

# INDEX OF SHEETS

MCPDWT (FULL SET)	MCDPS	
1		TITLE SHEET
2		OVERALL SITE PLAN
3		GEOMETRIC LAYOUT
4-5		STORMWATER MANAGEMENT DETAILS
6-17		PLAN AND PROFILE
18-19		EROSION & SEDIMENT NOTES
20		EROSION & SEDIMENT CONTROL PLAN
21		LANDSCAPE PLAN

MCDPS REVIEW IS FOR SEDIMENT CONTROL AND SAFE CONVEYANCE OF FLOW ONLY.

THE LOCATION OF THE UNDERGROUND AND SURFACE UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS. CONTRACTOR SHALL CONTACT "MISS UTILITY" AT 1-800-257-777, 48 HOURS PRIOR TO EXCAVATION FOR MARKING AND LOCATION OF UTILITIES.

## CONVENTIONAL SYMBOLS EXISTING CONSTRUCTION

100 YEAR FLOODPLAIN	
RIGHT OF WAY LINE	
PROPERTY LINE	
CONCRETE CURB AND GUTTER	
EDGE OF WOODED AREAS	
TREE (FREE STANDING)	
SIGN	
FIRE HYDRANT	
LIGHT POLE	
UTILITY POLE	
STORM DRAIN	
SANITARY	
WATER	
GAS	
ELECTRICAL HAND BOX - SIGNALS	
ELECTRIC (UNDERGROUND)	

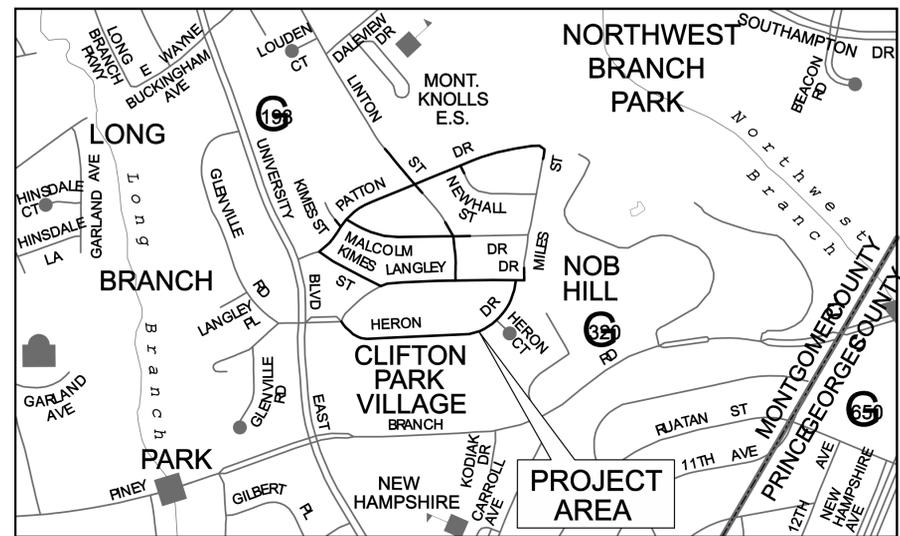
## PROPOSED CONSTRUCTION

CONSTRUCTION	
CURB & GUTTER	
TRAVERSE POINT	
SIDEWALK	
PAVEMENT REMOVAL	
APPROXIMATE LIMITS OF CUT AND/OR FILL	
LIMIT OF DISTURBANCE	
STORM DRAIN PIPE	
TEST PIT	
TEMPORARY CONSTRUCTION EASEMENT	
PERPETUAL EASEMENT	

# MONTGOMERY COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION FRANKLIN KNOLLS PHASE 1

## LOW IMPACT DEVELOPMENT PROJECT

CONTRACT NO. 8803000101-CD  
Task Order 13 - Subtask B



VICINITY MAP  
SCALE: 1" = 500'

## DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME IN ACCORDANCE WITH MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION "STORM DRAIN DESIGN CRITERIA" AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 31204, EXPIRATION DATE: JANUARY 13, 2013.

I FURTHER CERTIFY THAT THE TOTAL AMOUNTS OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAVE BEEN COMPUTED TO BE 574 CUBIC YARDS OF EXCAVATION AND 17 CUBIC YARDS OF FILL AND THAT THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE A MAXIMUM OF 16,737 SQUARE FEET OR 0.38 ACRES.

KIMI C. SCHMIDT, P.E.  
P.E. # 32104

DATE

## GENERAL NOTES

- THE CONTRACTOR WILL IMMEDIATELY INFORM THE COUNTY OF ANY DISCREPANCIES FOUND BETWEEN THE PROJECT PLANS AND CONTRACT SPECIFICATIONS.
- FOR CONSTRUCTION, ALL HORIZONTAL SHALL BE BASED ON NAD 83/91, NAVD 88 DATUM.
- TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
- WHEN THE DROP ON THE MAIN LINE THROUGH A STORM DRAIN STRUCTURE CAN BE ACCOMMODATED BY AN INVERT SLOPE OF 1.5:1 OR FLATTER, A ROUNDED CHANNEL LINED WITH SEWER BRICK ON EDGE SHALL BE BUILT TO THE CROWN OF THE PIPES. WHEN THE INVERT SLOPES WOULD BE GREATER THAN 1.5:1 A SPECIAL INVERT SHALL BE CONSTRUCTED AS NOTED.
- ALL STORM DRAIN PIPE SHALL BE INSTALLED WITH CLASS "C" BEDDING UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES, WHEN NECESSARY, TO MEET EXISTING CONDITIONS, AS APPROVED BY MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES RIGHT OF WAY INSPECTOR.
- INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR SIX (6) INCHES, WHICHEVER IS LESS, THE CONTRACTOR SHALL CONTACT THE COUNTY.
- REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
- CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
- CLEARING IS TO BE LIMITED TO THE "LIMIT OF WORK" AS SHOWN ON THE PLANS.
- ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
- DISTURBED AREAS ADJACENT TO ESTABLISHED LAWNS SHALL BE SODED, OTHER DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
- THE CONTRACTOR SHALL OBTAIN A ROADSIDE TREE PERMIT FOR ANY MAINTENANCE, TREATMENT, PERMIT REQUIREMENTS MAY BE OBTAINED FROM THE DEPARTMENT OF NATURAL RESOURCES, PLANTING, REMOVAL, OR ROOT CUTTING ON TREES WITHIN THE PUBLIC RIGHT OF WAY, MARYLAND FOREST, PARK AND WILDLIFE SERVICE, TELEPHONE 301-854-6060.
- CONTACT THE WASHINGTON SUBURBAN SANITARY COMMISSION SYSTEM MAINTENANCE ENGINEER BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING WATER OR SEWER LINES. BACKFILL TO BE DONE UNDER SUPERVISION OF W.S.S.C. CALL 301-699-4420.
- ALL UTILITY POLES NOTED FOR RELOCATION SHALL BE PERFORMED BY OTHERS. AREAS SHALL BE SEEDED AND MULCHED.
- CONTACT WASHINGTON GAS DISPATCH OFFICER AT (703)750-4831 BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING GAS MAIN AND SERVICE LATERALS.
- THE CONTRACTOR SHALL CONSTRUCT PROPOSED IMPROVEMENTS IN COMPLIANCE WITH CURRENT ADA GUIDELINES.

## RELATED REQUIRED PERMITS

To be completed by the consultant and placed on the first sheet of the Sediment Control / Stormwater Management plan set for all projects.

IT IS THE RESPONSIBILITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT

TYPE OF PERMIT	REQD	NOT REQD	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain District		X			
WATERWAYS/WETLAND(S):					
a. Corps of Engineers		X			
b. MDE		X			
c. MDE Water Quality Certification		X			
MDE Dam Safety		X			
N.P.D.E.S. NOTICE OF INTENT		X	N/A	N/A	DATE FILED
OTHERS (Please List):					

CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS TO PREVENT DAMAGE TO THE NEWLY INSTALLED PAVEMENT, CURB AND SIDEWALK BY MCDOT. REPLACEMENT OF ANY DAMAGED ITEMS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

CONTRACTOR SHALL COORDINATE WITH THE COUNTY ARBORIST TO MINIMIZE IMPACTS TO EXISTING TREES AND TO DETERMINE THE LIMITS OF ROOT PRUNING OR TREE REMOVAL IS NECESSARY.

OWNER/CONTACT/ADDRESS:

MR. PAUL BOGLE, P.E.  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
255 ROCKVILLE PIKE, STE 120  
ROCKVILLE MD 20850-4166  
240-777-7757

DPS PERMIT NO. XXXXXX

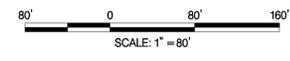
MONTGOMERY COUNTY, MARYLAND  
DEPARTMENT OF PERMITTING SERVICES  
FINAL APPROVAL

DATE \_\_\_\_\_  
BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.



PROPOSED LID FACILITY LOCATIONS  
SCALE: 1" = 80'



BMP ID	Approximate Address	SWM Practice Proposed	Plan Sheet
5	915 Heron Drive	Bioretention & Pavement Removal	6
6	921 Langley Drive	Bioretention	7
7	918 Langley Drive	Rain Garden	8
8	8901 Linton Street (along Langley Dr.)	Bioretention	8
9	902 Langley Drive	Bioretention	9
14	809 & 811 Malcolm Drive	Rain Garden	11
15	806 Malcolm Drive	Rain Garden	11
16	812 Malcolm Drive	Rain Garden	12
17	907 & 909 Malcolm Drive	Rain Garden	13
18	902 Malcolm Drive	Rain Garden	14
22	9009 Linton Street (corner)	Rain Garden	15
23	across from 9015 Linton Street	Rain Garden	16
25	9006 Linton Street (corner)	Rain Garden	15
26	807 Patton Drive (along Malcolm Drive)	Rain Garden	17
27	802 Malcom Drive	Rain Garden	17
28	900 Malcolm Drive (along Malcolm Drive)	Rain Garden	14
29	909 Malcolm Drive	Rain Garden	13

\*\*BMPs 1-4, 10-13, 19-21 and 24 have been removed from the project due to majority utility and/or tree conflicts or soil and groundwater issues.

DPS PERMIT NO. \_\_\_\_\_  
 MONTGOMERY COUNTY, MARYLAND  
 DEPARTMENT OF PERMITTING SERVICES  
 FINAL APPROVAL  
 DATE \_\_\_\_\_  
 BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

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

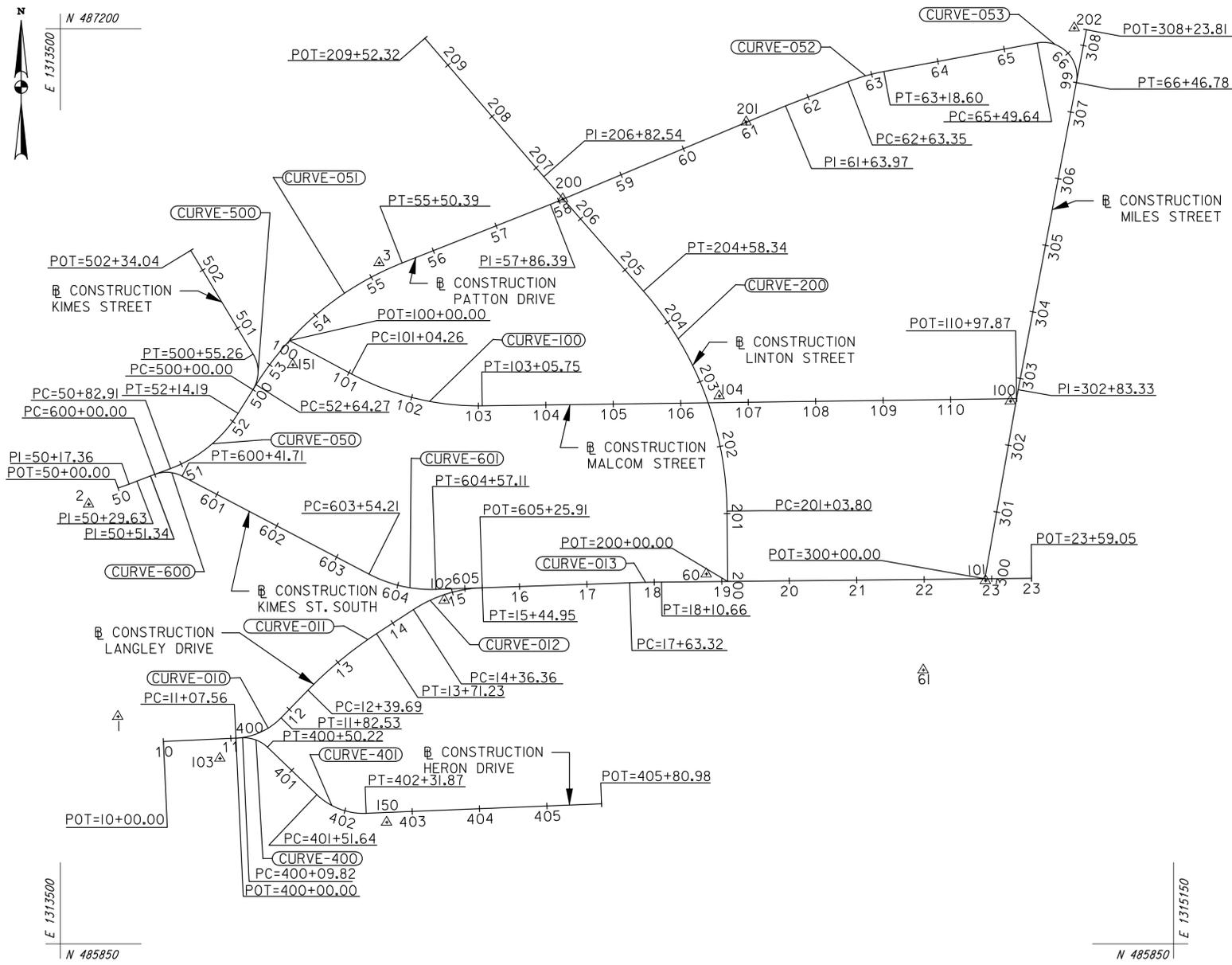
**McCormick**  
 Engineers & Planners  
 Since 1946  
**Taylor**

OVERALL SITE PLAN  
**FRANKLIN KNOLLS-PHASE 1**  
 SLIGO (13th) ELECTION DISTRICT  
 PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
 MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
 255 ROCKVILLE PIKE, RM. 120  
 ROCKVILLE, MD 20850-4166  
 MR. PAUL BOGLE, P.E.  
 (240) 777-7757

DESIGN	DATE	SCALE
DRAFT	JUNE 12'	21
APPROVED		
DATE		
SCALE		

SHEET  
**2**  
 OF



**TRAVERSE CONTROL COORDINATES**

POINT NO.	STATION	OFFSET	ALIGNMENT	NORTHING	EASTING	ELEVATION
1	601+21.14	358.19	KIMES ST SOUTH	486185.5664	1313585.4211	272.68
2	12+08.40	-424.39	LANGLEY DR	486498.7519	1313542.1247	275.94
3	55+19.59	-13.99	PATTON DR	486854.6504	1313972.5829	278.72
60	18+77.01	-11.57	LANGLEY DR	486395.8036	1314457.5126	225.27
61	21+97.17	133.37	LANGLEY DR	486254.1128	1314779.1195	221.75
100	110+88.45	3.40	MALCOLM DR	486650.6941	1314908.2141	224.68
101	22+90.71	2.52	LANGLEY DR	486385.9002	1314871.3328	210.26
102	14+84.72	7.67	LANGLEY DR	486356.9088	1314069.2483	239.83
103	10+82.43	28.47	LANGLEY DR	486123.8375	1313736.6501	270.78
104	106+57.11	-10.13	MALCOLM DR	486658.4099	1314476.7228	240.73
150	402+61.54	14.17	HERDON DR	486029.5757	1313983.7313	256.36
151	53+21.77	26.88	PATTON DR	486704.2448	1313844.5973	276.04
200	58+06.56	-0.66	PATTON DR	486948.8635	1314244.8698	257.69
201	61+01.12	-0.81	PATTON DR	487062.4023	1314516.6723	245.03
202	65+87.35	-34.80	PATTON DR	487201.0447	1315002.8892	202.10

**BASILINE CONTROL COORDINATES (CONTINUED)**

CONSTRUCTION	POINT NO.	NORTHING	EASTING	STATION	BEARING	AHEAD	RADIUS
KIMES STREET SOUTH	PC = 1049	486542.4570	1313640.1970	600+00	N 69°44'30.00" E		
	PI	486550.1292	1313660.9841	600+22	S 62°27'24.61" E		
	CC = 1050	486495.5499	1313657.5097				50.00'
	PT = 1051	486539.8831	1313680.6305	600+42	S 62°27'24.61" E		
	PC = 1052	486395.3817	1313957.7054	603+54	S 62°27'24.61" E		
	PI	486371.0511	1314004.3581	604+07	N 88°03'51.50" E		
	CC = 1053	486572.7142	1314050.1887				200.00'
	PT = 1054	486372.8283	1314056.9443	604+57	N 88°03'51.50" E		
	POE = 1055	486375.1524	1314125.7085	605+26			

**CURVE DATA**

CURVE NO.	DELTA	Dc	R	T	L	E	CENTER OF CURVE	
							NORTH	EAST
CURVE-010	42°57'33.8019"	57°17'44.8062"	100.00'	39.35'	74.98'	7.46	486253.3289	1313755.8199
CURVE-011	12°33'39.5411"	9°32'57.4678"	600.00'	66.03'	131.54'	3.62	485804.4510	1314295.9821
CURVE-012	31°06'31.4279"	28°38'52.4031"	200.00'	55.67'	108.59'	7.60	486175.2665	1314132.4640
CURVE-013	1°21'21.4445"	2°51'53.2403"	2000.00'	23.67'	47.33'	0.14	484383.6698	1314411.5126
CURVE-050	37°36'34.2392"	28°38'52.4031"	200.00'	68.10'	131.28'	11.28	486738.6813	1313594.2367
CURVE-051	36°25'47.7549"	12°43'56.6236"	450.00'	148.08'	286.12'	23.74	486435.3701	1314171.3070
CURVE-052	10°33'11.9770"	19°05'54.9353"	300.00'	27.71'	55.26'	1.28	486841.6730	1314775.6228
CURVE-053	111°19'16.1316"	114°35'29.6125"	50.00'	73.19'	97.15'	38.64	487129.6765	1314957.0907
CURVE-100	28°51'42.6563"	14°19'26.2016"	400.00'	102.93'	201.49'	13.03	487043.5029	1314120.1447
CURVE-200	40°37'35.7274"	11°27'32.9612"	500.00'	185.09'	354.53'	33.16	486483.2988	1313988.3427
CURVE-400	46°18'11.0315"	114°35'29.6125"	50.00'	21.38'	40.41'	4.38	486103.9420	1313772.5496
CURVE-401	45°58'16.7542"	57°17'44.8062"	100.00'	42.42'	80.24'	8.62	486142.4548	1313949.4719
CURVE-500	63°19'10.5012"	114°35'29.6125"	50.00'	30.83'	55.26'	8.74	486693.9395	1313743.2678
CURVE-600	47°48'05.3830"	114°35'29.6125"	50.00'	22.16'	41.71'	4.69	486495.5499	1313657.5097
CURVE-601	29°28'43.8839"	28°38'52.4031"	200.00'	52.62'	102.90'	6.81	486572.7142	1314050.1887

**BASILINE CONTROL COORDINATES**

CONSTRUCTION	POINT NO.	NORTHING	EASTING	STATION	BEARING	AHEAD	RADIUS
LANGLEY DRIVE	POB = 1000	486148.4701	1313652.9949	10+00	N 87°21'14.34" E		
	PC = 1001	486153.4355	1313760.4364	11+08	N 87°21'14.34" E		
	PI	486155.2521	1313799.7445	11+47	N 44°23'40.53" E		
	CC = 1002	486253.3289	1313755.8199				100.00'
	PT = 1003	486183.3693	1313827.2737	11+83	N 44°23'40.53" E		
	PC = 1004	486224.2086	1313867.2589	12+40	N 44°23'40.53" E		
	PI	486271.3923	1313913.4559	13+06	N 56°57'20.08" E		
	CC = 1005	485804.4510	1314295.9821				600.00'
	PT = 1006	486307.3998	1313968.8087	13+71	N 56°57'20.08" E		
	PC = 1007	486342.9161	1314023.4062	14+36	N 56°57'20.08" E		
	PI	486373.2720	1314070.0709	14+92	N 88°03'51.50" E		
	CC = 1008	486175.2665	1314132.4640				200.00'
	PT = 1009	486375.1524	1314125.7085	15+45	N 88°03'51.50" E		
PC = 1010	486382.5285	1314343.9570	17+63	N 88°03'51.50" E			
PI	486383.3280	1314367.6105	17+87	N 89°25'12.95" E			
CC = 1011	484383.6698	1314411.5126				2000.00'	
PT = 1012	486383.5674	1314391.2763	18+11	N 89°25'12.95" E			
POE = 1013	486389.1162	1314939.6439	23+59				
PATTON DRIVE	POB = 1014	486522.3519	1313585.7114	50+00	N 70°42'21.33" E		
	PI	486528.0889	1313602.0990	50+17	N 68°57'34.24" E		
	PI	486532.4921	1313613.5457	50+30	N 69°25'27.15" E		
	PI	486540.1237	1313633.8751	50+51	N 69°44'30.00" E		
	PC = 1015	486551.0531	1313663.4874	50+83	N 69°44'30.00" E		
	PI	486574.6344	1313727.3787	51+51	N 32°07'55.76" E		
	CC = 1016	486738.6813	1313594.2367				200.00'
	PT = 1017	486632.3065	1313763.6015	52+14	N 32°07'55.76" E		
	PC = 1018	486674.7134	1313790.2364	52+64	N 32°07'55.76" E		
	PI	486800.1133	1313868.9978	54+12	N 68°33'43.52" E		
	CC = 1019	486435.3701	1314171.3070				450.00'
	PT = 1020	486854.2365	1314006.8353	55+50	N 68°33'43.52" E		
	PI	486940.4923	1314226.5062	57+86	N 67°21'29.62" E		
PI	487085.8494	1314574.9878	61+64	N 68°55'08.92" E			
PC = 1021	487121.5951	1314667.7173	62+63	N 68°55'08.92" E			
PI	487131.5609	1314693.5699	62+91	N 79°28'20.90" E			
CC = 1022	486841.6730	1314775.6228				300.00'	
PT = 1023	487136.6232	1314720.8104	63+19	N 79°28'20.90" E			
PC = 1024	487178.8349	1314947.9553	65+50	N 79°28'20.90" E			
PI	487192.2071	1315019.9124	66+23	S 10°47'37.03" W			
CC = 1025	487129.6765	1314957.0907				50.00'	
MALCOLM STREET	POB = 1026	486739.7067	1313839.8266	100+00	S 61°54'39.45" E		
	PC = 1027	486690.6161	1313931.8074	101+04	S 61°54'39.45" E		
	PI	486642.1509	1314022.6164	102+07	N 89°13'37.90" E		
	CC = 1028	487043.5029	1314120.1447				400.00'
PT = 1029	486643.5392	1314125.5397	103+06	N 89°13'37.90" E			
POE = 1030	486654.2230	1314917.5847	110+98				
LINTON STREET	POB = 1031	486384.5600	1314489.3674	200+00	N 0°34'47.05" W		
	PC = 1032	486488.3578	1314488.3171	201+04	N 0°34'47.05" W		
	PI	486673.4359	1314486.4443	202+89	N 41°12'22.78" W		
	CC = 1033	486483.2988	1313988.3427				500.00'
	PT = 1034	486812.6850	1314364.5137	204+58	N 41°12'22.78" W		
PI	486981.3653	1314216.8124	206+83	N 40°48'54.43" W			
POE = 1035	487185.5400	1314040.4795	209+52				
MILES STREET	POB = 1036	486388.4174	1314870.5890	300+00	N 10°00'57.21" E		
	PI	486667.4245	1314919.8653	302+83	N 10°47'37.03" E		
	POE = 1037	487198.3496	1315021.0834	308+24			
HERON DRIVE	POB = 1038	486153.4355	1313760.4364	400+00	N 87°21'14.34" E		
	PC = 1039	486153.8886	1313770.2414	400+10	N 87°21'14.34" E		
	PI	486154.8757	1313791.5985	400+31	S 46°20'34.63" E		
	CC = 1040	486103.9420	1313772.5496				50.00'
	PT = 1041	486140.1162	1313807.0666	400+50	S 46°20'34.63" E		
	PC = 1042	486070.1063	1313880.4378	401+52	S 46°20'34.63" E		
PI	486040.8235	1313911.1266	401+94	N 87°41'08.61" E			
CC = 1043	486142.4548	1313949.4719				100.00'	
PT = 1044	486042.5364	1313953.5099	402+32	N 87°41'08.61" E			
POE = 1044	486056.6338	1314302.3376	405+81				
KIMES STREET	PC = 1045	486667.3458	1313785.6090	500+00	N 32°07'55.76" E		
	PI	486693.4552	1313802.0078	500+31	N 31°11'14.74" W		
	CC = 1046	486693.9395	1313743.2678				50.00'
	PT = 1047	486719.8315	1313786.0417	500+55	N 31°11'14.74" W		
POE = 1048	486872.7757	1313693.4612	502+34				

DPS PERMIT NO. \_\_\_\_\_

MONTGOMERY COUNTY, MARYLAND  
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE \_\_\_\_\_  
BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

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

**McCormick & Planners Taylor**  
Engineers & Planners Since 1946

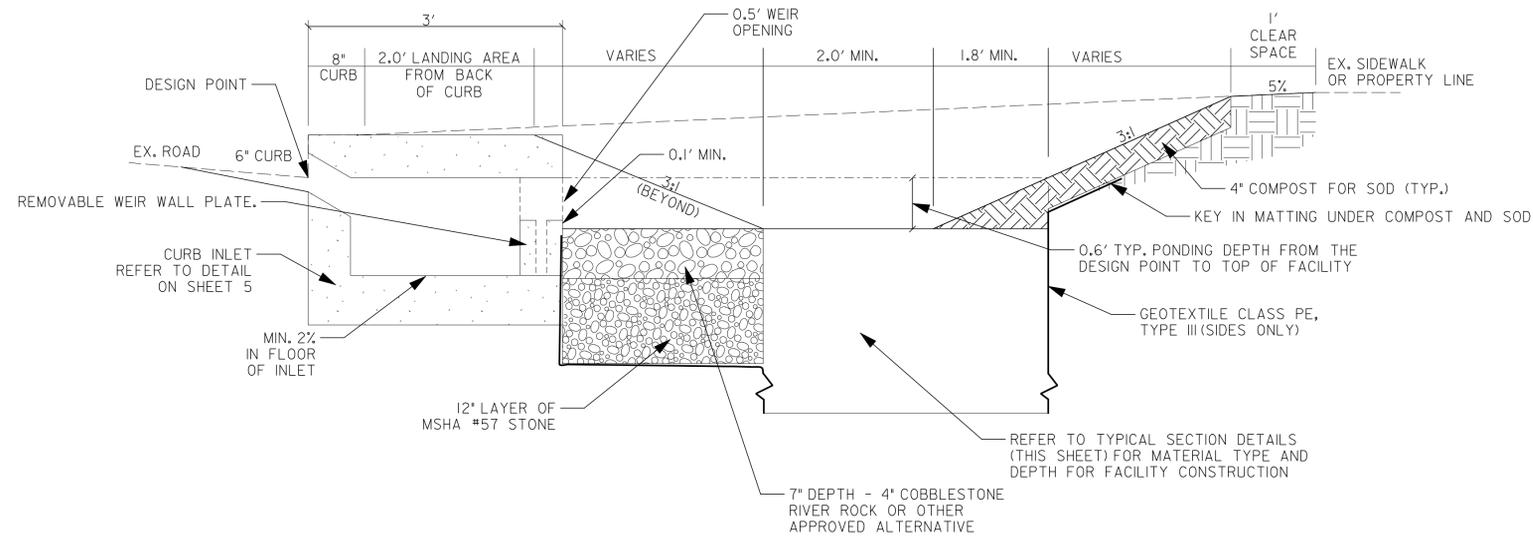
GEOMETRIC LAYOUT  
**FRANKLIN KNOLLS-PHASE 1**  
SLIGO (13th) ELECTION DISTRICT  
PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
255 ROCKVILLE PIKE, RM. 120  
ROCKVILLE, MD 20850-4166  
MR. PAUL BOGLE, P.E.  
(240) 777-7757

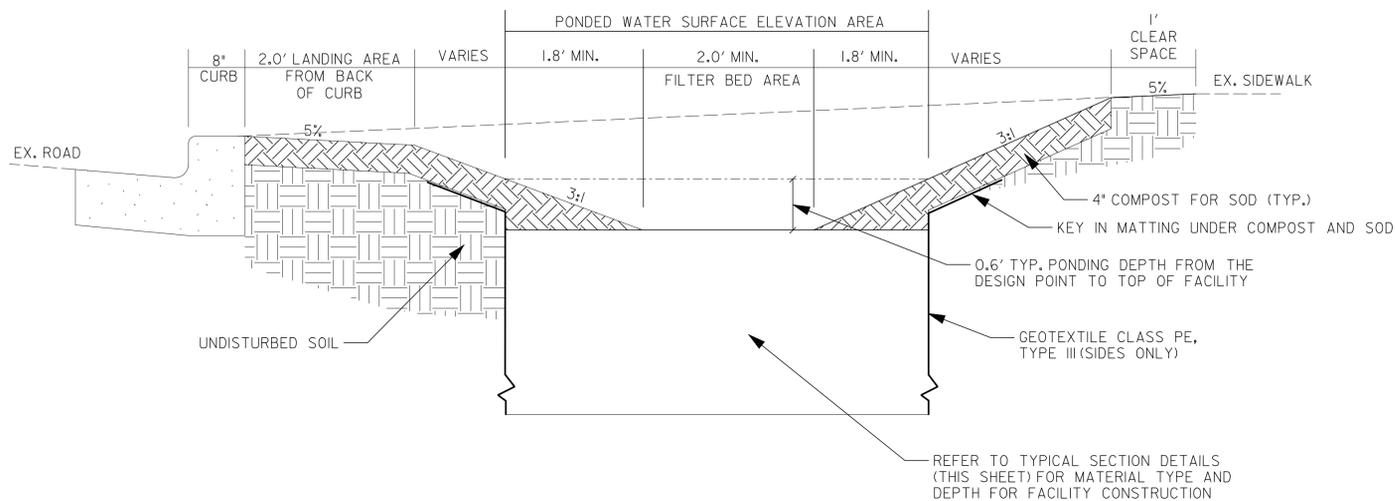
DESIGN  
DRAFT WJW  
APPROVED HJD  
DATE JUNE 12  
SCALE 1"=100'

SHEET 3 OF 21

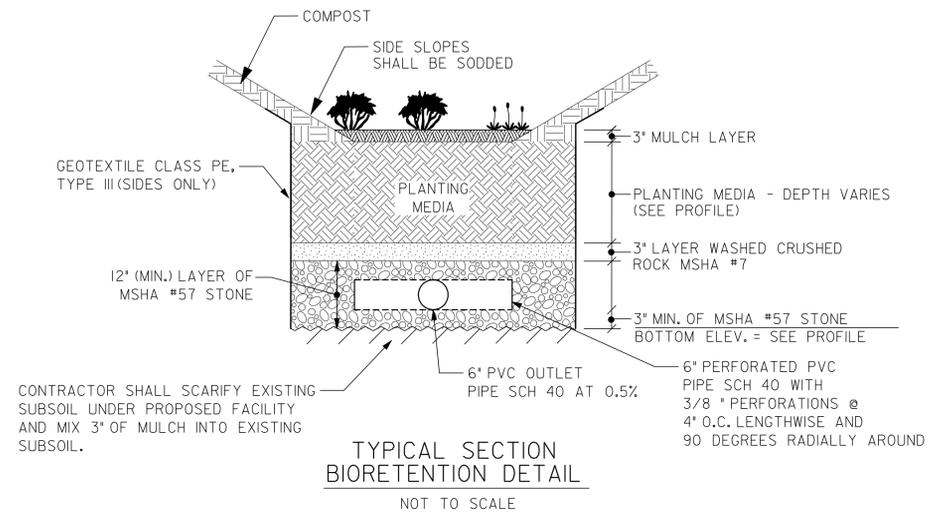
FILE: 1518213 - roadway - Final.dwg - Forest easement and the four corners area (design/eng/perm/mt/pt/pgs/P001\_P01.dwg)  
PLOTTED: Monday, October 29, 2012 11:18 AM



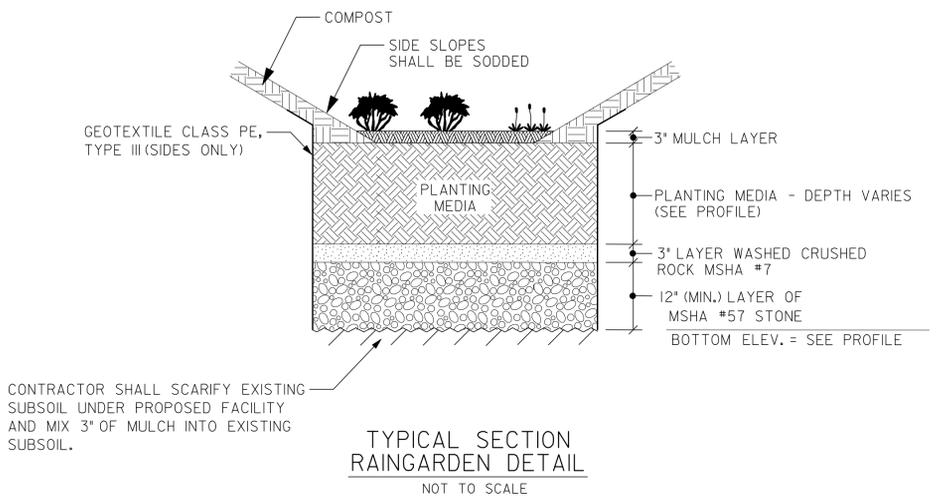
TYPICAL RIGHT OF WAY INLET SECTION  
SCALE: 1"=1'



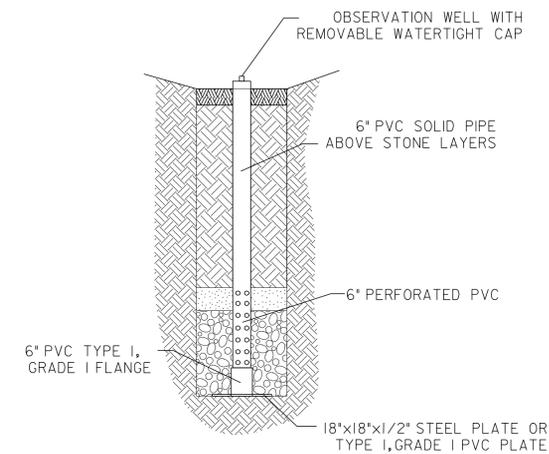
TYPICAL RIGHT OF WAY SECTION  
SCALE: 1"=1'



TYPICAL SECTION  
BIORETENTION DETAIL  
NOT TO SCALE



TYPICAL SECTION  
RAINGARDEN DETAIL  
NOT TO SCALE



OBSERVATION WELL DETAIL  
N.T.S.

- NOTES:
1. ALL PVC TO BE SCHEDULE 40. PERFORATIONS SHALL BE 3/8" DIA. @ 4" O/C 90° ALL AROUND PIPE.
  2. INSTALL REMOVABLE WATER TIGHT PVC CAP ON TOP OF 6" PVC.
  3. BOTTOM EXCAVATION IS TO BE IN NATURAL UNCOMPACTED EARTH.
  4. THREE HOLES SHOULD BE DRILLED INTO THE BOTTOM PLATE TO ALLOW WATER TO DRAIN FROM THE OBSERVATION WELL.
  5. REFER TO BMP PROFILE FOR SPECIFIC STONE AND PLANTING MEDIA DEPTHS AND ELEVATIONS.
  6. PVC PIPE SHALL BE ATTACHED TO THE FLANGE WITH SOLVENT CEMENT PER THE MANUFACTURER'S SPECIFICATIONS.
  7. CONTRACTOR MAY SUBSTITUTE 4" PVC FOR OBSERVATION WELL CONSTRUCTION PENDING APPROVAL BY DEP.

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND  
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE \_\_\_\_\_

BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

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

**McCormick**  
Engineers & Planners  
Since 1946  
**Taylor**

STORMWATER MANAGEMENT DETAILS

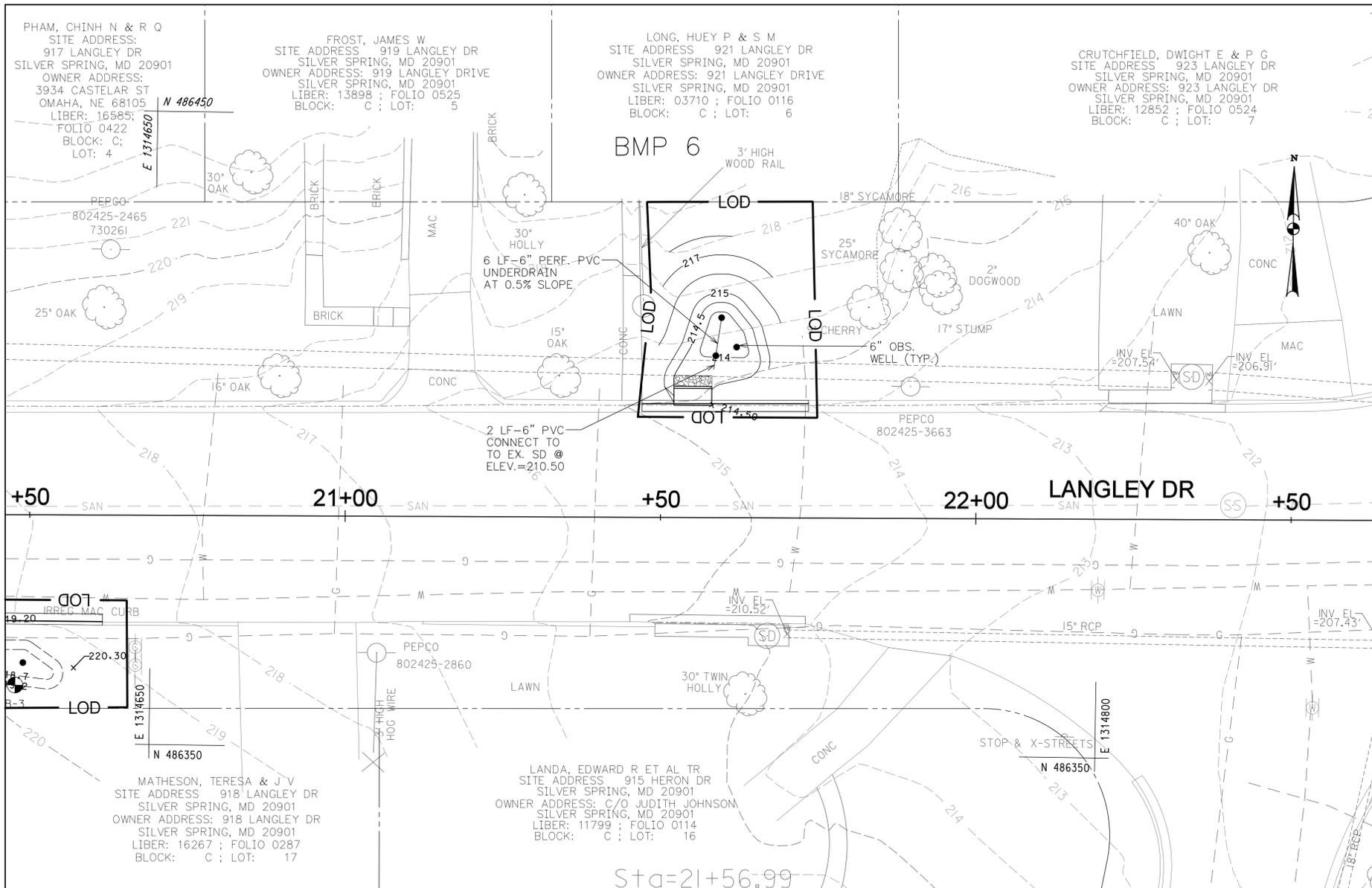
**FRANKLIN KNOLLS-PHASE 1**  
SLIGO (13th) ELECTION DISTRICT  
PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
255 ROCKVILLE PIKE, RM. 120  
ROCKVILLE, MD 20850-4166  
MR. PAUL BOGLE, P.E.  
(240) 777-7757

DESIGN	KCS	W/W	H/D	JUNE 12'	NOT TO SCALE
DRAFT					
APPROVED					
DATE					
SCALE					
SHEET	4				
OF					21



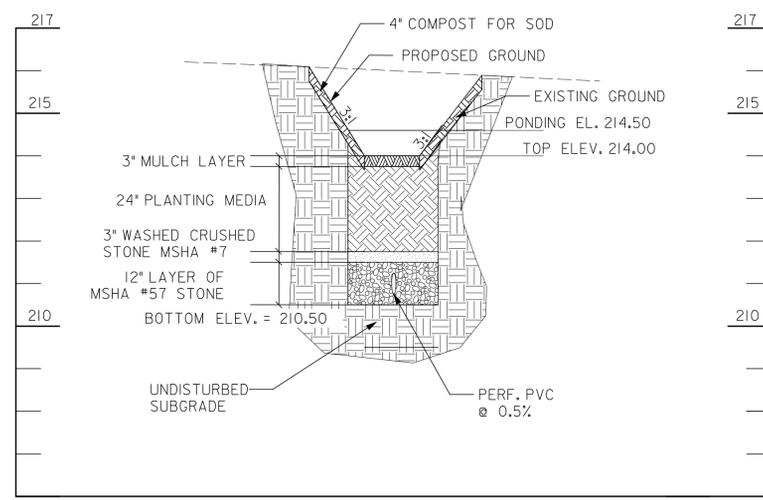




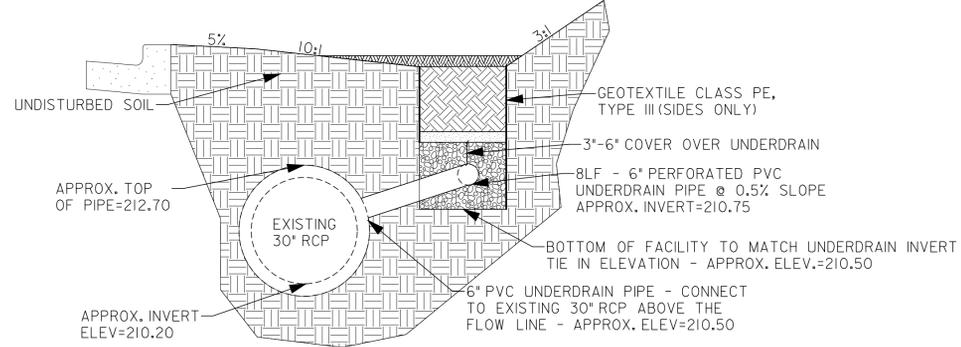
AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)		
*TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: BIORETENTION		BMP ID: 6
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.92	
TOTAL IMPERVIOUS AREA (AC)	0.26	
TREATMENT VOLUME (CF)	74	
TARGET WQv TREATMENT VOLUME (CF)	1016	
FILTER BED AREA (SF)	41	
FILTER BED SURFACE ELEVATION	214.00	
DESIGN POINT/MAX. PONDING ELEVATION	214.50	
PONDED WATER SURFACE ELEVATION AREA (SF)	125	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6"/210.50	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDP SPECIFICATIONS	

\*NOTE: CONTRACTOR SHALL TEST PIT UTILITIES PRIOR TO CONSTRUCTION. IF UTILITY IS UNAVOIDABLE, CONTRACTOR SHALL REFER TO DETAIL ON SHEET 5 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01			
STA. TO STA.	OFFSET	LF.	REMARKS
21+47 TO 21+74	L	27	



PROFILE - BIORETENTION FACILITY (BMP 6)  
SCALE: HORIZ. 1"=10'  
VERT. 1"=2'



CROSS SECTION AT UNDERDRAIN CONNECTION  
SCALE: HORIZ. 1"=2'  
VERT. 1"=2'

NOTE:  
1. CONTRACTOR TO INVESTIGATE AND COORDINATE FIELD CONNECTION OF POTENTIAL FACILITY UNDERDRAIN SYSTEM INTO THE EXISTING 30" RCP WITH THE DEP ENGINEER.

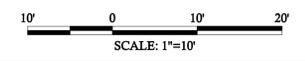
DPS PERMIT NO. \_\_\_\_\_

MONTGOMERY COUNTY, MARYLAND  
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE \_\_\_\_\_  
BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

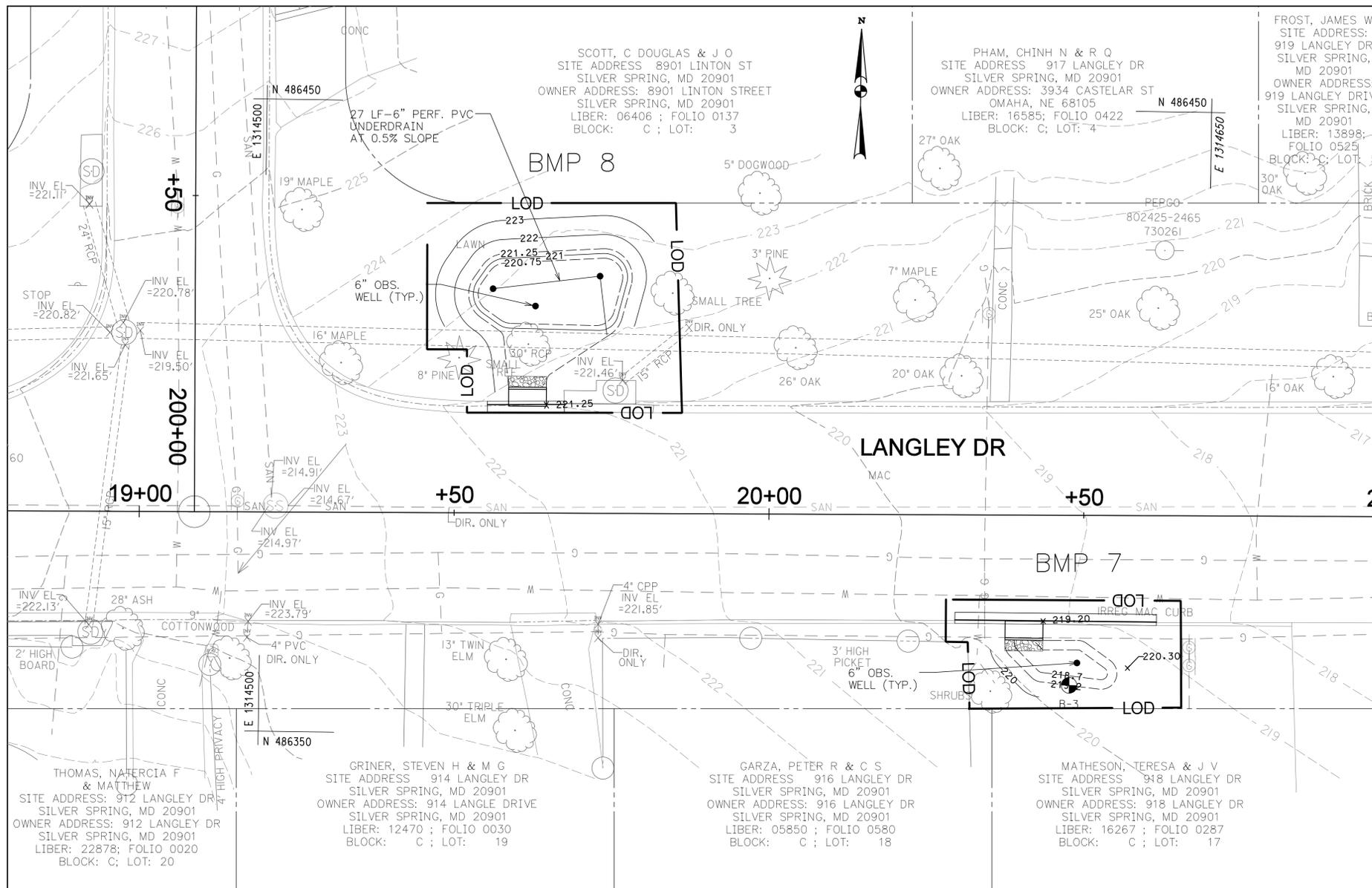


509 South Exeter Street  
4th Floor  
Baltimore, Maryland 21202  
**McCormick & Planners Taylor**  
Engineers & Planners Since 1946  
(410) 662-7400

PLAN AND PROFILE - BMP 6  
**FRANKLIN KNOLLS-PHASE 1**  
SLIGO (13th) ELECTION DISTRICT  
PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
255 ROCKVILLE PIKE, RM. 120  
ROCKVILLE, MD 20850-4166  
MR. PAUL BOGLE, P.E.  
(240) 777-7757

DESIGN	KCS
DRAFT	WJW
APPROVED	HJD
DATE	JUNE 12'
SCALE	1"=10'
SHEET	7
OF	21

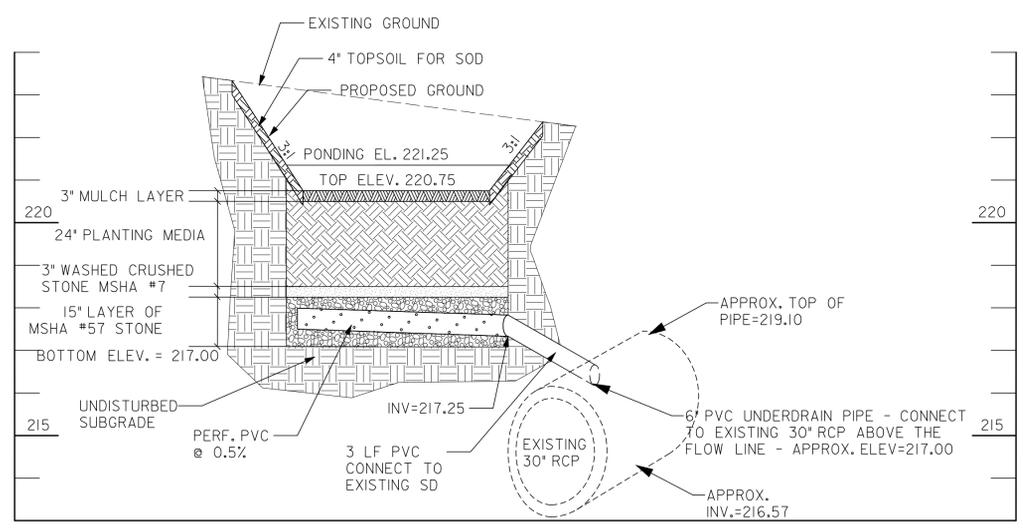


AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS) *TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: RAIN GARDEN		BMP ID: 7
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.97	
TOTAL IMPERVIOUS AREA (AC)	0.20	
TREATMENT VOLUME (CF)	78	
TARGET WQV TREATMENT VOLUME (CF)	829	
FILTER BED AREA (SF)	50	
FILTER BED SURFACE ELEVATION	218.70	
DESIGN POINT/MAX. PONDING ELEVATION	219.20	
PONDED WATER SURFACE ELEVATION AREA (SF)	101	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	N/A	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPE SPECIFICATIONS	

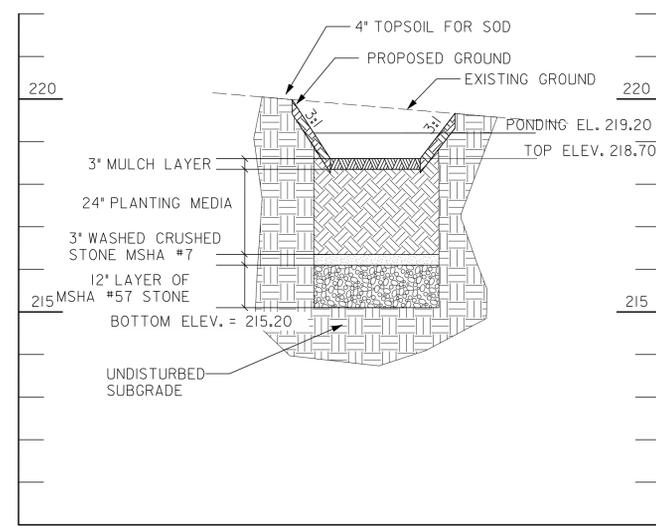
\*NOTE: CONTRACTOR SHALL TEST PIT UTILITIES PRIOR TO CONSTRUCTION. IF UTILITY IS UNAVOIDABLE, CONTRACTOR SHALL REFER TO DETAIL ON SHEET 5 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS) *TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: BIORETENTION		BMP ID: 8
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.87	
TOTAL IMPERVIOUS AREA (AC)	0.27	
TREATMENT VOLUME (CF)	316	
TARGET WQV TREATMENT VOLUME (CF)	1040	
FILTER BED AREA (SF)	208	
FILTER BED SURFACE ELEVATION	220.75	
DESIGN POINT/MAX. PONDING ELEVATION	221.25	
PONDED WATER SURFACE ELEVATION AREA (SF)	392	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6"/217.00	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPE SPECIFICATIONS	

COMBINATION CONC. CURB AND GUTTER -- (TYPE A) MC-100.01			
STA. TO STA.	OFFSET	LF.	REMARKS
19+55 TO 19+68	L	12	
20+29 TO 20+62	R	32	



PROFILE - BIORETENTION FACILITY (BMP 8)  
SCALE: HORIZ. 1"=10'  
VERT. 1"=2'



PROFILE - RAIN GARDEN FACILITY (BMP 7)  
SCALE: HORIZ. 1"=10'  
VERT. 1"=2'

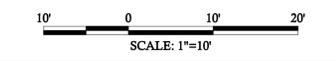
DPS PERMIT NO. \_\_\_\_\_

MONTGOMERY COUNTY, MARYLAND  
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE \_\_\_\_\_  
BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.



509 South Exeter Street  
4th Floor  
Baltimore, Maryland 21202  
**McCormick & Planners Taylor**  
Engineers & Planners Since 1946  
(410) 662-7400

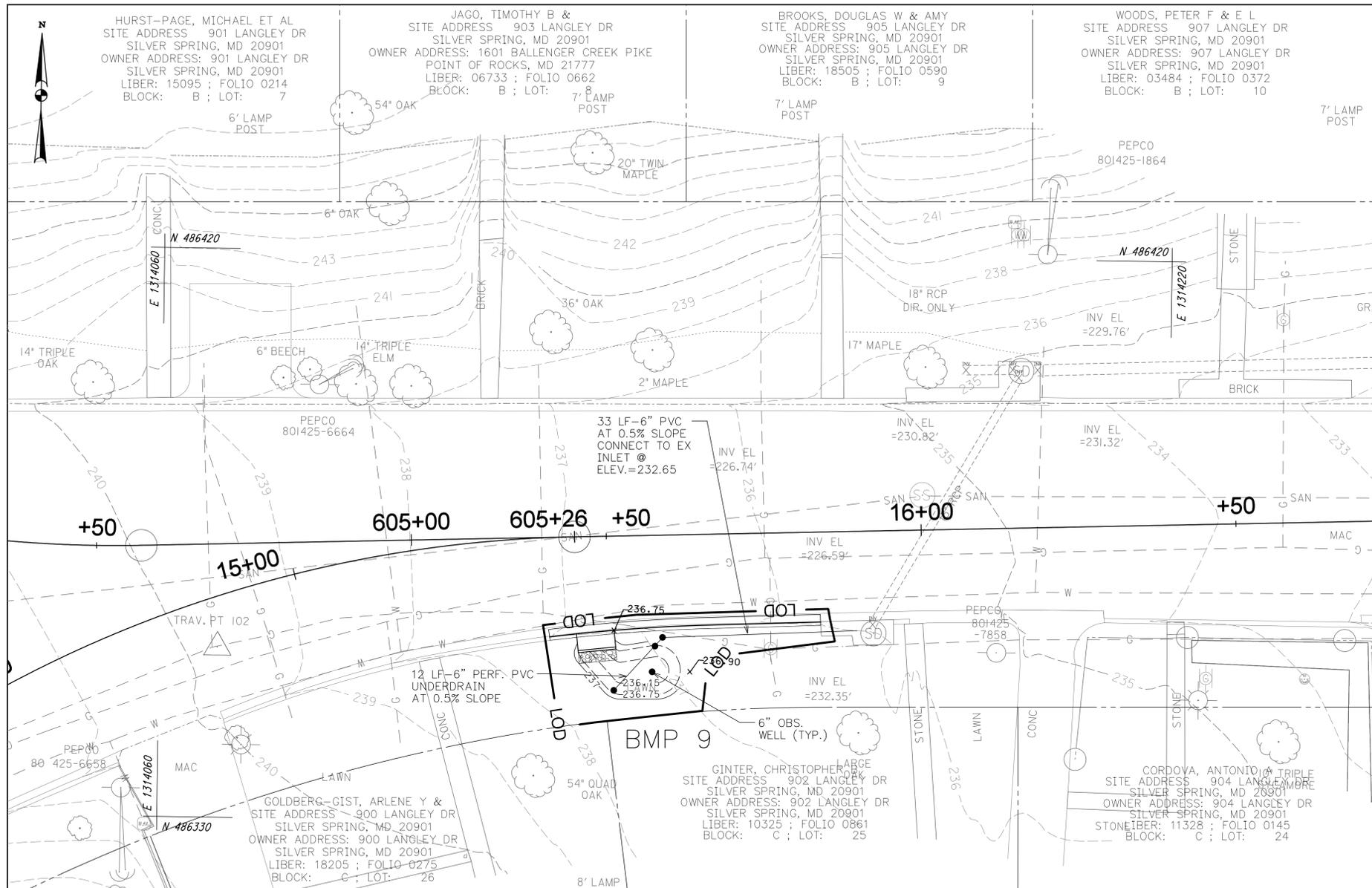
PLAN AND PROFILE - BMPs 7 AND 8  
**FRANKLIN KNOLLS-PHASE 1**  
SLIGO (13th) ELECTION DISTRICT  
PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
255 ROCKVILLE PIKE, RM. 120  
ROCKVILLE, MD 20850-4166  
MR. PAUL BOGLE, P.E.  
(240) 777-7757

DESIGN KCS  
DRAFT WJW  
APPROVED HJD  
DATE JUNE 12'  
SCALE 1"=10'

SHEET 8 OF 21

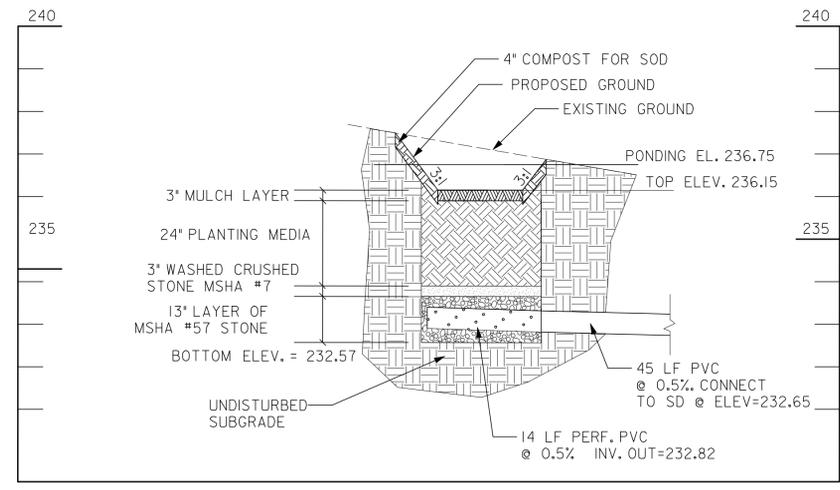
FILE: 1518213 - roadway 14 - final station and the four corners area/design/plan/section p1/1410-P008\_P01.dwg  
PLOTTED: Monday, October 28, 2014 AT 11:19 AM



AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)		
*TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: BIORETENTION		BMP ID: 9
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.51	
TOTAL IMPERVIOUS AREA (AC)	0.25	
TREATMENT VOLUME (CF)	70	
TARGET WQv TREATMENT VOLUME (CF)	909	
FILTER BED AREA (SF)	38	
FILTER BED SURFACE ELEVATION	236.15	
DESIGN POINT/MAX. PONDING ELEVATION	236.75	
PONDED WATER SURFACE ELEVATION AREA (SF)	94	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6"/232.65	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDEP SPECIFICATIONS	

\*NOTE: CONTRACTOR SHALL TEST PIT UTILITIES PRIOR TO CONSTRUCTION. IF UTILITY IS UNAVOIDABLE, CONTRACTOR SHALL REFER TO DETAIL ON SHEET 5 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01			
STA. TO STA.	OFFSET	LF.	REMARKS
15+21 TO 15+84	R	61	



PROFILE - BIORETENTION FACILITY (BMP 9)  
 SCALE: HORIZ. 1"=10'  
 VERT. 1"=2'

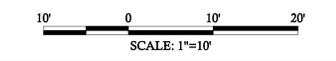
DPS PERMIT NO. \_\_\_\_\_

MONTGOMERY COUNTY, MARYLAND  
 DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE \_\_\_\_\_  
 BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

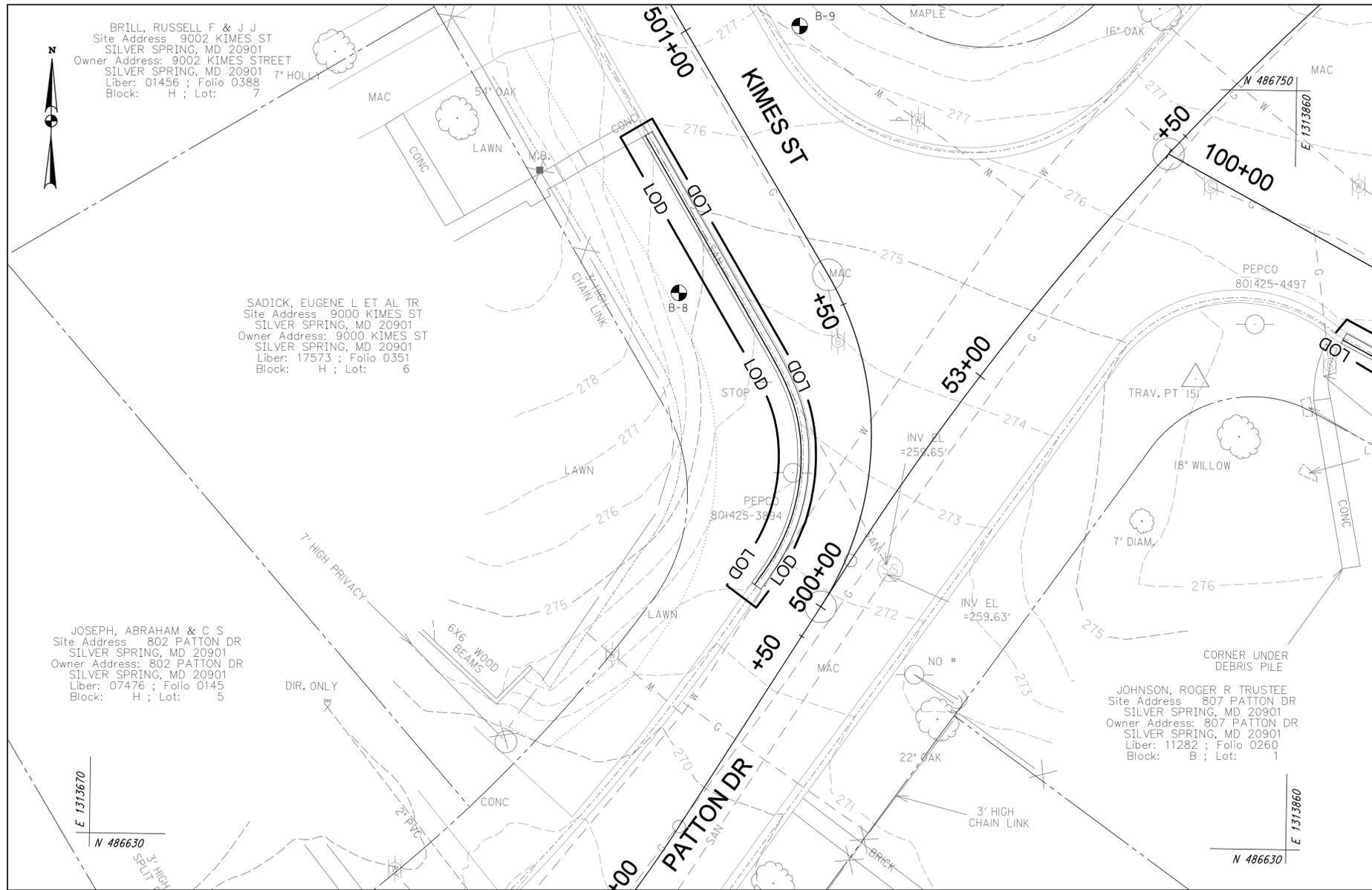


509 South Exeter Street  
 4th Floor  
 Baltimore, Maryland 21202  
**McCormick & Planners Taylor**  
 Engineers & Planners Since 1946  
 (410) 662-7400

PLAN AND PROFILE - BMP 9  
**FRANKLIN KNOLLS-PHASE 1**  
 SLIGO (13th) ELECTION DISTRICT  
 PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
 MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
 255 ROCKVILLE PIKE, RM. 120  
 ROCKVILLE, MD 20850-4166  
 MR. PAUL BOGLE, P.E.  
 (240) 777-7757

DESIGN	KCS	W/W	H/D	DATE	SCALE
DRAFT				JUNE 12'	1"=10'
APPROVED					
SHEET	9		21		
OF					



COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01			
STA. TO STA.	OFFSET	L.F.	REMARKS
52+53 TO 52+98	L	79	

509 South Exeter Street  
 4th Floor  
 Baltimore, Maryland 21202  
**McCormick**  
 Engineers & Planners  
 Since 1946  
**Taylor**

PLAN AND PROFILE  
**FRANKLIN KNOLLS-PHASE 1**  
 SLIGO (13th) ELECTION DISTRICT  
 PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
 MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
 255 ROCKVILLE PIKE, RM. 120  
 ROCKVILLE, MD 20850-4166  
 MR. PAUL BOGGLE, P.E.  
 (240) 777-7757

DPS PERMIT NO. \_\_\_\_\_

MONTGOMERY COUNTY, MARYLAND  
 DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

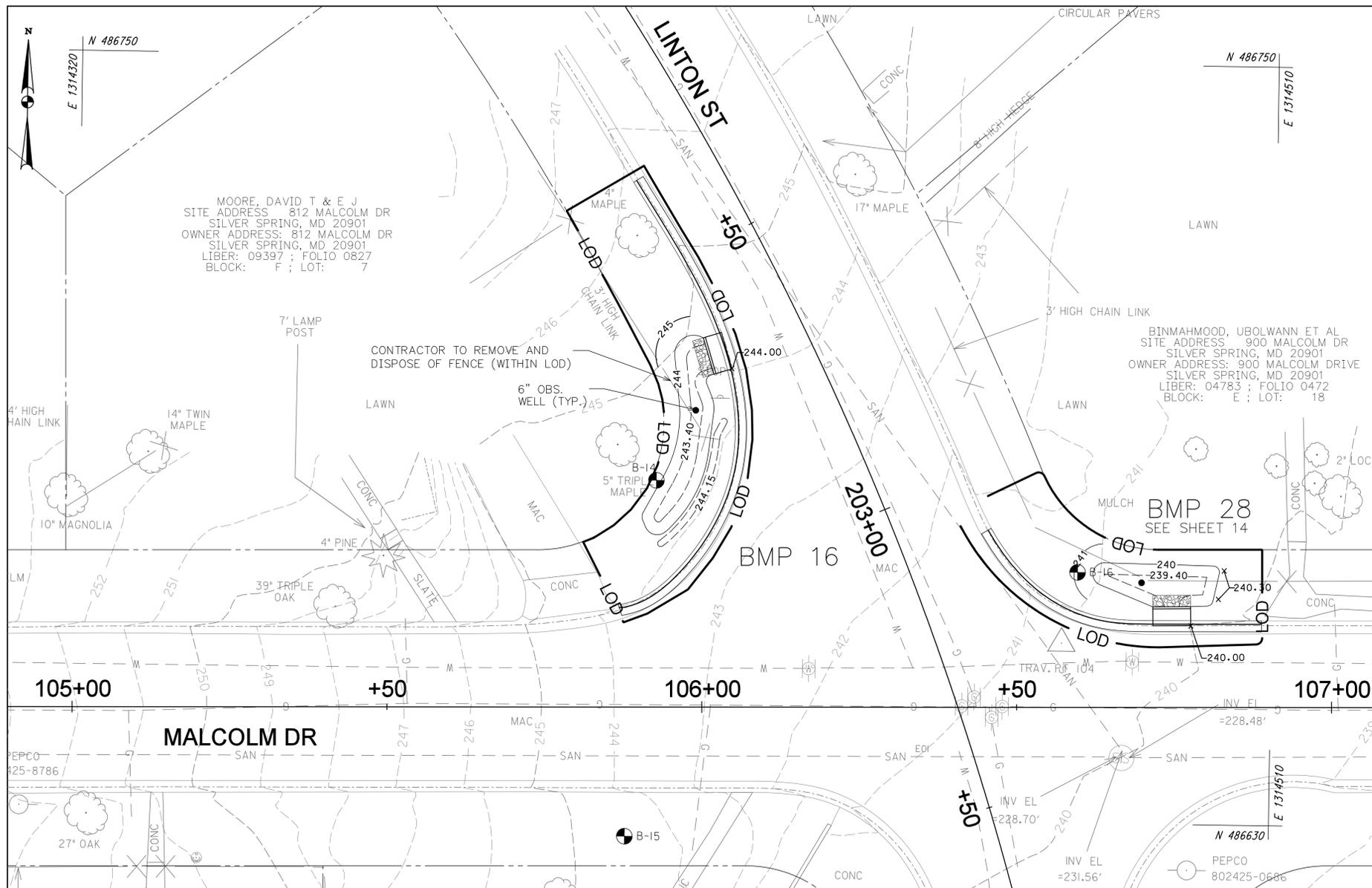
DATE \_\_\_\_\_  
 BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.



DESIGN	KCS	W/W	H/D	DATE	SCALE
DRAFT				JUNE 12'	1"=10'
APPROVED					
SHEET	10	21			
OF					

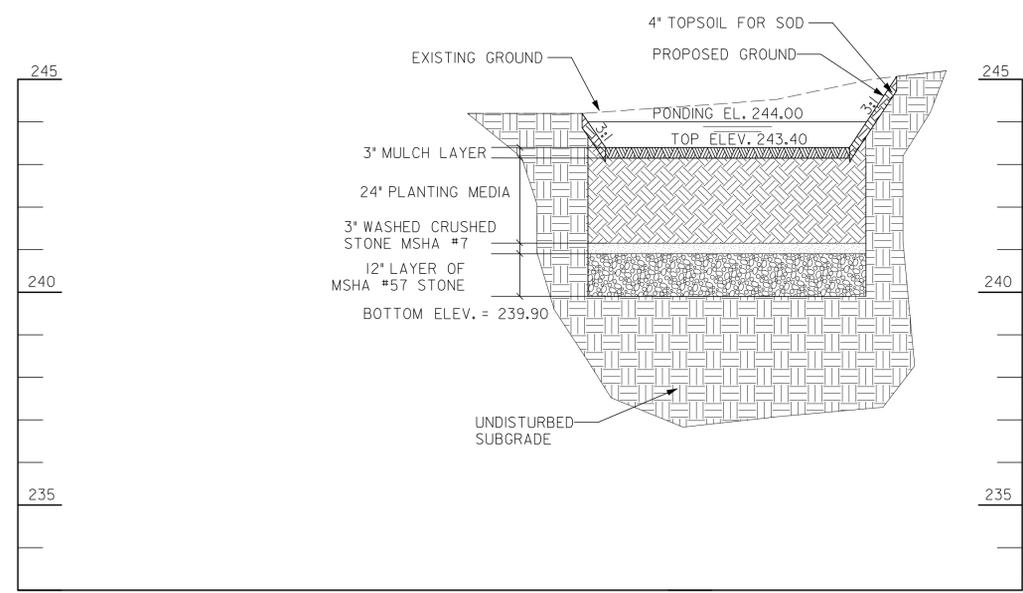




AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS) *TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: RAIN GARDEN		BMP ID: 16
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.48	
TOTAL IMPERVIOUS AREA (AC)	0.20	
TREATMENT VOLUME (CF)	107	
TARGET WQv TREATMENT VOLUME (CF)	741	
FILTER BED AREA (SF)	50	
FILTER BED SURFACE ELEVATION	243.40	
DESIGN POINT/MAX. PONDING ELEVATION	244.00	
PONDED WATER SURFACE ELEVATION AREA (SF)	173	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	N/A	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDEP SPECIFICATIONS	

\*NOTE: CONTRACTOR SHALL TEST PIT UTILITIES PRIOR TO CONSTRUCTION. IF UTILITY IS UNAVOIDABLE, CONTRACTOR SHALL REFER TO DETAIL ON SHEET 5 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01			
STA. TO STA.	OFFSET	LF.	REMARKS
203+02 TO 203+65	L	80	



PROFILE - RAIN GARDEN FACILITY (BMP 16)  
SCALE: HORIZ. 1"=10'  
VERT. 1"=2'

DPS PERMIT NO.  
MONTGOMERY COUNTY, MARYLAND  
DEPARTMENT OF PERMITTING SERVICES  
FINAL APPROVAL  
DATE \_\_\_\_\_  
BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.  
SCALE: 1"=10'  
10' 0 10' 20'

509 South Exeter Street  
4th Floor  
Baltimore, Maryland 21202  
**McCormick**  
Engineers & Planners  
Since 1946  
**Taylor**

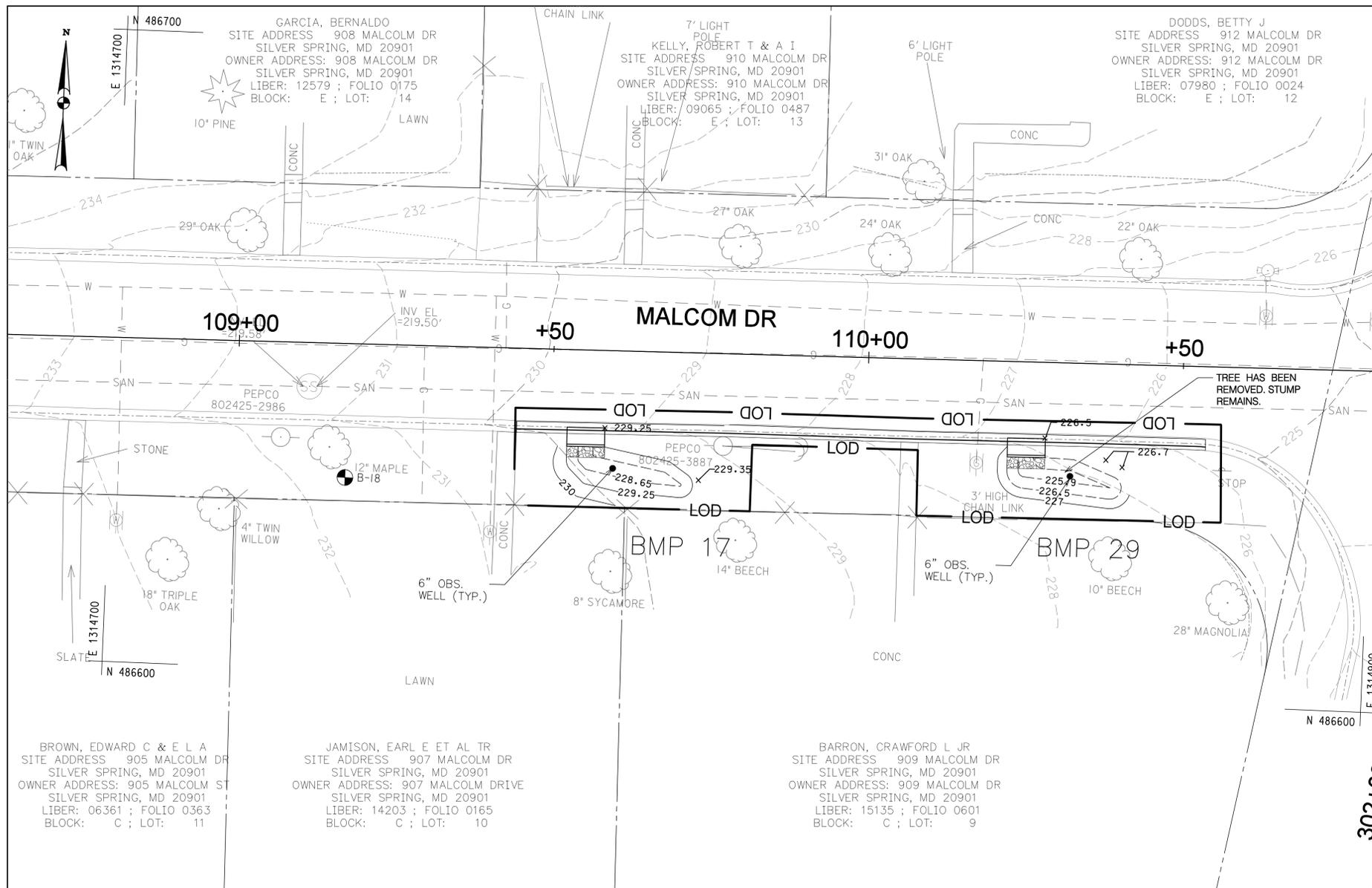
PLAN AND PROFILE - BMP 16  
**FRANKLIN KNOLLS-PHASE 1**  
SLIGO (13th) ELECTION DISTRICT  
PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
255 ROCKVILLE PIKE, RM. 120  
ROCKVILLE, MD 20850-4166  
MR. PAUL BOGLE, P.E.  
(240) 777-7757

DESIGN KCS  
DRAFT WJW  
APPROVED HJD  
DATE JUNE 12  
SCALE 1"=10'

SHEET 12 OF 21

FILE: I:\18213 - roadway\18 - forest\181818.dwg - Forest\181818.dwg  
PLOTTED: Monday, October 29, 2012 AT 11:19 AM

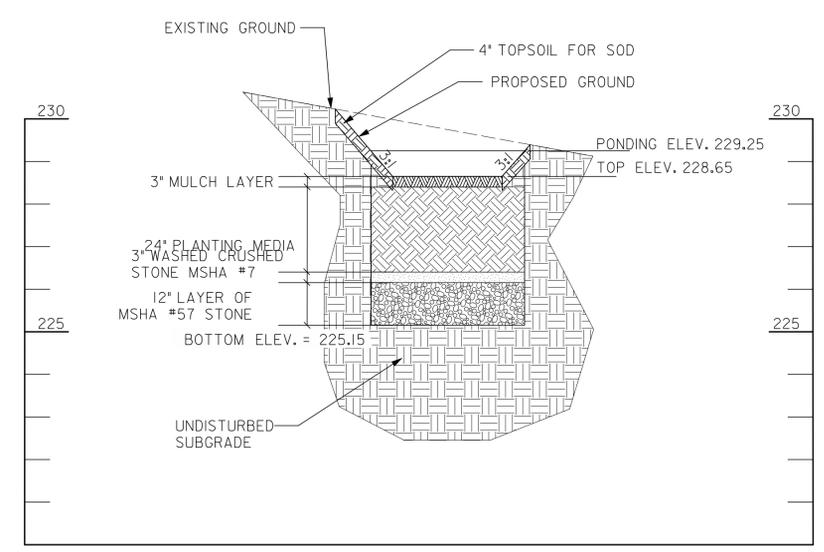


AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS) *TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: RAIN GARDEN		BMP ID: 17
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	REFER TO FACILITY 29	
TOTAL IMPERVIOUS AREA (AC)	REFER TO FACILITY 29	
TREATMENT VOLUME (CF)	75	
TARGET WQv TREATMENT VOLUME (CF)	REFER TO FACILITY 29	
FILTER BED AREA (SF)	38	
FILTER BED SURFACE ELEVATION	228.65	
DESIGN POINT/MAX. PONDING ELEVATION	229.25	
PONDED WATER SURFACE ELEVATION AREA (SF)	111	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	N/A	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDP SPECIFICATIONS	

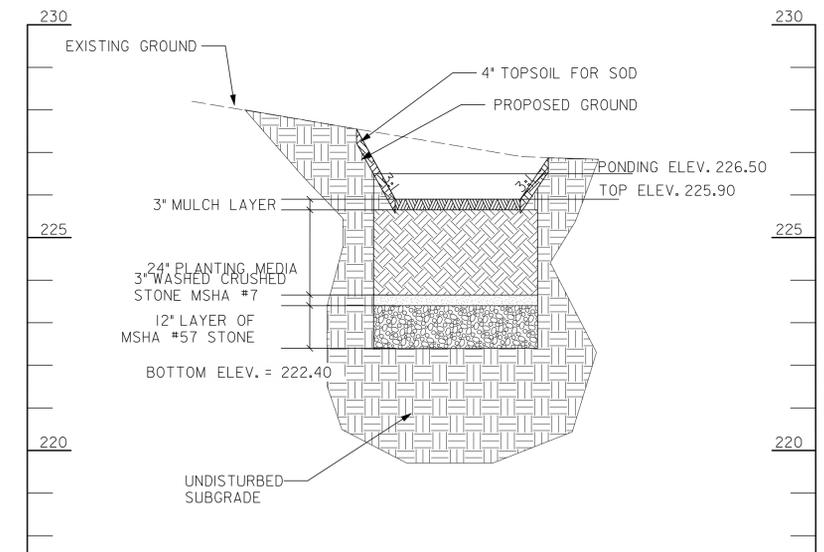
\*NOTE: CONTRACTOR SHALL TEST PIT UTILITIES PRIOR TO CONSTRUCTION. IF UTILITY IS UNAVOIDABLE, CONTRACTOR SHALL REFER TO DETAIL ON SHEET 5 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS) *TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: RAIN GARDEN		BMP ID: 29
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.30	
TOTAL IMPERVIOUS AREA (AC)	0.11	
TREATMENT VOLUME (CF)	52	
TARGET WQv TREATMENT VOLUME (CF)	414	
FILTER BED AREA (SF)	24	
FILTER BED SURFACE ELEVATION	225.90	
DESIGN POINT/MAX. PONDING ELEVATION	226.50	
PONDED WATER SURFACE ELEVATION AREA (SF)	85	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	N/A	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDP SPECIFICATIONS	

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01			
STA. TO STA.	OFFSET	L.F.	REMARKS
109+42 TO 110+54	R	110	



PROFILE - RAIN GARDEN FACILITY (BMP 17)  
SCALE: HORIZ. 1"=10'  
VERT. 1"=2'



PROFILE - RAIN GARDEN FACILITY (BMP 29)  
SCALE: HORIZ. 1"=10'  
VERT. 1"=2'

DPS PERMIT NO. \_\_\_\_\_

MONTGOMERY COUNTY, MARYLAND  
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE \_\_\_\_\_  
BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.



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

**McCormick & Planners Taylor**  
Engineers & Planners  
Since 1946

PLAN AND PROFILE - BMPs 17 and 29

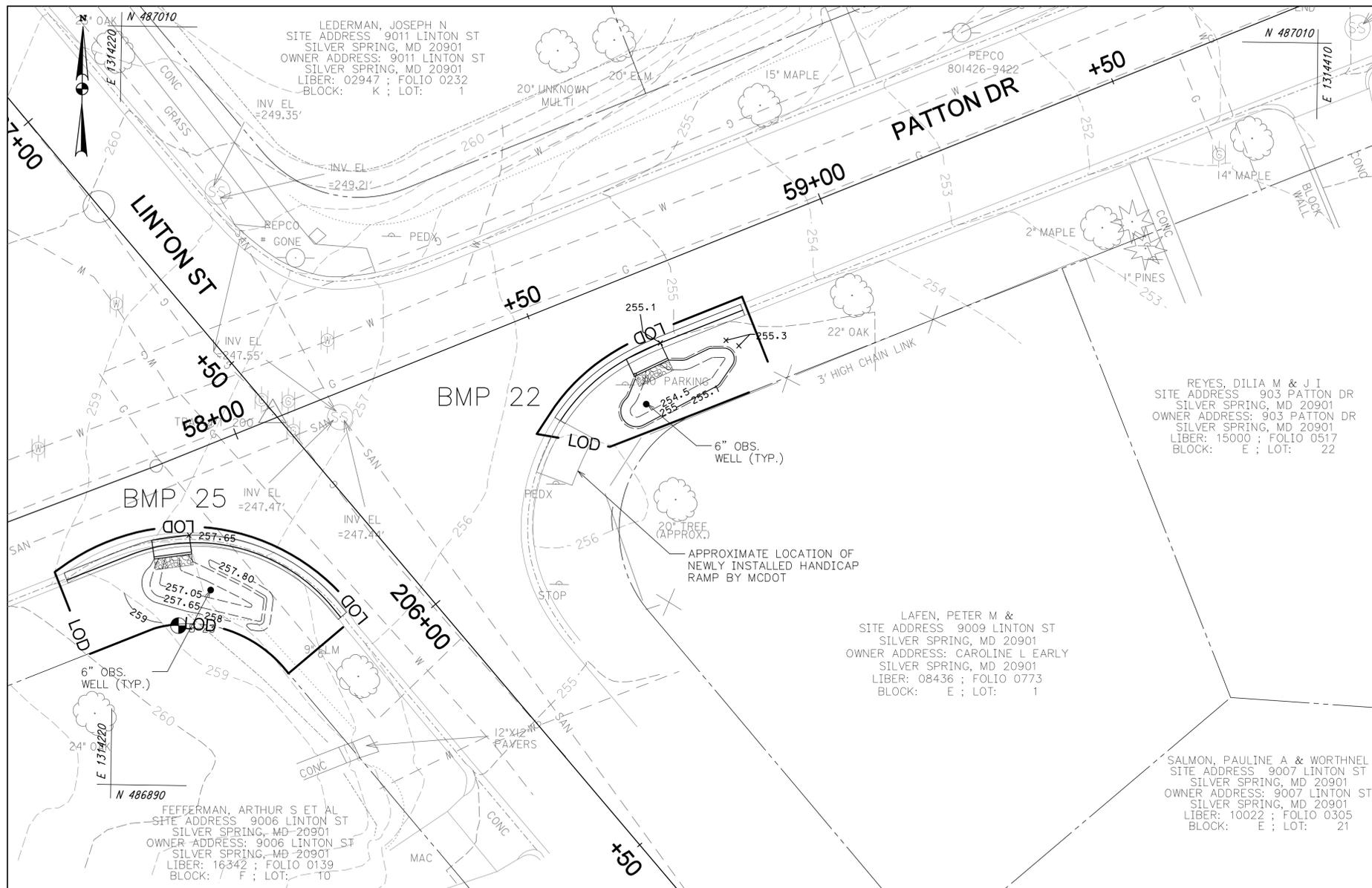
**FRANKLIN KNOLLS-PHASE 1**  
SLIGO (13th) ELECTION DISTRICT  
PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
255 ROCKVILLE PIKE, RM. 120  
ROCKVILLE, MD 20850-4166  
MR. PAUL BOGLE, P.E.  
(240) 777-7757

DESIGN KCS  
DRAFT WAW  
APPROVED HJD  
DATE JUNE 12'  
SCALE 1"=10'

SHEET 13 OF 21





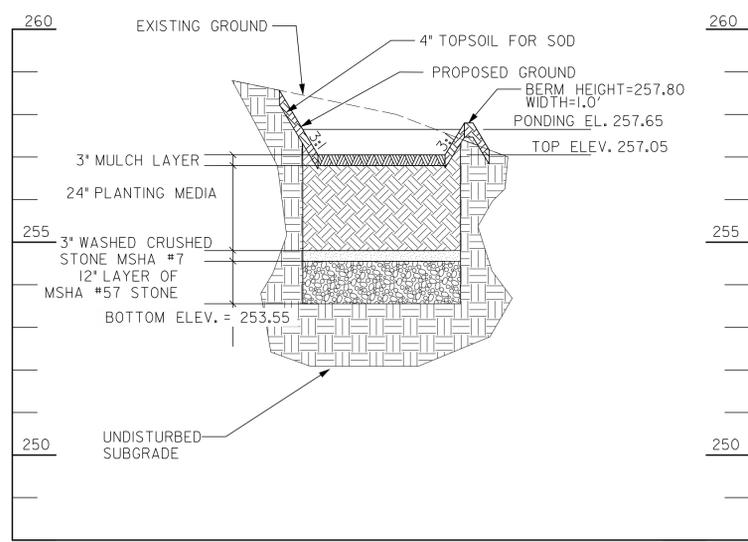
AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS) *TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: RAIN GARDEN		BMP ID: 22
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.67	
TOTAL IMPERVIOUS AREA (AC)	0.30	
TREATMENT VOLUME (CF)	105	
TARGET WQv TREATMENT VOLUME (CF)	1102	
FILTER BED AREA (SF)	59	
FILTER BED SURFACE ELEVATION	254.50	
DESIGN POINT/MAX. PONDING ELEVATION	255.10	
PONDED WATER SURFACE ELEVATION AREA (SF)	133	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	N/A	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPE SPECIFICATIONS	

\*NOTE: CONTRACTOR SHALL TEST PIT UTILITIES PRIOR TO CONSTRUCTION. IF UTILITY IS UNAVOIDABLE, CONTRACTOR SHALL REFER TO DETAIL ON SHEET 5 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

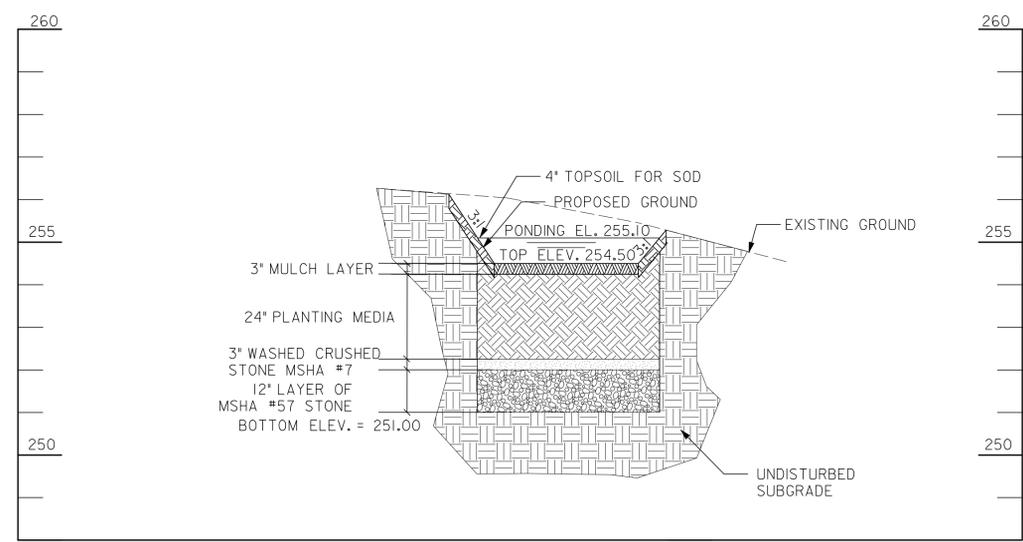
AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS) *TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: RAIN GARDEN		BMP ID: 25
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.35	
TOTAL IMPERVIOUS AREA (AC)	0.12	
TREATMENT VOLUME (CF)	73	
TARGET WQv TREATMENT VOLUME (CF)	456	
FILTER BED AREA (SF)	38	
FILTER BED SURFACE ELEVATION	257.05	
DESIGN POINT/MAX. PONDING ELEVATION	257.65	
PONDED WATER SURFACE ELEVATION AREA (SF)	104	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	N/A	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPE SPECIFICATIONS	

\*NOTE: CONTRACTOR SHALL TEST PIT UTILITIES PRIOR TO CONSTRUCTION. IF UTILITY IS UNAVOIDABLE, CONTRACTOR SHALL REFER TO DETAIL ON SHEET 5 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01			
STA. TO STA.	OFFSET	L.F.	REMARKS
206+08 TO 206+41	L	37	
58+48 TO 58+82	R	35	



PROFILE - RAIN GARDEN FACILITY (BMP 25)  
SCALE: HORIZ. 1"=10'  
VERT. 1"=2'



PROFILE - RAIN GARDEN FACILITY (BMP 22)  
SCALE: HORIZ. 1"=10'  
VERT. 1"=2'

DPS PERMIT NO. \_\_\_\_\_

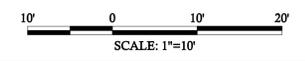
MONTGOMERY COUNTY, MARYLAND  
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE \_\_\_\_\_

BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.



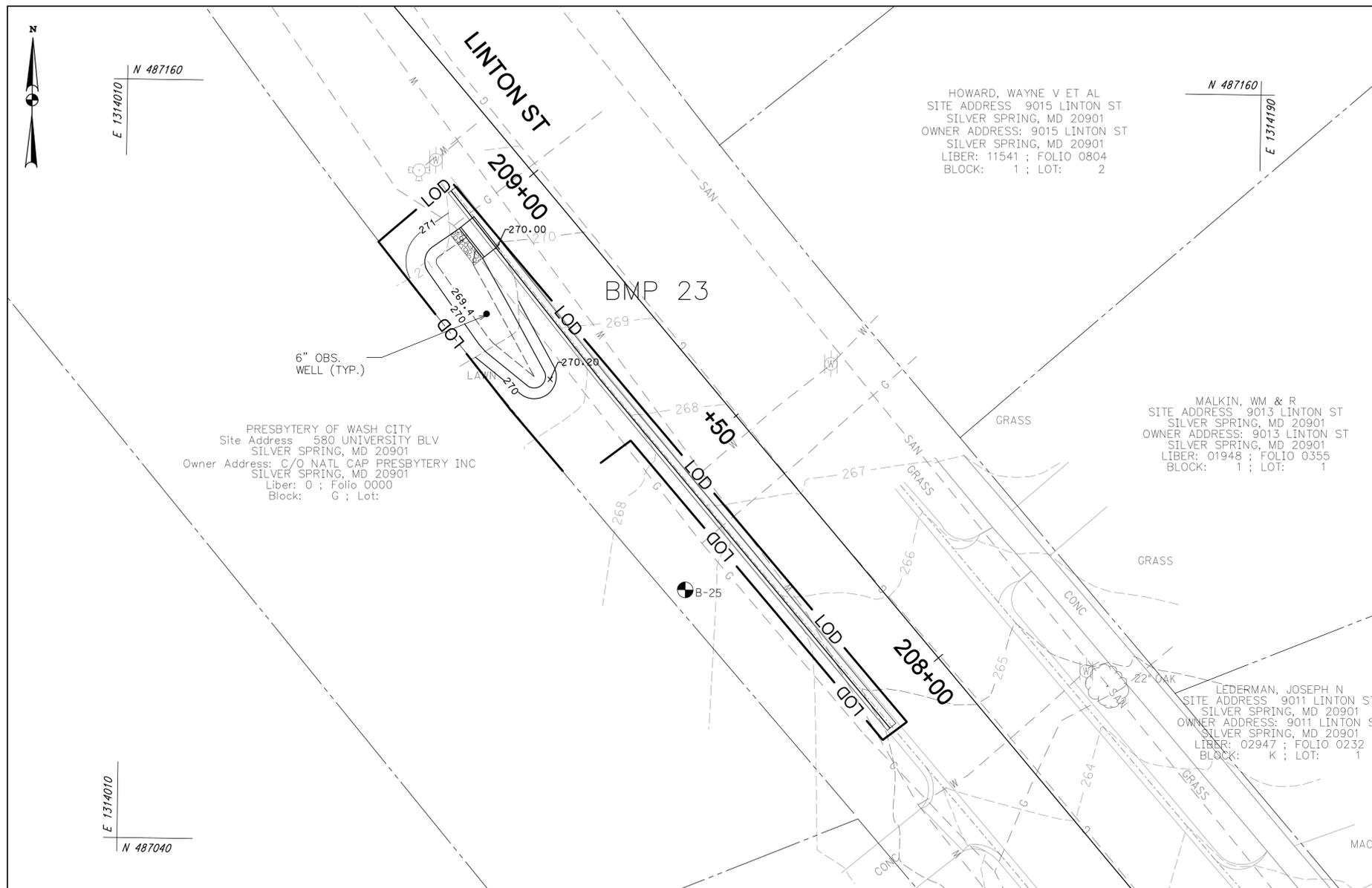
509 South Exeter Street  
4th Floor  
Baltimore, Maryland 21202  
**McCormick & Planners Taylor**  
Engineers & Planners Since 1946  
(410) 662-7400

PLAN AND PROFILE - BMP 22 AND 25  
**FRANKLIN KNOLLS-PHASE 1**  
SLIGO (13th) ELECTION DISTRICT  
PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
255 ROCKVILLE PIKE, RM. 120  
ROCKVILLE, MD 20850-4166  
MR. PAUL BOGLE, P.E.  
(240) 777-7757

DESIGN KCS  
DRAFT WJW  
APPROVED HD  
DATE JUNE 12  
SCALE 1"=10'

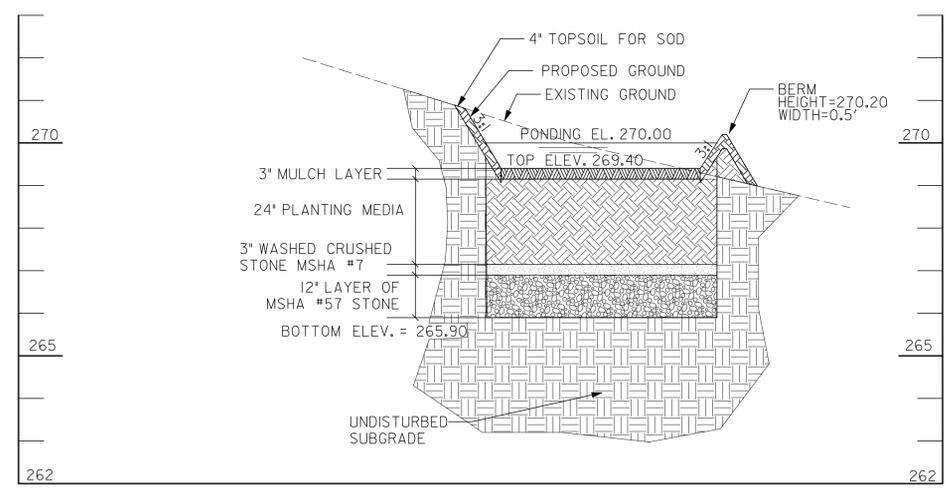
SHEET 15 OF 21



AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS) *TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: RAIN GARDEN		BMP ID: 23
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.38	
TOTAL IMPERVIOUS AREA (AC)	0.08	
TREATMENT VOLUME (CF)	152	
TARGET WQv TREATMENT VOLUME (CF)	330	
FILTER BED AREA (SF)	87	
FILTER BED SURFACE ELEVATION	269.40	
DESIGN POINT/MAX. PONDING ELEVATION	270.00	
PONDED WATER SURFACE ELEVATION AREA (SF)	187	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	N/A	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDEP SPECIFICATIONS	

\*NOTE: CONTRACTOR SHALL TEST PIT UTILITIES PRIOR TO CONSTRUCTION. IF UTILITY IS UNAVOIDABLE, CONTRACTOR SHALL REFER TO DETAIL ON SHEET 5 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01			
STA. TO STA.	OFFSET	LF.	REMARKS
208+06 TO 209+06	L	72	



PROFILE - RAIN GARDEN FACILITY (BMP 23)  
 SCALE: HORIZ. 1"=10'  
 VERT. 1"=2'

DPS PERMIT NO. \_\_\_\_\_

MONTGOMERY COUNTY, MARYLAND  
 DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE \_\_\_\_\_  
 BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

10' 0 10' 20'  
 SCALE: 1"=10'

509 South Exeter Street  
 4th Floor  
 Baltimore, Maryland 21202  
**McCormick**  
 Engineers & Planners  
 Since 1946  
**Taylor**

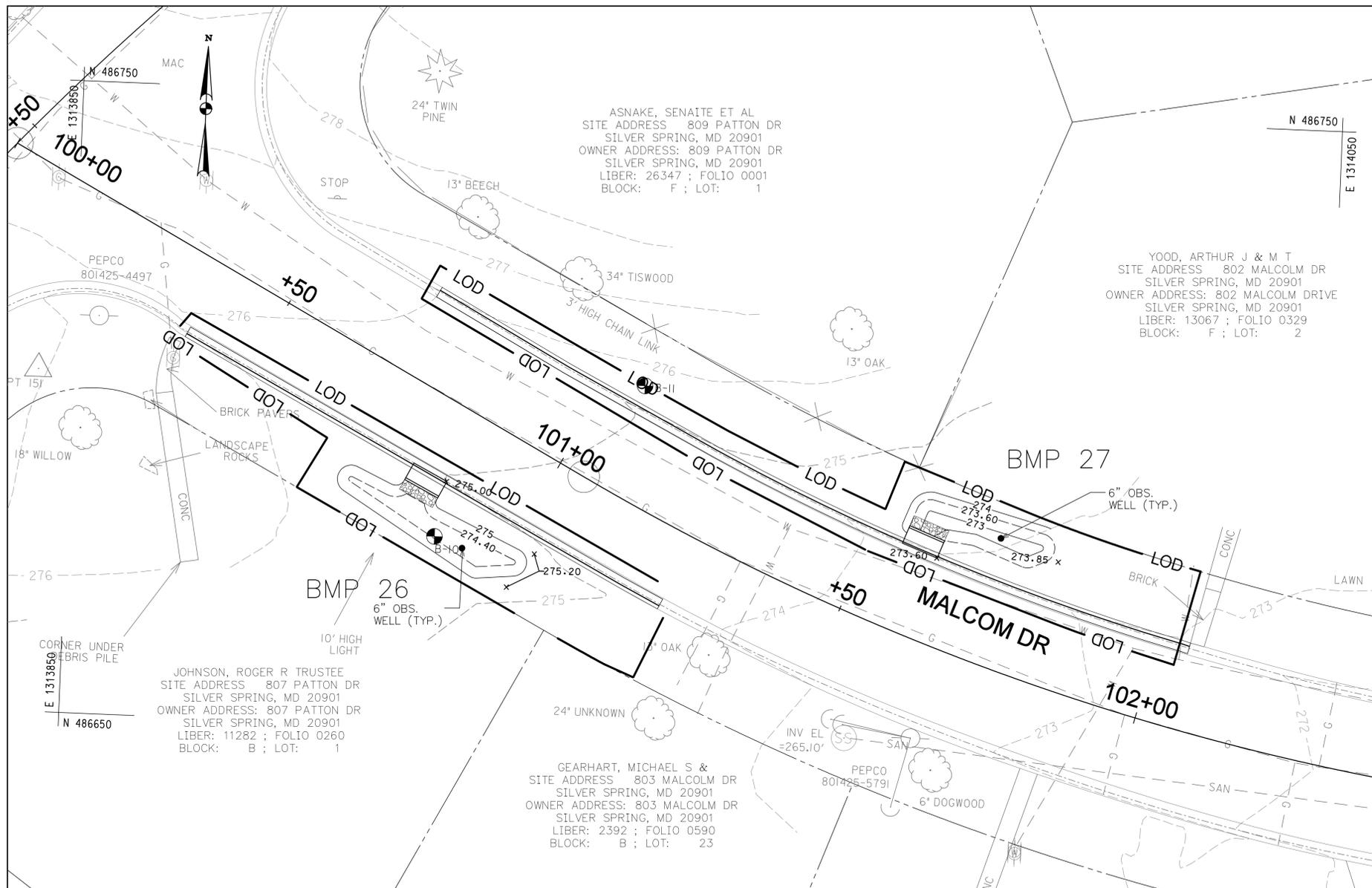
PLAN AND PROFILE - BMP 23  
**FRANKLIN KNOLLS-PHASE 1**  
 SLIGO (13th) ELECTION DISTRICT  
 PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
 MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
 255 ROCKVILLE PIKE, RM. 120  
 ROCKVILLE, MD 20850-4166  
 MR. PAUL BOGLE, P.E.  
 (240) 777-7757

DESIGN	KCS	W/W	H/D	JUNE 12'	1"=10'
DRAFT					
APPROVED					
DATE					
SCALE					

SHEET 16 OF 21

FILE: I:\5182\13 - roadway\13 - Road\13a13 - Road\13a13.dwg  
 PLOTTED: Monday, October 29, 2012 AT 11:19 AM

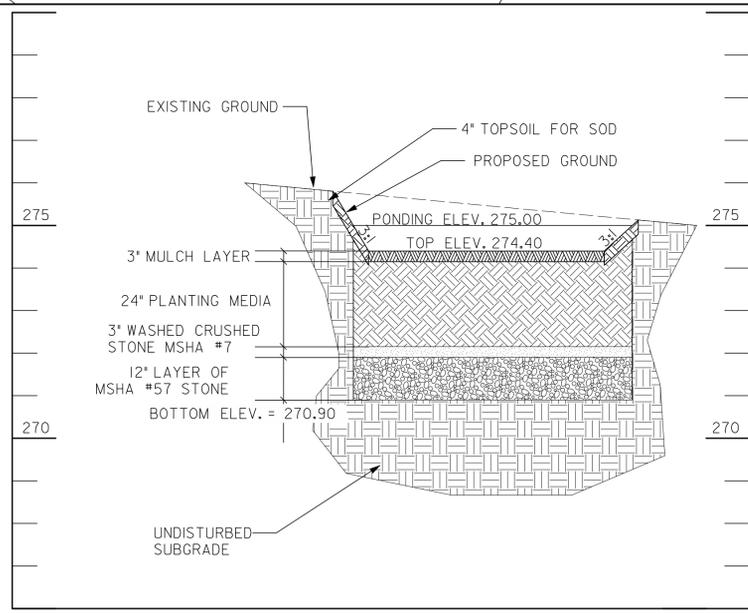


AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS) *TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: RAIN GARDEN		BMP ID: 26
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.12	
TOTAL IMPERVIOUS AREA (AC)	0.06	
TREATMENT VOLUME (CF)	137	
TARGET WQv TREATMENT VOLUME (CF)	224	
FILTER BED AREA (SF)	73	
FILTER BED SURFACE ELEVATION	274.40	
DESIGN POINT/MAX. PONDING ELEVATION	275.00	
PONDED WATER SURFACE ELEVATION AREA (SF)	190	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	N/A	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPE SPECIFICATIONS	

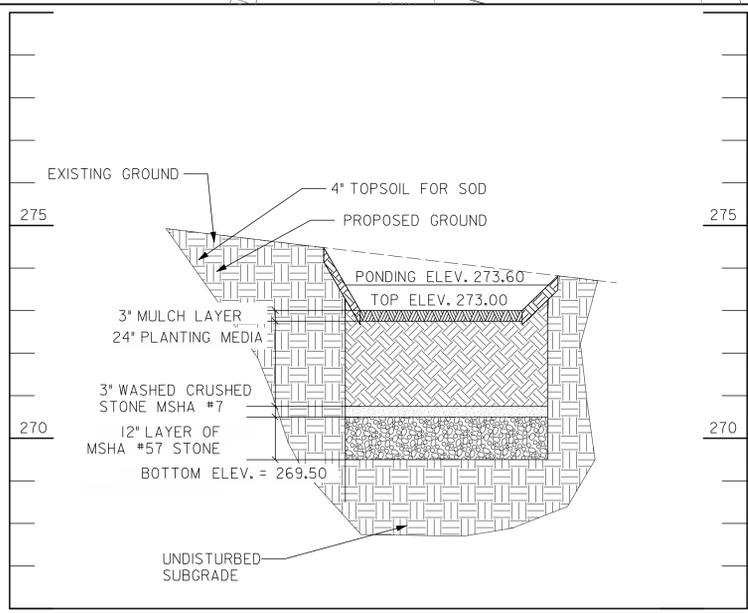
\*NOTE: CONTRACTOR SHALL TEST PIT UTILITIES PRIOR TO CONSTRUCTION. IF UTILITY IS UNAVOIDABLE, CONTRACTOR SHALL REFER TO DETAIL ON SHEET 5 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS) *TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: RAIN GARDEN		BMP ID: 27
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.17	
TOTAL IMPERVIOUS AREA (AC)	0.05	
TREATMENT VOLUME (CF)	81	
TARGET WQv TREATMENT VOLUME (CF)	194	
FILTER BED AREA (SF)	41	
FILTER BED SURFACE ELEVATION	273.00	
DESIGN POINT/MAX. PONDING ELEVATION	273.60	
PONDED WATER SURFACE ELEVATION AREA (SF)	120	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	N/A	
THICKNESS OF FILTER MEDIA	REFER TO PROFILE	
PLACEMENT OF GEOTEXTILE (SIDES ONLY)	REFER TO FACILITY TYP. SECTION - SHEET 4	
PLANTINGS	REFER TO LANDSCAPE PLAN - SHEET 21	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPE SPECIFICATIONS	

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01			
STA. TO STA.	OFFSET	LF.	REMARKS
100+39 TO 101+24	R	86	
100+69 TO 102+05	L	133	



PROFILE - RAIN GARDEN FACILITY (BMP 26)  
SCALE: HORIZ. 1"=10'  
VERT. 1"=2'



PROFILE - RAIN GARDEN FACILITY (BMP 27)  
SCALE: HORIZ. 1"=10'  
VERT. 1"=2'

DPS PERMIT NO. \_\_\_\_\_

MONTGOMERY COUNTY, MARYLAND  
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE \_\_\_\_\_  
BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.



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

**McCormick**  
Engineers & Planners  
Since 1946  
**Taylor**

PLAN AND PROFILE - BMP 26 AND 27

**FRANKLIN KNOLLS-PHASE 1**  
SLIGO (13th) ELECTION DISTRICT  
PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
255 ROCKVILLE PIKE, RM. 120  
ROCKVILLE, MD 20850-4166  
MR. PAUL BOGLE, P.E.  
(240) 777-7757

DESIGN KCS  
DRAFT WAW  
APPROVED HJD  
DATE JUNE 12'  
SCALE 1"=10'

SHEET 17 OF 21

FILE: 1518213 - roadway 14 - forest easements and the four corners area\design\engineering\plan\sheet\p1\fig10-P1028\_FK1.dgn  
PLOTTED: Monday, October 28, 2012 AT 11:19 AM

**MONTGOMERY COUNTY GOVERNMENT  
STANDARD EROSION AND SEDIMENT CONTROL NOTES (REV. August 2008)**

1. THE PERMITTEE SHALL NOTIFY THE DEPARTMENT OF PERMITTING SERVICES (DPS) FORTY-EIGHT (48) HOURS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE DEPARTMENT, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN THEM OR THEIR REPRESENTATIVE AND AN AUTHORIZED REPRESENTATIVE OF THE DEPARTMENT.
2. THE PERMITTEE MUST OBTAIN INSPECTION AND APPROVAL BY DPS AT THE FOLLOWING POINTS:
  - A. AT THE REQUIRED PRE-CONSTRUCTION MEETING.
  - B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITY.
  - C. DURING THE INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN), NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION IS MANDATORY.
  - D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
  - E. PRIOR TO FINAL ACCEPTANCE.
3. THE PERMITTEE SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE, SHALL HAVE THEM INSPECTED AND APPROVED BY THE DEPARTMENT PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES, 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 THE DEPARTMENT.
4. THE PERMITTEE SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARE(S). ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.
5. THE PERMITTEE SHALL INSPECT PERIODICALLY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIMES AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DEPARTMENT. THE PERMITTEE IS RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ANY SEDIMENT CONTROL MEASURES WHICH HAVE BEEN DAMAGED OR REMOVED BY THE PERMITTEE OR ANY OTHER PERSON.
6. ALL SEDIMENT BASINS, TRAP EMBANKMENTS, PERIMETER DIKES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.
7. THE PERMITTEE SHALL APPLY SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN FOURTEEN (14) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED IN THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS, SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS, AND AREAS WITHIN FIFTY (50) FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPTED FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS.
8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS WITH REQUIRED SOIL AMENDMENTS AND TOPSOIL, USING SOD OR AN APPROVED PERMANENT SEED MIXTURE 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 FINISH GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN FOURTEEN (14) CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.
9. THE SITE PERMIT, WORK, MATERIALS, APPROVED SOSM PLANS AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MONTGOMERY COUNTY.
10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES 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. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.
11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.
12. TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF THE DEPARTMENT, 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.
13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS OR ON RESIDENTIAL LOTS. 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.
14. THE PERMITTEE SHALL INSTALL A SPLASHBACK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.
15. FOR FINISHED GRADING, THE PERMITTEE SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS WHICH MAY DRAIN AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL.
16. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING WHICH IS EXISTING OR UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.
17. ALL INLETS IN NON-SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING ESTABLISHMENT.
18. THE SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.
19. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.
20. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
21. TEMPORARY SEDIMENT TRAP(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO THE POINT ONE HALF (1/2) THE WET VOLUME OF THE TRAP, OR WHEN REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.
22. SEDIMENT REMOVED FROM TRAPS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN.
23. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FURTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN TWO INCHES IN WIDTH AND FOUR INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.
24. NO EXCAVATION IN THE AREA OF EXISTING UTILITIES IS PERMITTED UNLESS THEIR LOCATION HAS BEEN DETERMINED. CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO START OF WORK.
25. OFF-SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.

26. SEDIMENT TRAP/BASIN DEWATERING FOR CLEANOUT OR REPAIR MAY ONLY BE DONE WITH THE DPS INSPECTOR'S PERMISSION. THE INSPECTOR MUST APPROVE THE DEWATERING METHOD FOR EACH APPLICATION. THE FOLLOWING METHODS MAY BE CONSIDERED:

- A. PUMP DISCHARGE MAY BE DIRECTED TO ANOTHER ON-SITE SEDIMENT TRAP OR BASIN, PROVIDED IT IS OF SUFFICIENT VOLUME AND THE PUMP INTAKE IS FLOATED TO PREVENT AGITATION OR SUCTION OF DEPOSITED SEDIMENTS, OR
- B. THE PUMP INTAKE MAY UTILIZE A REMOVABLE PUMPING STATION AND MUST DISCHARGE INTO AN UNDISTURBED AREA THROUGH A NON-EROSIVE OUTLET, OR
- C. THE PUMP INTAKE MAY BE FLOATED AND DISCHARGE INTO A DIRT BAG (12 OZ. NON-WOVEN FABRIC), OR APPROVED EQUIVALENT, LOCATED IN AN UNDISTURBED BUFFER AREA.

REMEMBER: DEWATERING OPERATION AND METHOD MUST HAVE PRIOR APPROVAL BY THE DPS INSPECTOR.

27. THE PERMITTEE MUST NOTIFY THE DEPARTMENT OF ALL UTILITY CONSTRUCTION ACTIVITIES WITHIN THE PERMITTED LIMITS OF DISTURBANCE PRIOR TO THE COMMENCEMENT OF THOSE ACTIVITIES.

28. TOPSOIL MUST BE APPLIED TO ALL PVIOUS AREAS WITHIN THE LIMITS OF DISTURBANCE PRIOR TO PERMANENT STABILIZATION IN ACCORDANCE WITH MONTGOMERY COUNTY STANDARDS AND SPECIFICATIONS FOR TOPSOILING.

**TEMPORARY SEEDING SPECIFICATIONS**

1. TEMPORARY SEEDING: SHALL BE DONE BETWEEN MARCH 1 – MAY 15 AND AUGUST 15 – OCTOBER 15. ALL OTHER DISTURBED AREAS REQUIRING STABILIZATION NOT WITHIN THE SEEDING DATES SHALL BE MULCHED.

2. ALL TEMPORARY SEEDED AREAS SHALL BE MULCHED IMMEDIATELY AFTER SEEDING. MULCH MATERIALS SHOULD BE UNWEATHERED, UNCHOPPED, SMALL GRAIN STRAW SPREAD AT A RATE OF 2 TONS PER ACRE. THE MULCH SHALL BE ANCHORED IMMEDIATELY AFTER PLACEMENT WITH ASPHALT, PEG AND TWINE, PLASTIC NETTINGS OR BY A MULCH ANCHORING TOOL.

3. LIME AND FERTILIZER SHALL BE REQUIRED FOR TEMPORARY SEEDING IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:

1. PULVERIZED DOLOMITIC LIMESTONE IS TO BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT.
2. FERTILIZER SHALL BE 10-10-10 OR EQUIVALENT AND APPLIED AT THE RATE OF 15 LBS. PER 1,000 SQ. FT.

**PERMANENT SEEDING AND  
SODDING SPECIFICATIONS**

1. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED.

2. SOIL PREPARATION: WEEDS AND UNDESIRABLE GRASSES GROWING ON EXISTING GRADE THAT IS TO BE SEEDED AND/OR SODDED MUST BE CUT AND REMOVED BEFORE SOIL PREPARATION BEGINS. BEFORE SEEDING OR SODDING ALL SOILS SHALL BE LOOSENED BY MEANS OF FILLING AND/OR DISCING. ALL TRASH, DEBRIS, ROOTS, BRUSH, WIRE, ROCKS, STONE AND OTHER FOREIGN DEBRIS OVER ONE INCH IN DIAMETER SHALL BE REMOVED PRIOR TO SEEDING AND/OR SODDING, TO A DEPTH OF FOUR (4) INCHES.

3. TOPSOIL: THE MINIMUM ORGANIC CONTENT IN THE MSHA SPECIFICATION REFERENCED SHALL BE INCREASED TO 10%. ORGANIC MATTER SHALL BE ADDED USING COMPOST MATERIAL MEETING THE STANDARD REQUIREMENTS IN THE SPECS.

4. SEEDED PREPARATION: THE TOP LAYER OF SOIL SHALL BE LOOSENED BY DISCLING OR RAKING (SHALL BE DONE ON CONTOUR) AT A DEPTH OF AT LEAST 3", BEFORE SEEDING OCCURS. APPLY 100LBS PER 1,000 SQ.FT. OF LIME AND 15 LB. PER 1,000 SQ.FT. OF 10-10-10 FERTILIZER OR EQUIVALENT. THOROUGHLY MIX INTO SOIL TO A MINIMUM OF 3".

5. SEEDING: USE 40% KENTUCKY BLUEGRASS, 10% ANNUAL RYE AND 25% RED FESCUE AT THE RATE OF 250 LB. PER ACRE.

6. MULCHING: USE CLEAN, UNWEATHERED, UNCHOPPING SMALL GRAIN STRAW AT THE RATE OF 1.5 TO 2 TONS PER ACRE ANCHORED DOWN WITH CUTBACK ASPHALT AT THE RATE OF 5-8 GALLONS PER 1000 SQ. FT.

7. DISCING AND HARROWING SHALL BE DONE ON CONTOUR.

8. SOD SHALL BE STATE APPROVED SOD INSPECTED AND APPROVED BY MD. DEPT. OF AGRICULTURE. ALL SOD SHALL BE LAID ON SITE NO MORE THAN 36 HOURS AFTER HARVEST, AND SHALL BE A MIXTURE OF 60% (MIN.) TALL FESCUE AND 40% (MIN.) KENTUCKY BLUEGRASS.

9. SOD PEGS OR STAKES BE UNTREATED WOOD PEGS DRIVEN THROUGH, AND FLUSH WITH SOD. ALL SLOPES WITH A GRADE 3 TO 1 OR STEEPER SHALL BE PEGGED AT A MINIMUM OF 4 PEGS PER SQUARE YARD OF SOD.

10. SODDING, SEEDING AND MULCHING MAY BE DONE IMMEDIATELY AFTER FINAL GRADING, PROVIDED THAT THE BED HAS REMAINED IN GOOD, FRIABLE CONDITION AND HAS NOT BECOME MUDDY OR HARD. IF IT HAS BECOME HARD, IT SHALL BE FILLED TO FRIABLE CONDITION AGAIN.

11. SEED SHALL BE WORKED INTO THE TOP 3" OF SOIL BY MEANS OF RAKING, WIRE DRAG OR OTHER APPROVED EQUIPMENT. DURING PERIODS OF HIGH TEMPERATURE AND/OR DROUGHT, THE SOIL SHALL BE WATERED IMMEDIATELY PRIOR TO LAYING THE SOD. ALL SOD SHALL BE LAID AT RIGHT ANGLES TO SLOPES. NO SOD SHALL BE APPLIED TO FROZEN GROUND AND NO FROZEN SOD IS TO BE LAID. WATERING SHALL COMMENCE IMMEDIATELY DURING OR AFTER THE LAYING OPERATION, AND SHALL BE SUFFICIENT TO THOROUGHLY WET THE SOD ROOTS AND THE SOIL BELOW.

12. PERMANENT SEEDING: SHALL BE DONE MARCH 1 – MAY 15 AND AUGUST 15 – OCTOBER 15. IRRIGATION FOR PERMANENT SEEDING SHALL BE DONE BETWEEN MAY 15 AND AUGUST 14.

13. SEDIMENT CONTROL DEVICES (DITCHES, DIKES, TRAPS, ETC.) ARE TO REMAIN IN PLACE UNTIL CONTRIBUTING WATERSHED HAS BEEN STABILIZED. MAINTENANCE TO SEDIMENT CONTROL DEVICES DURING THE UNDER GOING GRADING, CONSTRUCTION AND DEVELOPMENT SHOULD BE DONE AS NECESSARY. REMOVAL OF THESE DEVICES SHALL BE WITH THE APPROVAL OF THE MONTGOMERY COUNTY SEDIMENT CONTROL INSPECTOR.

**STANDARDS 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**

THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES.

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**

TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS.

TOPSOIL SPECIFICATIONS – SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

1. 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 AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY DPS. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS, AND SHALL CONTAIN LESS THAN 1% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER. THE SUBSOIL SHALL BE TILLED TO A MINIMUM DEPTH OF 6 INCHES BEFORE PLACEMENT OF TOPSOIL.

**CONSTRUCTION AND MATERIAL SPECIFICATIONS**

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 LBS PER 1000 SQ FT) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL.

TOPSOIL SHALL BE TESTED AND AMENDED AS PER SOIL TEST RECOMMENDATIONS.

TOPSOIL APPLICATION.

1. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES.
2. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4-8 INCH LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4 INCHES. 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.
3. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

**EARTH FILL FOR FACILITY EMBANKMENTS**

**MATERIAL**

THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN SIX INCHES, FROZEN OR OTHER OBJECTIONABLE MATERIALS. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER AND APPROVED BY MCDPS.

**PLACEMENT**

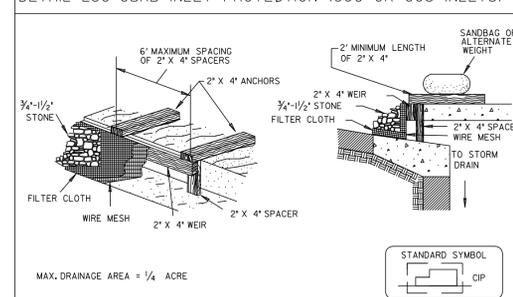
AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM EIGHT INCH HEIGHT (BEFORE COMPACTION) LAYERS, WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. PIPES OR UNDERDRAINS MUST BE INSTALLED CONCURRENT WITH EMBANKMENT CONSTRUCTION TO AVOID EXCAVATION INTO THE COMPLETED EMBANKMENT AT A LATER TIME.

**COMPACTION**

THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MIN. OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRE OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT SO WET THAT WATER CAN BE SQUEEZED OUT.

THE DENSITY OF EACH LIFT SHALL NOT BE LESS THAN 95% OF MAX. DRY DENSITY WITH A MOISTURE CONTENT WITHIN ±2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR).

**DETAIL 23C-CURB INLET PROTECTION (COG OR COS INLETS)**



1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2' x 4' weir (measuring throat length plus 2") as shown on the standard drawing.
2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2' x 4' weir.
3. Securely nail the 2' x 4' weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2' x 4' to the top of the weir at spacer locations). These 2' x 4' anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the 1/2' x 1/2' wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4' x 1/2' stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE      PAGE E - 16 - 5B      MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND DEPARTMENT OF PERMITTING SERVICES	
FINAL APPROVAL	
DATE _____	BY _____

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

EROSION AND SEDIMENT CONTROL NOTES

**FRANKLIN KNOLLS-PHASE 1**

SLIGO (13th) ELECTION DISTRICT

PARCEL X, SUBDIVISION X, LIBER X FOLIO X

MONTGOMERY COUNTY, MARYLAND

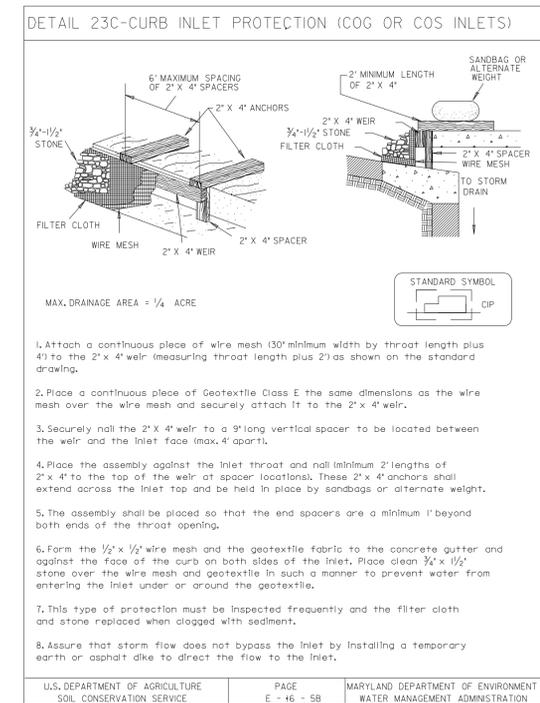
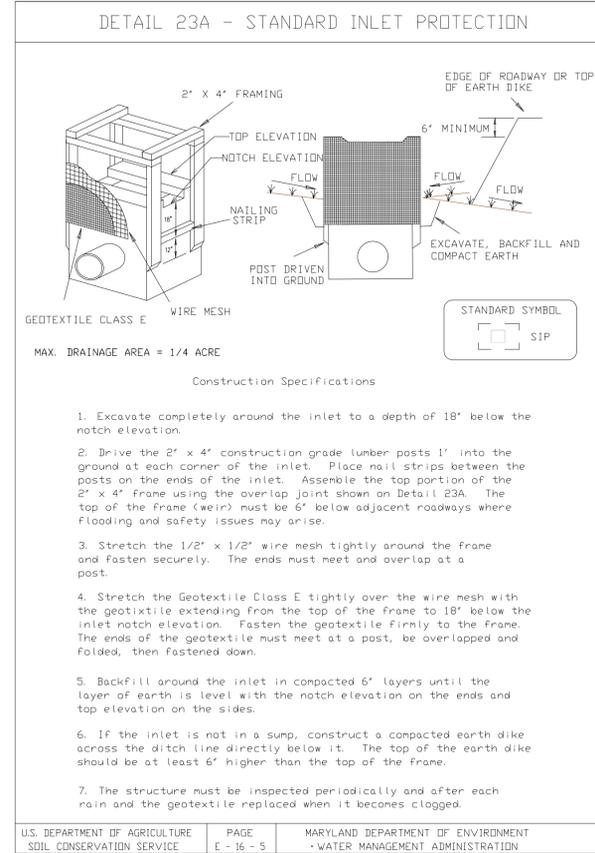
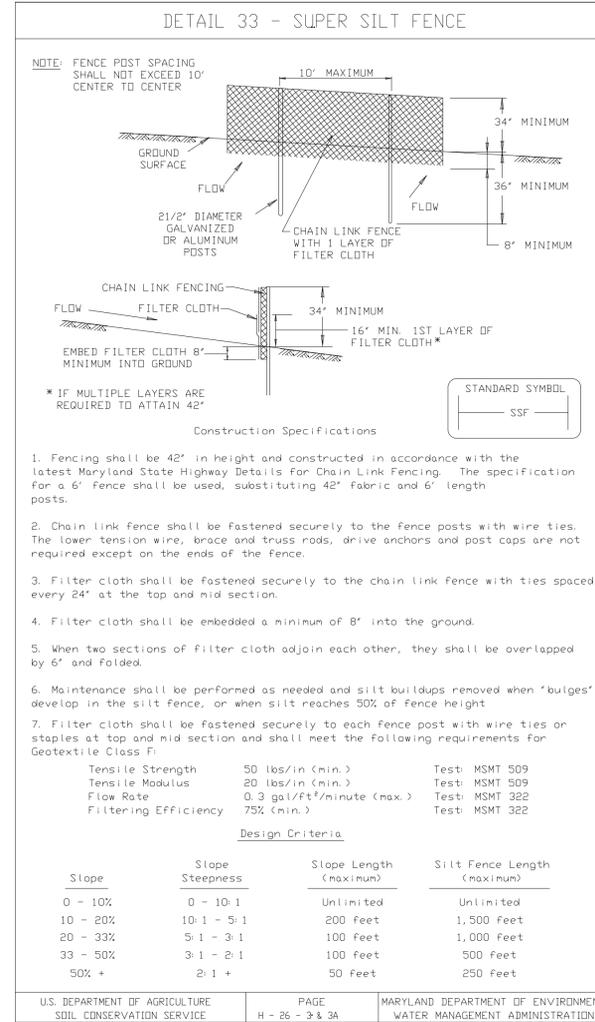
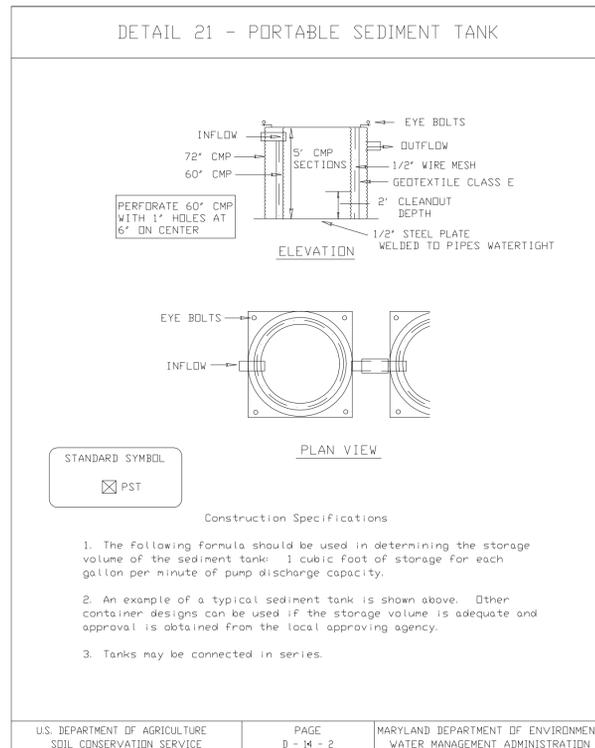
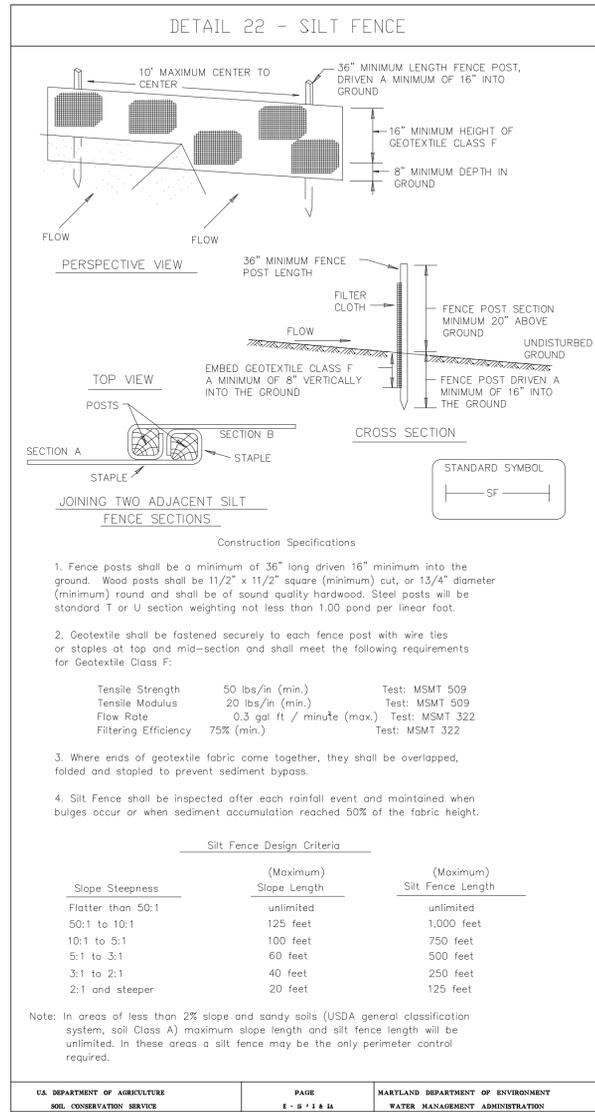
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION

255 ROCKVILLE PIKE, RM. 120  
ROCKVILLE, MD 20850-4166

MR. PAUL BOGLE, P.E.  
(240) 777-7757

DESIGN	KCS	W/W	H/D	JUNE 12'	NOT TO SCALE
DRAFT					
APPROVED					
DATE					
SCALE					
SHEET	<b>18</b>		<b>21</b>		
OF					

509 South Exeter Street  
4th Floor  
Baltimore, Maryland 21202  
**McCormick & Planners Taylor**  
Engineers & Planners Since 1946  
(410) 662-7400



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. 31204, EXPIRATION DATE: 1 / 13 / 2011.

DPS PERMIT NO.  
 MONTGOMERY COUNTY, MARYLAND  
 DEPARTMENT OF PERMITTING SERVICES

**FINAL APPROVAL**

DATE \_\_\_\_\_  
 BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

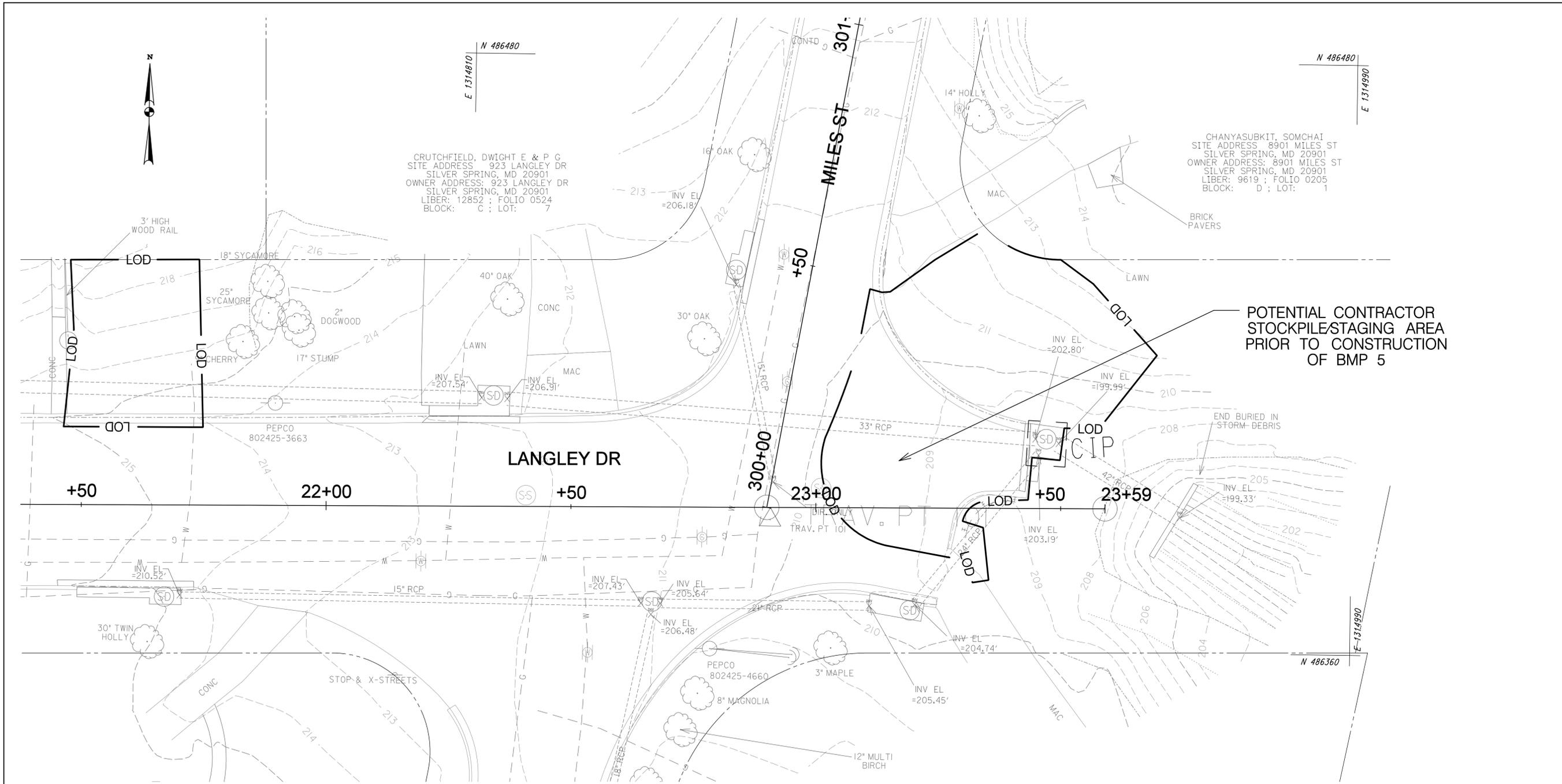
EROSION AND SEDIMENT CONTROL NOTES  
**FRANKLIN KNOLLS-PHASE 1**  
 SLIGO (13th) ELECTION DISTRICT  
 PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
 MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
 255 ROCKVILLE PIKE, RM. 420  
 ROCKVILLE, MD 20850-4166  
 MR. PAUL BOGLE, P.E.  
 (240) 777-7757

DESIGN	KCS	W/W	H/D	JUNE 12'	NOT TO SCALE
DRAFT					
APPROVED					
DATE					
SCALE					

SHEET **19** OF **21**

509 South Exeter Street  
 4th Floor  
 Baltimore, Maryland 21202  
**McCormick & Planners Taylor**  
 Engineers & Planners Since 1946  
 (410) 662-7400



**SEQUENCE OF CONSTRUCTION**

1. PRIOR TO CLEARING OF TREES, INSTALLING SEDIMENT CONTROL MEASURES, OR GRADING, A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON-SITE WITH THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SEDIMENT CONTROL INSPECTOR (240) 777-6300 (48 HOURS NOTICE), THE MCDPS RIGHT OF WAY INSPECTOR (301) 370-3686 (48 HOURS NOTICE), THE OWNER'S REPRESENTATIVE, THE CONTRACTOR AND THE SITE ENGINEER.
2. CONTRACTOR SHALL COORDINATE TRAFFIC CONTROL MEASURES WITH MCDOT CONTRACTOR. THE CONTRACTOR SHALL COMPLY WITH MCDOT'S WORK ZONE TEMPORARY TRAFFIC CONTROL STANDARDS AND MSHA STANDARDS NO. 104.02-10 AND NO. 104.02-14.
3. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING OF TREES, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.
4. CLEAR AND GRADE FOR INSTALLATION OF SEDIMENT CONTROL DEVICES, ONLY DISTURBING THE AREA NEEDED FOR INSTALLATION OF THE SEDIMENT CONTROL DEVICES.
5. INSTALL SEDIMENT CONTROL DEVICES INCLUDING INLET PROTECTION, SILT FENCE AND TREE PROTECTION FENCING. TREE PROTECTION AREAS ARE SHOWN ON THE PLAN AND PROFILE SHEETS, IF REQUIRED. IMMEDIATELY STABILIZE ANY DISTURBANCE CAUSED BY THIS.
6. ONCE THE SEDIMENT CONTROL DEVICES ARE INSTALLED, THE PERMITTEE MUST OBTAIN WRITTEN APPROVAL FROM THE MCDPS INSPECTOR BEFORE PROCEEDING WITH ANY ADDITIONAL CLEARING, GRUBBING OR GRADING.
7. DISTURBED AREAS WITHIN THE PROJECT LIMITS SHALL HAVE EITHER PERMANENT OR TEMPORARY STABILIZATION AT THE END OF EACH WORK DAY.
8. CONTRACTOR MAY COMPLETE WORK IN EACH LOD AREA CONCURRENTLY AS LONG AS THE LOD IS STAKED OUT AND ALL SEDIMENT CONTROLS ARE IN PLACE. THE CONTRACTOR SHALL NOT EXCEED A MAXIMUM OF 5,000 SF OF DISTURBANCE AT ANY ONE TIME PER MCDPS'S SMALL LAND DISTURBANCE PERMIT FOR ROADSIDE LID RETROFITS.

9. THE CONTRACTOR SHALL COORDINATE WITH MCDOT'S CONTRACTOR TO ENSURE ANY CONFLICTS AND/OR CONSTRUCTION ISSUES ARE RESOLVED IMMEDIATELY AND WORK ZONES ARE NOT OVERLAPPING.
10. THE CONTRACTOR SHALL UTILIZE THE DESIGNATED STOCKPILE/STAGING AREA AT THE END OF LANGLEY DRIVE. ANY ADDITIONAL STOCKPILE/STAGING AREA REQUIRES APPROVAL BY THE MCDPS SEDIMENT INSPECTOR PRIOR TO USE.
11. STOCKPILE/STAGING AREAS ARE TO BE REMOVED AND RESTORED TO ORIGINAL CONDITION UPON COMPLETION OF WORK. STOCKPILE/STAGING AREAS ARE NOT TO BE CONSIDERED PART OF THE LIMITS OF DISTURBANCE AND NOT COUNTED AGAINST THE MAXIMUM 5,000 SF DISTURBED AREA REQUIREMENT OF THE PERMIT.
12. CONSTRUCTION OF EACH BMP FACILITY WILL FOLLOW A BASIC SEQUENCE OUTLINED BELOW:
  - a. THE LOD SHALL BE FIELD MARKED PRIOR TO INSTALLATION OF ANY SEDIMENT CONTROL MEASURES OR ANY OTHER LAND DISTURBING ACTIVITIES.
  - b. INSTALL SILT FENCE (SF) OR SUPER SILT FENCE (SSF) FOR STEEP SLOPES, ALONG THE SIDEWALK AND DOWNSTREAM DRIVEWAY ENTRANCES. INLET PROTECTION (IP) SHALL BE INSTALLED AT THE CLOSEST DOWNSTREAM INLET.
  - c. THE PERMITTEE MUST OBTAIN WRITTEN APPROVAL FROM THE MCDPS SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING WITH CONSTRUCTION.
  - d. CONSTRUCT THE FACILITY PER THE PLANS AND DETAILS. CURB INLETS TO THE FACILITY SHALL BE BLOCKED WITH SAND BAGS UNTIL THE FACILITY IS STABILIZED AND IS READY TO BE BROUGHT ON LINE. STABILIZE ALL AREAS PRIOR TO PLACEMENT OF THE FILTER MEDIA.
  - e. THE CONTRACTOR SHALL TAKE EXTREME CAUTION TO NOT ALLOW DISTURBED AREAS TO DRAIN INTO THE FACILITY. ALL DISTURBED AREAS SHALL BE STABILIZED AT THE END OF EACH WORK DAY.
  - f. FINAL GRADE FACILITY AND PERMANENTLY STABILIZE ALL DISTURBED AREAS AS SHOWN ON THE LANDSCAPE PLANS AND/OR TYPICAL SECTIONS.

- h. THE CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM MCDPS SEDIMENT INSPECTOR PRIOR TO THE REMOVAL OF ANY SEDIMENT CONTROL DEVICE, THAT THE AREA IS ADEQUATELY STABILIZED AND CAN BE REMOVED FROM THE TOTAL 5,000 SF DISTURBED AREA TABULATION.
- i. ANY AREAS DISTURBED DURING THE REMOVAL OF E&S CONTROLS SHALL BE IMMEDIATELY STABILIZED.

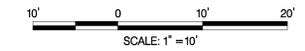
DPS PERMIT NO. \_\_\_\_\_

MONTGOMERY COUNTY, MARYLAND  
 DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE \_\_\_\_\_  
 BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

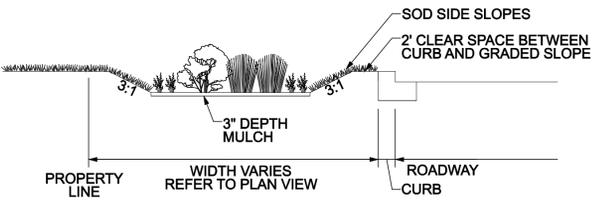


EROSION AND SEDIMENT CONTROL PLAN  
**FRANKLIN KNOLLS-PHASE 1**  
 SLIGO (13th) ELECTION DISTRICT  
 PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
 MONTGOMERY COUNTY, MARYLAND

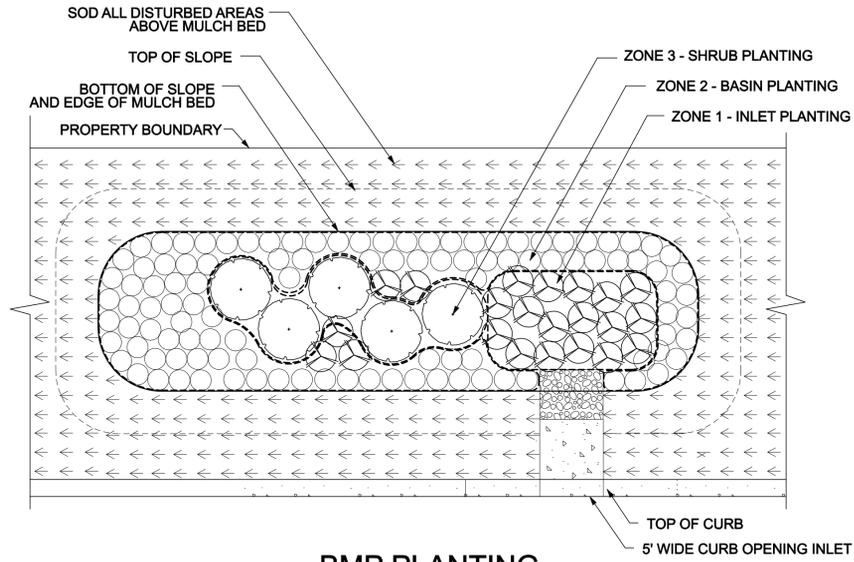
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
 255 ROCKVILLE PIKE, RM. 120  
 ROCKVILLE, MD 20850-4166  
 MR. PAUL BOGLE, P.E.  
 (240) 777-7757

DESIGN	KCS
DRAFT	WJW
APPROVED	HJD
DATE	JUNE 12'
SCALE	1" = 10'
SHEET	20
OF	21

509 South Exeter Street  
 4th Floor  
 Baltimore, Maryland 21202  
**McCormick**  
 Engineers & Planners  
 Since 1946  
**Taylor**



**PLANTING TYPICAL SECTION**  
NOT TO SCALE



**BMP PLANTING TYPICAL PLAN VIEW**  
NOT TO SCALE

LEGEND	
	ZONE 1 - INLET PLANTINGS ORNAMENTAL GRASS - PLANT 18" ON CENTER
	ZONE 2 - BASIN PLANTINGS PERENNIAL - PLANT 18" ON CENTER
	ZONE 3 - SHRUB PLANTINGS SHRUB - PLANT 3" ON CENTER

CONCEPTUAL ZONE SCHEDULE	
ZONE 1	15% BMP AREA
ZONE 2	60% BMP AREA
ZONE 3	25% BMP AREA

- NOTES:**
1. This plan is for landscape purposes only.
  2. All proposed layouts are conceptual.
  3. Cluster species in groupings.

**MASTER ZONE PLANTING SCHEDULE**

Zone	Botanical/Common Name	Unit	Size	Spacing	BMP 5	BMP 6	BMP 7	BMP 8	BMP 9	BMP 14	BMP 15	BMP 16	BMP 17	BMP 18	BMP 22	BMP 23	BMP 25	BMP 26	BMP 27	BMP 28	BMP 29	TOTAL
GROUNDCOVERS	Turfgrass Sod	SY			175	84	43	94	41	75	31	84	45	38	62	74	51	75	84	53	57	1166
	Shredded Hardwood Bark Mulch	SY	3" Depth		85	6	5	33	7	4	4	6	4	4	8	9	4	8	4	4	2	197
	<b>TOTAL BMP SF</b>		SF		<b>766</b>	<b>58</b>	<b>46</b>	<b>299</b>	<b>64</b>	<b>38</b>	<b>32</b>	<b>53</b>	<b>35</b>	<b>37</b>	<b>70</b>	<b>83</b>	<b>37</b>	<b>75</b>	<b>37</b>	<b>37</b>	<b>20</b>	
ZONE 1 - Inlet Plantings (15% SF BMP)	Chasmanthium latifolium/River Oats	EA	Qt.	18" O.C.	0	0	0	20	0	10	0	0	5	5	0	0	0	0	6	0	0	46
	Juncus effusus/Common Rush	EA	Qt.	18" O.C.	51	0	0	0	5	0	0	11	0	0	15	0	8	5	0	10	5	110
	Panicum vergatum 'Shenandoah'/Shenandoah Switchgrass	EA	Qt.	18" O.C.	0	7	5	0	0	0	5	0	0	0	0	6	0	0	0	0	0	23
ZONE 2 - Basin Plantings (60% SF BMP)	Aster divaricatus/Woods Aster	EA	Qt.	18" O.C.	0	10	0	50	0	3	0	0	0	4	0	0	0	12	10	0	4	93
	Aster novae-angliae/English Countryside Aster	EA	Qt.	18" O.C.	84	0	7	0	0	0	9	0	5	0	0	17	0	16	0	0	0	138
	Chasmanthium latifolium/River Oats	EA	Qt.	18" O.C.	50	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58
	Iris versicolor/Blue Flag Iris	EA	Qt.	12" O.C.	70	0	0	0	0	4	0	28	5	0	36	14	19	0	0	15	0	191
	Osmundia cinnamomea/Cinnamon Fern	EA	Qt.	18" O.C.	0	0	0	30	16	0	0	0	0	5	0	0	0	0	0	0	0	51
Rudbeckia fulgida 'Goldstrum'/Black-Eyed Susan	EA	Qt.	18" O.C.	0	9	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	17
ZONE 3 - Shrub Plantings (25% SF BMP)	Clethra alnifolia 'Hummingbird'/Hummingbird Summersweet	EA	18" HT, Cont.	3' O.C.	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	Ilex glabra 'Shamrock'/Shamrock Inkberry	EA	18" HT, Cont.	3' O.C.	6	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	9
	Viburnum dentatum 'Christom'/Arrowwood Viburnum	EA	18" HT, Cont.	3' O.C.	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15

DPS PERMIT NO. \_\_\_\_\_

MONTGOMERY COUNTY, MARYLAND  
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE \_\_\_\_\_  
BY \_\_\_\_\_

\*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

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

**McCormick**  
Engineers & Planners  
Since 1946  
**Taylor**

LANDSCAPE PLAN

**FRANKLIN KNOLLS-PHASE 1**  
SLIGO (13th) ELECTION DISTRICT  
PARCEL X, SUBDIVISION X, LIBER X FOLIO X  
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION  
255 ROCKVILLE PIKE, RM. 120  
ROCKVILLE, MD 20850-4166  
MR. PAUL BOGLE, P.E.  
(240) 777-7757

DESIGN	ALN	W/W	H/D	JUNE 12'	1" = 10'
DRAFT					
APPROVED					
DATE					
SCALE					

SHEET 21 OF 21

FILE: 1518213 - roadway.lis - Forest Estates and the four corners area\design\engineering\plan\mcf15.plt  
PLOTTED: Monday, October 29, 2012 AT 11:20 AM