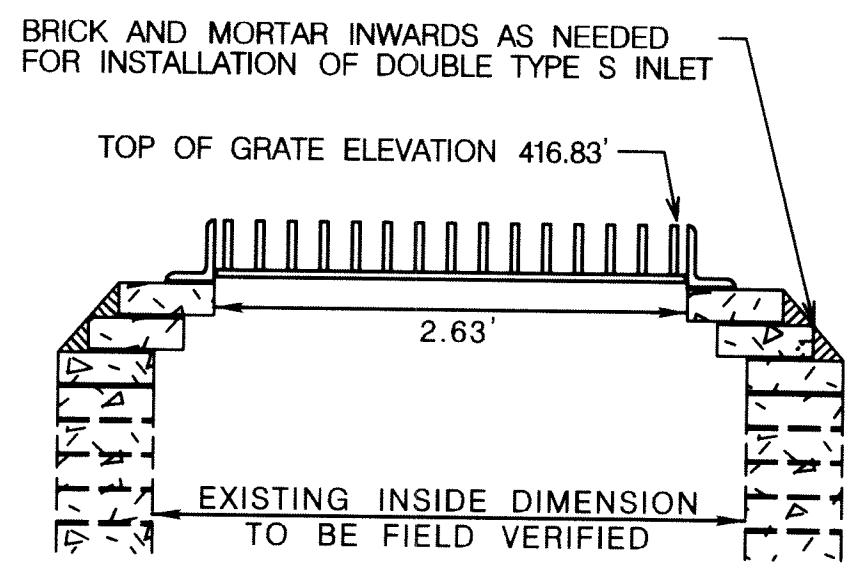
CLASS 0 RIPRAP OUTFALL PROTECTION*					
STATION	OFFSET	WIDTH (FT)	LENGTH (FT)	DEPTH (IN)	QUANTITY (SY)
0+11.7	27' LEFT	8	4	12	1.20
0+27.0	44' LEFT	3	4	12	0.4
0+27.7	10' LEFT	3	4	12	0.4

*LINE WITH CLASS SE GEOTEXTILE



LEGEND	
	PROPOSED CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	ORANGE CONSTRUCTION FENCE
	SAW CUT
	PROPERTY LINE
	EXISTING TREE
	PROPOSED CURB
	OUTFALL PROTECTION

McCormick Taylor Engineers & Planners Since 1946 509 South Exeter Street 4th Floor Baltimore, Maryland 21202 (410) 662-7400	Howard County MARYLAND Storm Water Management Division Bureau of Environmental Services 6751 Columbia Gateway Drive, Suite 514 Columbia, Maryland 21046-3143 (410) 313-6444		DES: WC	ALH	AS-BUILT	9/20/10	SCALE 1" = 10'
			DRN: MR				
			CHK: CB				HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION CEDAR LANE PARK, N. ENTRANCE SWM RETROFIT PROJECT CAPITAL PROJECT D-1160 SITE PLAN
			DATE: 6/29/10	BY: NO.	REVISION	DATE	



STANDARD AND SPECIFICATION FOR BIORETENTION SOIL MIXTURE (BSM)

BSM SHALL BE A HOMOGENEOUS MIX FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 IN. AND SHALL BE FREE FROM ANY PARTS OF BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, MUGWORT, NUTSEDGE, POISON IVY, CANADIAN THISTLE, TEARTHUMB, PHRAGMITES, OR OTHER NOXIOUS WEEDS AS SPECIFIED IN COMAR 15.08.01.05.

BSM SHALL BE A BLENDED MIXTURE OF SAND, MULCH, AND PLANTING SOIL AS FOLLOWS:

- (A) SAND: THE SAND SHALL COMPOSE 50 PERCENT BY VOLUME OF THE BSM. THE SAND SHALL BE FINE AGGREGATE, SECTION 901.
- (B) MULCH: THE MULCH SHALL COMPOSE 20 PERCENT BY VOLUME OF THE BSM. THE MULCH SHALL BE DOUBLE SHREDDED HARDWOOD BARK CONSISTING OF THE BARK FROM HARDWOOD TREES WHICH HAS BEEN MILLED AND SCREENED TO A MAXIMUM 2 IN. PARTICLE SIZE AND PROVIDE A UNIFORM TEXTURE FREE FROM SAWDUST, TOXIC SUBSTANCES, AND FOREIGN MATERIALS AND SHALL BE AGED AT LEAST 6 MONTHS.
- (C) PLANTING SOIL: THE PLANTING SOIL SHALL COMPOSE 30 PERCENT BY VOLUME OF THE BSM. THE PLANTING SOIL SHALL BE A NATURAL OR PLANTING SOIL SHALL HAVE AN ORGANIC CONTENT BETWEEN 1.5 TO 10 PERCENT BY WEIGHT WHEN TESTED AS SPECIFIED IN T 194.

GRADING ANALYSIS SHALL BE AS FOLLOWS:

SEIVE SIZE	MINIMUM PERCENT PASSING BY WEIGHT
2 IN.	100
NO. 4	90
NO. 10	80

PLANTING SOIL SHALL BE ANALYZED FOR SAND, SILT, AND CLAY AS SPECIFIED IN T 88. THE TEXTURAL ANALYSIS SHALL BE AS FOLLOWS:

SOIL PARTICLE SIZES, MM	PERCENT PASSING BY WEIGHT
SAND (2.0-0.050)	50-85
SILT (0.050-0.002)	5-45
CLAY (LESS THAN 0.002)	5-10

THE BSM SHALL HAVE A PH VALUE NOT LESS THAN 5.5 AND NOT MORE THAN 7.5 AND SHALL MEET THE FOLLOWING NUTRIENT CRITERIA WHEN AS SPECIFIED BY THE UNIVERSITY OF DELAWARE COLLEGE OF AGRICULTURE AND NATURAL RESOURCES SOIL TESTING PROGRAM:

NUTRIENT	LIMIT, PPM
MAGNESIUM	MIN. 35
PHOSPHOROUS (PHOSPHATE)	MIN. 75
POTASSIUM	MIN. 85
SULFUR SALTS	NOT TO EXCEED 300

AMENDMENTS: ANY BSM NOT MEETING THE NUTRIENT REQUIREMENTS SHALL BE AMENDED BY THE PRODUCER. ALL AMENDMENTS SHALL BE MIXED UNIFORMLY INTO THE BSM AS FOLLOWS:

- A) THE PH SHALL BE CORRECTED WITH THE RECOMMENDED AMOUNT OF DOLOMITIC LIMESTONE OR SULFUR (90%).
- B) MAGNESIUM SHALL BE CORRECTED WITH THE RECOMMENDED AMOUNT OF DOLOMITIC LIMESTONE.
- C) PHOSPHORUS SHALL BE CORRECTED WITH THE RECOMMENDED AMOUNT OF 5-20-20 FERTILIZER.
- D) POTASSIUM SHALL BE CORRECTED WITH THE RECOMMENDED AMOUNT OF 0-0-60 FERTILIZER.

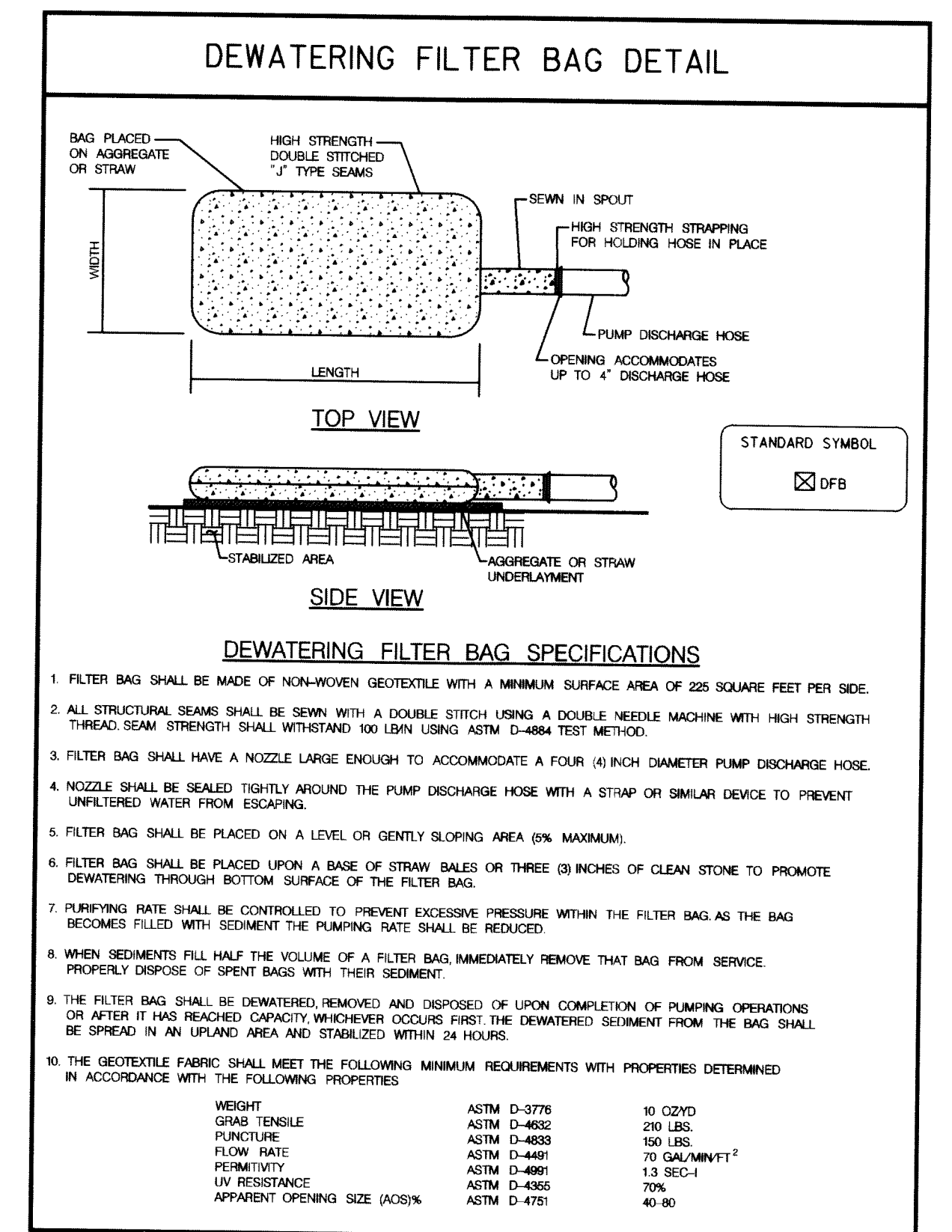
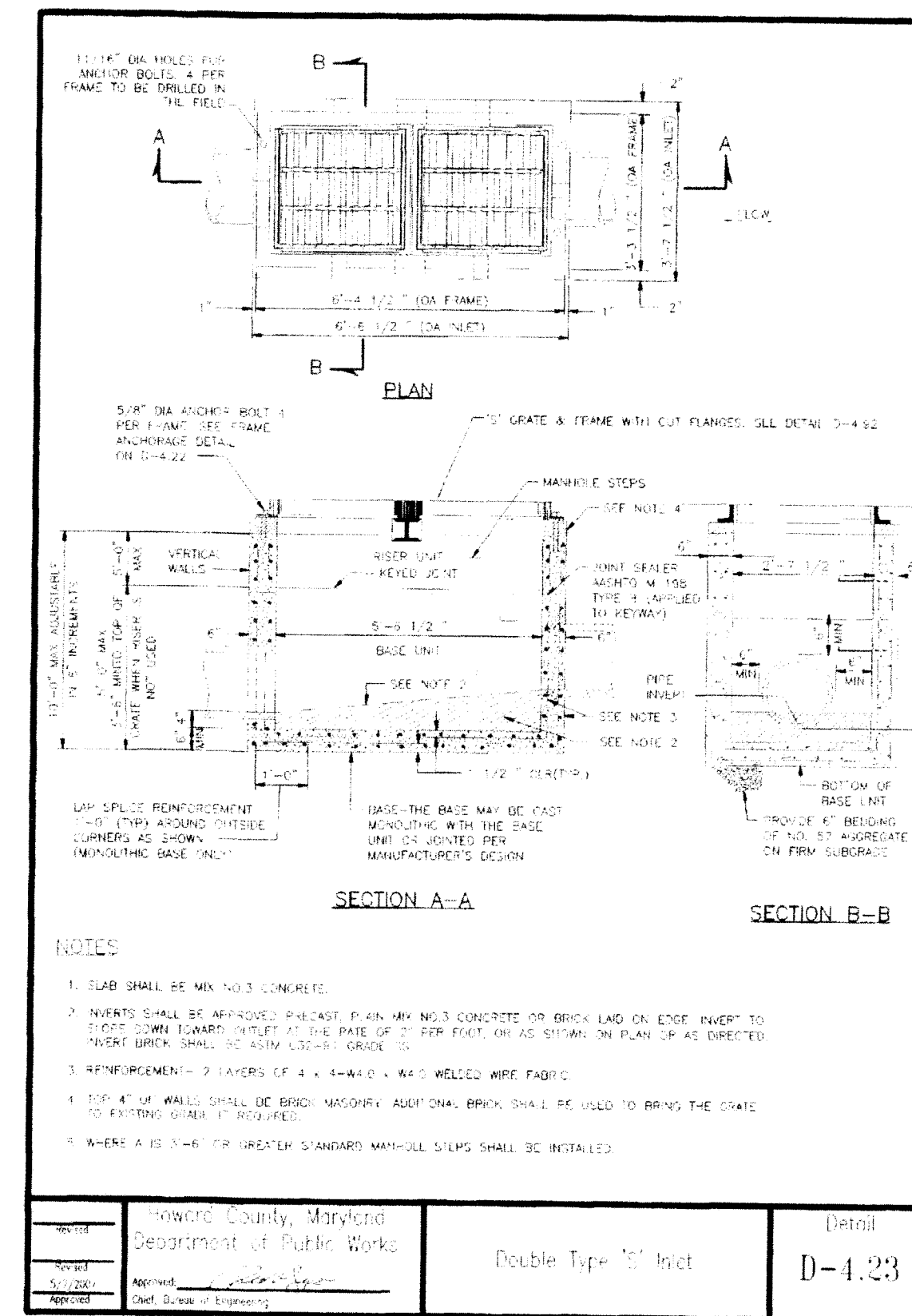
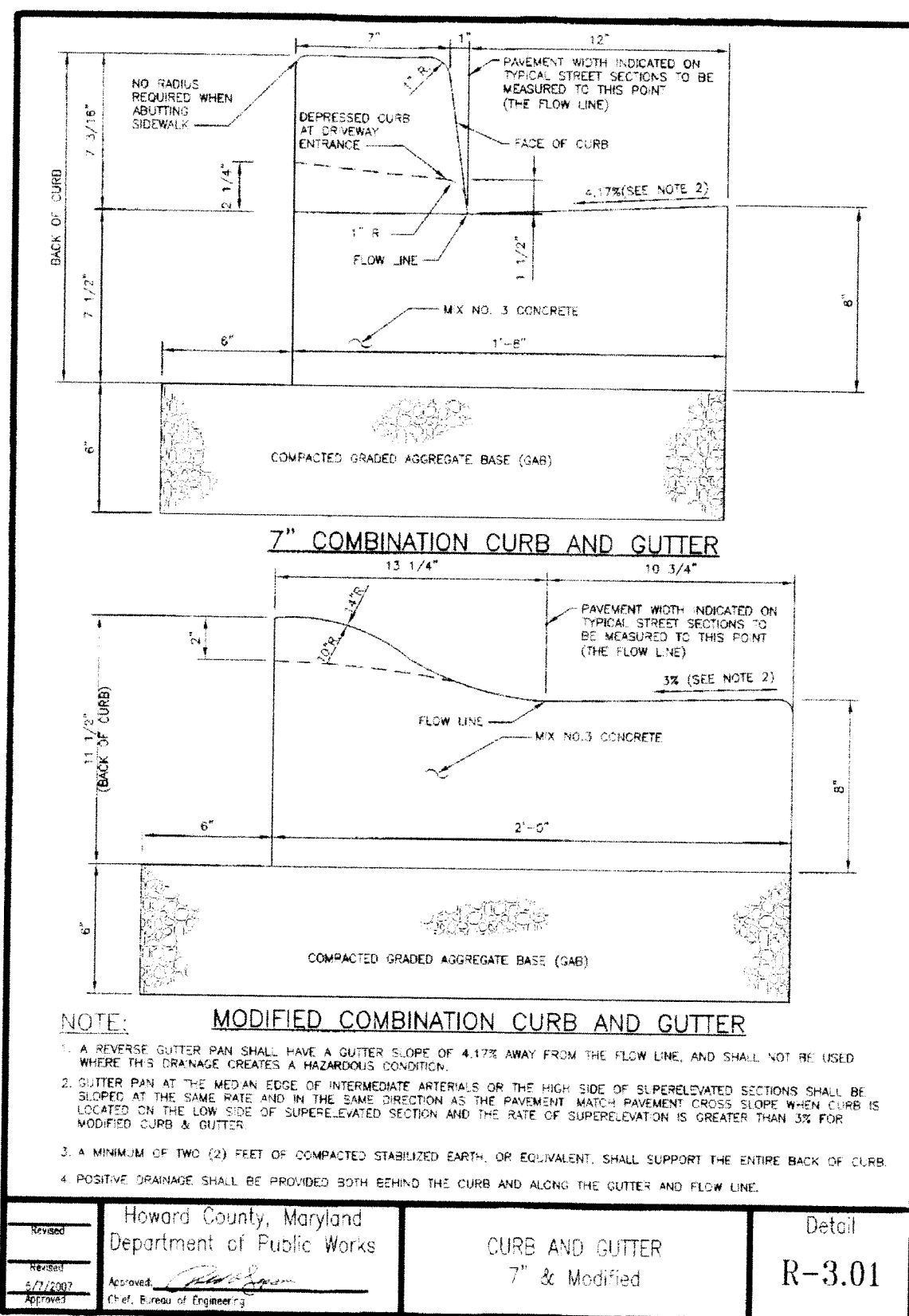
THE USE OF ANY OTHER AMENDMENT MATERIALS IS PROHIBITED. THE ADDITION OF MATERIAL TO CORRECT ANY OTHER NUTRIENT DEFICIENCIES IS PROHIBITED.

ADDITIONAL REQUIREMENTS: BSM SHALL HAVE A MINIMUM ORGANIC CONTENT NO LESS THAN 1.5 PERCENT BY WEIGHT WHEN TESTED AS SPECIFIED IN T 194. BSM SHALL BE ANALYZED FOR SAND, SILT, AND CLAY AS SPECIFIED IN T 88. THE TEXTURAL ANALYSIS SHALL BE AS FOLLOWS:

SOIL PARTICLE SIZES, MM	PERCENT PASSING BY WEIGHT
SAND (2.0-0.050)	55-85
SILT (0.050-0.002)	0-20
CLAY (LESS THAN 0.002)	1-5

THE ADDITION OF MATERIALS TO THE BSM STOCKPILE TO CORRECT TEXTURAL ANALYSIS DEFICIENCIES IS PROHIBITED.

BSM THAT FAILS TO MEET THE MINIMUM REQUIREMENTS SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST.

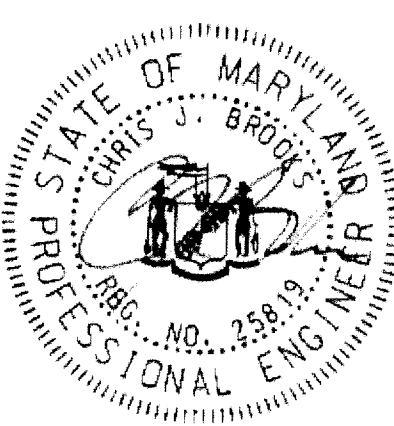


- DEWATERING FILTER BAG SPECIFICATIONS**
1. FILTER BAG SHALL BE MADE OF NON-WOVEN GEOTEXTILE WITH A MINIMUM SURFACE AREA OF 225 SQUARE FEET PER SIDE.
 2. ALL STRUCTURAL SEAMS SHALL BE SEWN WITH A DOUBLE STITCH USING A DOUBLE NEEDLE MACHINE WITH HIGH STRENGTH THREAD. SEAM STRENGTH SHALL WITHSTAND 100 LBS USING ASTM D-4844 TEST METHOD.
 3. FILTER BAG SHALL HAVE A NOZZLE LARGE ENOUGH TO ACCOMMODATE A FOUR (4) INCH DIAMETER PUMP DISCHARGE HOSE.
 4. NOZZLE SHALL BE SEALED TIGHTLY AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE TO PREVENT UNFILTERED WATER FROM ESCAPING.
 5. FILTER BAG SHALL BE PLACED ON A LEVEL OR GENTLY SLOPING AREA (0% MAXIMUM).
 6. FILTER BAG SHALL BE PLACED UPON A BASE OF STRAW BALES OR THREE (3) INCHES OF CLEAN STONE TO PROMOTE DEWATERING THROUGH BOTTOM SURFACE OF THE FILTER BAG.
 7. PUMPING RATE SHALL BE CONTROLLED TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG AS THE BAG BECOMES FILLED WITH SEDIMENT. THE PUMPING RATE SHALL BE REDUCED.
 8. WHEN SEDIMENTS FILL HALF THE VOLUME OF A FILTER BAG IMMEDIATELY REMOVE THAT BAG FROM SERVICE. PROPERLY DISPOSE OF SPENT BAGS WITH THEIR SEDIMENT.
 9. THE FILTER BAG SHALL BE DEWATERED, REMOVED AND DISPOSED OF UPON COMPLETION OF PUMPING OPERATIONS OR AFTER IT HAS REACHED CAPACITY. WHENEVER OCCURS FIRST THE DEWATERED SEDIMENT FROM THE BAG SHALL BE SPREAD IN AN UPLAND AREA AND STABILIZED WITHIN 24 HOURS.
 10. THE GEOTEXTILE FABRIC SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS WITH PROPERTIES DETERMINED IN ACCORDANCE WITH THE FOLLOWING PROPERTIES:

WEIGHT	90 GZ/YD	ASTM D-3776
TENSILE	200 LBS	ASTM D-4862
PUNCTURE	150 LBS	ASTM D-4862
FLOW RATE	70 GAL/MIN/FT ²	ASTM D-4661
PERMEABILITY	1.5 SEC/H	ASTM D-4661
UV RESISTANCE	70%	ASTM D-4365
APPARENT OPENING SIZE (AOS)	40-90	ASTM D-4751

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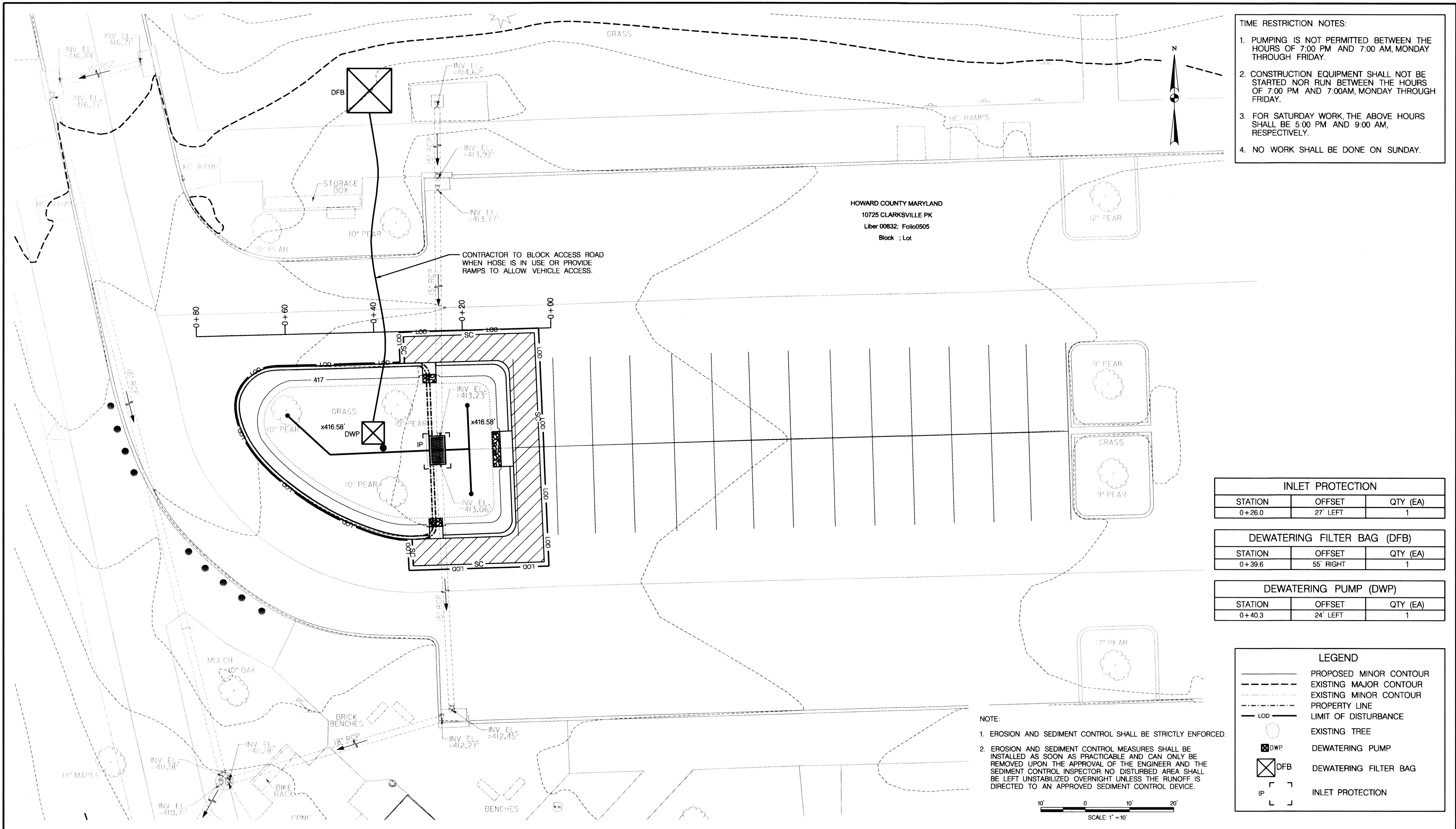


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**HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
CEDAR LANE PARK, N. ENTRANCE SWM RETROFIT PROJECT
CAPITAL PROJECT D-1160**

SPECIFICATIONS AND DETAILS

SCALE
AS SHOWN
SHEET
3 OF 6



TIME RESTRICTION NOTES:

1. PUMPING IS NOT PERMITTED BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM, MONDAY THROUGH FRIDAY.
2. CONSTRUCTION EQUIPMENT SHALL NOT BE STARTED NOR RUN BETWEEN THE HOURS OF 7:00 PM AND 7:00AM, MONDAY THROUGH FRIDAY.
3. FOR SATURDAY WORK, THE ABOVE HOURS SHALL BE 5:00 PM AND 9:00 AM, RESPECTIVELY.
4. NO WORK SHALL BE DONE ON SUNDAY.

INLET PROTECTION		
STATION	OFFSET	QTY (EA)
0+26.0	27' LEFT	1

DEWATERING FILTER BAG (DFB)		
STATION	OFFSET	QTY (EA)
0+39.6	55' RIGHT	1

DEWATERING PUMP (DWP)		
STATION	OFFSET	QTY (EA)
0+40.3	24' LEFT	1

LEGEND

- PROPOSED MINOR CONTOUR
- - - EXISTING MAJOR CONTOUR
- - - EXISTING MINOR CONTOUR
- - - PROPERTY LINE
- - - LIMIT OF DISTURBANCE
- EXISTING TREE
- ⊗ DWP DEWATERING PUMP
- ⊗ DFB DEWATERING FILTER BAG
- ┌ ┐ IP INLET PROTECTION
- └ ┘

<p>McCormick Taylor Engineers & Planners Since 1946</p> <p>509 South Exeter Street 4th Floor Baltimore, Maryland 21202 (410) 662-7400</p>	<p>Howard County MARYLAND</p> <p>Storm Water Management Division Bureau of Environmental Services 6751 Columbia Gateway Drive, Suite 514 Columbia, Maryland 21046-3143 (410) 313-6444</p>		DES: WC				<p>HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION CEDAR LANE PARK, N. ENTRANCE SWM RETROFIT PROJECT CAPITAL PROJECT D-1160</p> <p>EROSION AND SEDIMENT CONTROL PLAN</p>	SCALE 1" = 10'
			DRN: MR					SHEET 4 OF 6
			CHK: CB					
			DATE: 6/29/10	BY	NO.	REVISION	DATE	

EROSION AND SEDIMENT CONTROL – GENERAL NOTES

HOWARD SOIL CONSERVATION DISTRICT TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE-DISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: - APPLY 600 LBS/ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.).

SEEDING: - FOR PERIODS MARCH 1 - APRIL 30 AND FROM AUGUST 15 - OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ. FT.), FOR THE PERIOD MAY 1 - AUGUST 14, SEED WITH 3 LBS / ACRE OF WEEPING LOVEGRASS (1.07 LBS/1000 FT.), FOR THE PERIOD NOVEMBER 16 - FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS/ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: - APPLY 1-1/2 TO 2 TONS/ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED WEED-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL. NO ASPHALT EMULSION SHALL BE USED FOR ANCHORING. ONLY A NON-TOXIC, LATEX BACKING MATERIAL IS ALLOWED.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

SEQUENCE OF CONSTRUCTION

1. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS (410) 313-2150 A MINIMUM OF 24 HOURS PRIOR TO THE START OF ANY CONSTRUCTION.
2. THE CONTRACTOR SHALL COORDINATE AN ON-SITE PRE-CONSTRUCTION MEETING WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, THE COUNTY PROJECT MANAGER, THE ENGINEER, AND A HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS REPRESENTATIVE.
3. ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED WHERE INDICATED ON THE PLANS. THIS SHALL BE COMPLETED BY AND INSPECTED FOLLOWING THE PRE CONSTRUCTION MEETING.
4. INSTALL SEDIMENT CONTROLS, DE WATERING PUMP AND DE WATERING FILTER BAG TO BE KEPT ON SITE AND INSTALLED IN THE POSSIBLE EVENT OF RAIN OR IF GROUNDWATER IS ENCOUNTERED. REMOVE EXISTING CURB AND PAVEMENT IN SPECIFIED AREAS. EXCAVATE PROPOSED FACILITY AND REMOVE TOP OF EXISTING WR INLET. CONSTRUCT NEW TYPE S INLET AS SPECIFIED ON PAGE 3 OF 6 WITH TOP OF GRATE ELEVATION 416.83'. WITH 5 DAY DRY FORECAST, INSTALL FILTER MEDIA, OBSERVATION WELL AND UNDERDRAIN WITH CLEANOUTS MAKING SURE TO MINIMIZE COMPACTION OF THE SUBSURFACE. AFTER INSTALLATION OF THE FILTER MEDIA, AT THE END OF EACH WORK DAY, ALL DISTURBED AREAS SHALL BE STABILIZED WITH NON WOVEN CLASS SE TYPE 1 GEOTEXTILE FABRIC UNTIL ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED WITH SOD AS SHOWN ON THE LANDSCAPE PLANS. EXTREME CARE SHOULD BE TAKEN TO MINIMIZE THE CHANCE OF SEDIMENT LADEN RUNOFF FROM ENTERING THE FILTER MEDIA. CONSTRUCT PROPOSED CURB WITH DEPRESSED CURB INLETS AND PATCH EXISTING CURB CUT ALONG SOUTHWEST EDGE OF FACILITY. INSTALL RIPRAP INLET PROTECTION. STABILIZE ALL SLOPES WITH TOPSOIL AND SOD. RE PAVE SURROUNDING PARKING LOT TO MINIMIZE CHANNELIZATION OF INCOMING RUNOFF. DEWATER AREA TO FILTER BAG AND CONSTRUCT INLET PROTECTION AS NECESSARY.
5. ONCE ALL AREAS ARE FULLY STABILIZED, REMOVE ALL SEDIMENT CONTROLS AND FILTER BAG AND STABILIZE ANY REMAINING DISTURBED AREAS. SANDBLAST OR GRIND EXISTING PARKING LOT STRIPING WHERE NEW STRIPING IS PROPOSED. RE STRIPE THE PARKING LOT WITH 28 SPOTS AS SPECIFIED ON PAGE 2 OF 6.

HOWARD SOIL CONSERVATION DISTRICT PERMANANT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

1. **PREFERRED** - APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS/ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS/ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ. FT.).
2. **ACCEPTABLE** - APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 1000 LBS/ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 - APRIL 30, AND AUGUST 1 - OCTOBER 15, SEED WITH 60 LBS / ACRE (1.4 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 - JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS/ACRE (0.05 LBS/100 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 - FEBRUARY 28, PROTECT SITE BY: **OPTION 1** - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. **OPTION 2** - USE SOD. **OPTION 3** - SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL. NO ASPHALT EMULSION SHALL BE USED FOR ANCHORING. ONLY A NON-TOXIC, LATEX TACKING MATERIAL IS ALLOWED.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

HOWARD COUNTY CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:

TOTAL AREA OF SITE	0.066 ACRES
AREA DISTURBED	0.066 ACRES
AREA TO BE ROOFED OR PAVED	0.000 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.066 ACRES
TOTAL CUT	380 CU YRDS
TOTAL FILL	0.0 CU YRDS
OFF SITE WASTE/BORROW AREA LOCATION	0.0 CU YRDS
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTH OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.
12. OFFSITE WASTE / BORROW SITE SHALL HAVE AN APPROVED SEDIMENT CONTROL PLAN.

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE
TO PROVIDE A SUITABLE, SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

- I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

- A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND, OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1-1/2" IN DIAMETER.
- B. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
- C. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTURBED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

- A. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION* - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:




- A. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 1. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
 2. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
 3. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
 4. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME AS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

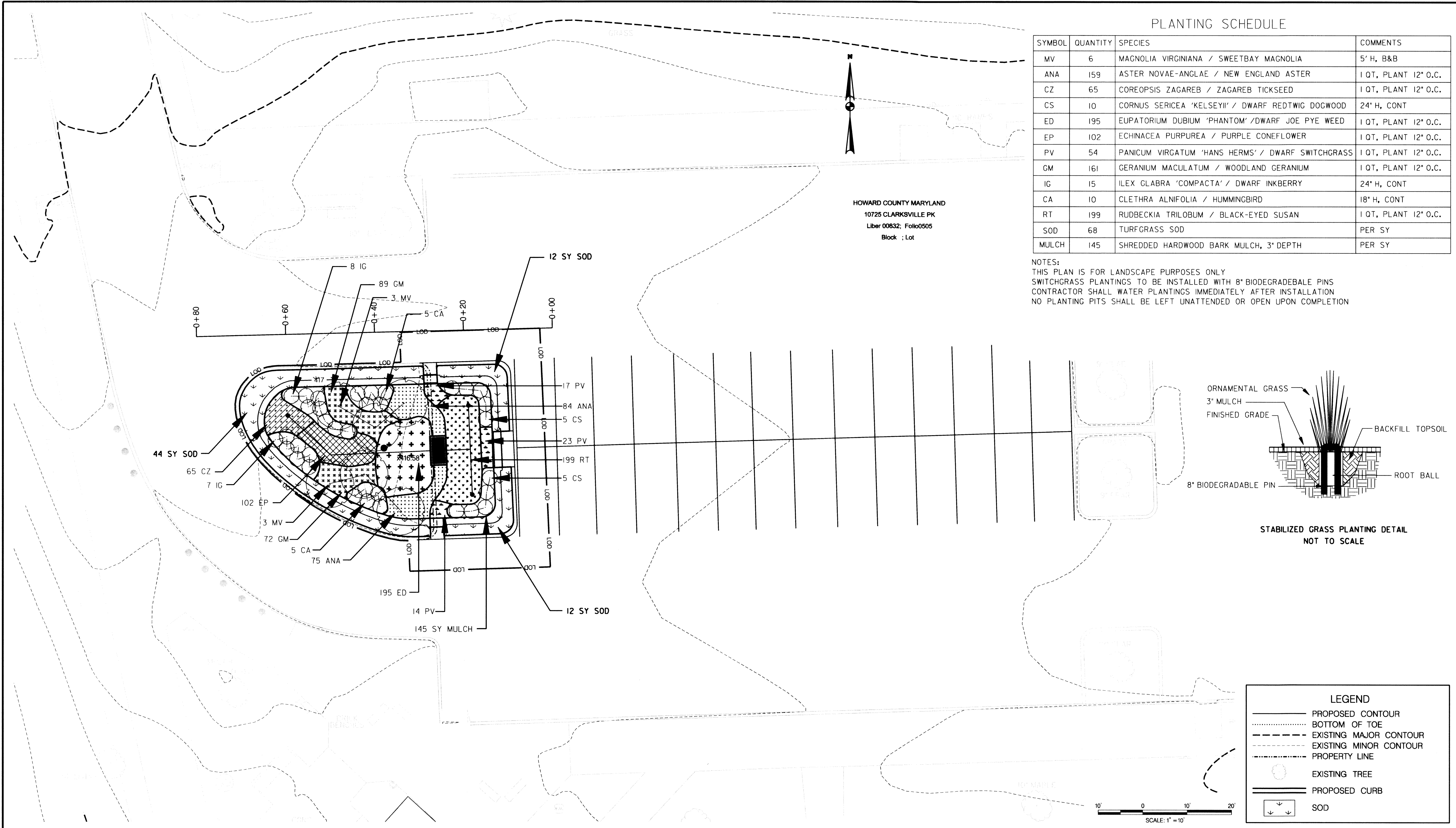
NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONMIST OR SOIL SCIENTIST, AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

- B. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION* VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. TOPSOIL APPLICATION

- A. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
- B. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.
- C. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
- D. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

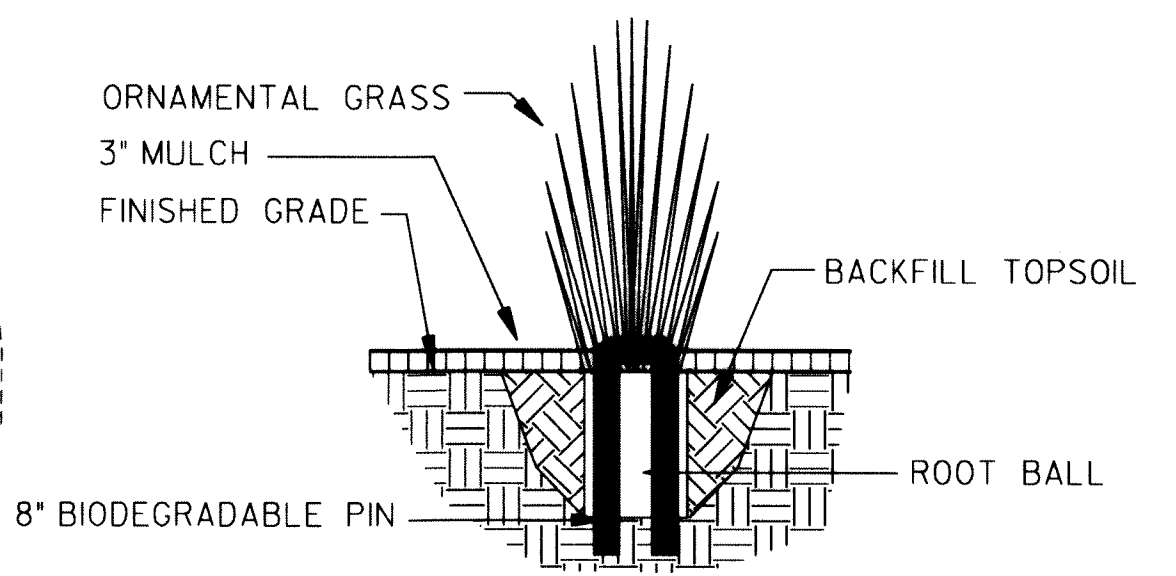
 Engineers & Planners Since 1946 509 South Exeter Street 4th Floor Baltimore, Maryland 21202 (410) 662-7400	 Storm Water Management Division Bureau of Environmental Services 6751 Columbia Gateway Drive, Suite 514 Columbia, Maryland 21046-3143 (410) 313-6444		DES: WC							HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION CEDAR LANE PARK, N. ENTRANCE SWM RETROFIT PROJECT CAPITAL PROJECT D-1160 EROSION AND SEDIMENT CONTROL NOTES	SCALE
											NOT TO SCALE
											SHEET
											5 OF 6
				DATE: 6/29/10	BY	NO.	REVISION	DATE			



PLANTING SCHEDULE

SYMBOL	QUANTITY	SPECIES	COMMENTS
MV	6	MAGNOLIA VIRGINIANA / SWEETBAY MAGNOLIA	5' H, B&B
ANA	159	ASTER NOVAE-ANGLAE / NEW ENGLAND ASTER	1 QT, PLANT 12" O.C.
CZ	65	COREOPSIS ZAGAREB / ZAGAREB TICKSEED	1 QT, PLANT 12" O.C.
CS	10	CORNUS SERICEA 'KELSEYII' / DWARF REDTWIG DOGWOOD	24" H, CONT
ED	195	EUPATORIUM DUBIUM 'PHANTOM' / DWARF JOE PYE WEED	1 QT, PLANT 12" O.C.
EP	102	ECHINACEA PURPUREA / PURPLE CONEFLOWER	1 QT, PLANT 12" O.C.
PV	54	PANICUM VIRGATUM 'HANS HERMS' / DWARF SWITCHGRASS	1 QT, PLANT 12" O.C.
GM	161	GERANIUM MACULATUM / WOODLAND GERANIUM	1 QT, PLANT 12" O.C.
IG	15	ILEX GLABRA 'COMPACTA' / DWARF INKBERRY	24" H, CONT
CA	10	CLETHRA ALNIFOLIA / HUMMINGBIRD	18" H, CONT
RT	199	RUBBECKIA TRILOBUM / BLACK-EYED SUSAN	1 QT, PLANT 12" O.C.
SOD	68	TURFGRASS SOD	PER SY
MULCH	145	SHREDDED HARDWOOD BARK MULCH, 3" DEPTH	PER SY

NOTES:
 THIS PLAN IS FOR LANDSCAPE PURPOSES ONLY
 SWITCHGRASS PLANTINGS TO BE INSTALLED WITH 8" BIODEGRADABLE PINS
 CONTRACTOR SHALL WATER PLANTINGS IMMEDIATELY AFTER INSTALLATION
 NO PLANTING PITS SHALL BE LEFT UNATTENDED OR OPEN UPON COMPLETION



LEGEND

- PROPOSED CONTOUR
- BOTTOM OF TOE
- - - - EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE
- EXISTING TREE
- ▬ PROPOSED CURB
- ⊓ SOD

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DES: WC					
DRN: MR					
CHK: CB					
DATE: 6/29/10	BY	NO.	REVISION	DATE	

**HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
 CEDAR LANE PARK, N. ENTRANCE SWM RETROFIT PROJECT
 CAPITAL PROJECT D-1160**

LANDSCAPE PLAN

SCALE: 1" = 10'
 SHEET: 6 OF 6