MONTGOMERY COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION

FOREST ESTATES

LOW IMPACT DEVELOPMENT PROJECT

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

INDEX OF SHEETS

MCPDWT (FULL SET)	MCDPS	
1		TITLE SHEET
2		OVERALL SITE PLAN
3		GEOMETRIC LAYOUT
4–5		STORMWATER MANAGEMENT DETAILS
6–29		PLAN AND PROFILE
30–31		EROSION & SEDIMENT NOTES
32		EROSION & SEDIMENT CONTROL PLAN
33		LANDSCAPE PLAN

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

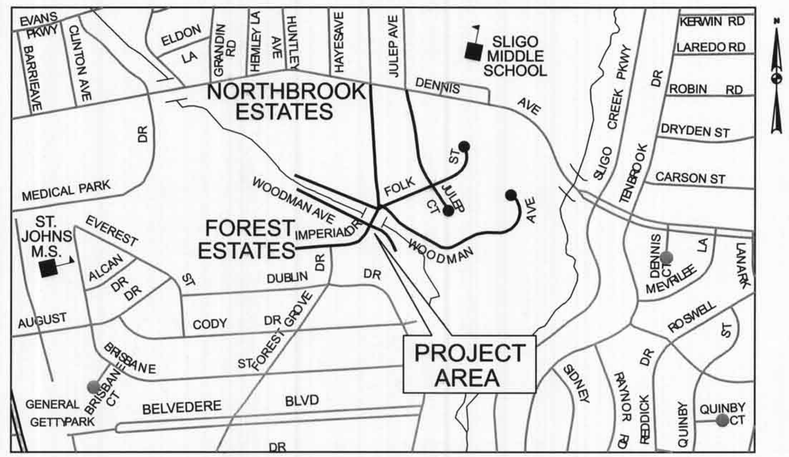
THE LOCATION OF THE UNDERGROUND AND SURFACE UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS. CONTRACTOR SHALL CONTACT "MISS UTILITY" AT 1-800-257-777, 48 HOURS PRIOR TO EXCAVATION FOR MARKING AND LOCATION OF UTILITIES.

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 — 8" SAN
WATER — 24"W
GAS
ELECTRICAL HAND BOX - SIGNALS — H.B.
ELECTRIC (UNDERGROUND)

PROPOSED CONSTRUCTION

℄ CONSTRUCTION — 101 +50 102
CURB & GUTTER
TRAVERSE POINT
SIDEWALK
PAVEMENT REMOVAL
APPROXIMATE LIMITS OF CUT AND/OR FILL — C F
LIMIT OF DISTURBANCE — LOD
STORM DRAIN PIPE
TEST PIT — TP-2
TEMPORARY CONSTRUCTION EASEMENT — TCE
PERPETUAL EASEMENT — PE



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 XXX CUBIC YARDS OF EXCAVATION AND XX 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 33,497 SQUARE FEET OR 0.77 ACRES.

STATE OF MARYLAND — KIMI C. SCHMIDT — No. 31204 — PROFESSIONAL ENGINEER

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

10/3/11
DATE

GENERAL NOTES

1. THE CONTRACTOR WILL IMMEDIATELY INFORM THE COUNTY OF ANY DISCREPANCIES FOUND BETWEEN THE PROJECT PLANS AND CONTRACT SPECIFICATIONS.
2. FOR CONSTRUCTION, ALL HORIZONTAL SHALL BE BASED ON NAD 83/91, NAVD 88 DATUM.
3. TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
4. 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.
5. ALL STORM DRAIN PIPE SHALL BE INSTALLED WITH CLASS "C" BEDDING UNLESS OTHERWISE SPECIFIED.
6. 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.
7. 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.
8. 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.
9. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
10. CLEARING IS TO BE LIMITED TO THE "LIMIT OF WORK" AS SHOWN ON THE PLANS.
11. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
12. DISTURBED AREAS ADJACENT TO ESTABLISHED LAWNS SHALL BE SODDED. OTHER DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
13. 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.
14. 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.
15. ALL UTILITY POLES NOTED FOR RELOCATION SHALL BE PERFORMED BY OTHERS. AREAS SHALL BE SEEDED AND MULCHED.
16. CONTACT WASHINGTON GAS DISPATCH OFFICER AT (703)750-4831 BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING GAS MAIN AND SERVICE LATERALS.
17. 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):					

Note: Sidewalks shown on these plans will be installed by others.

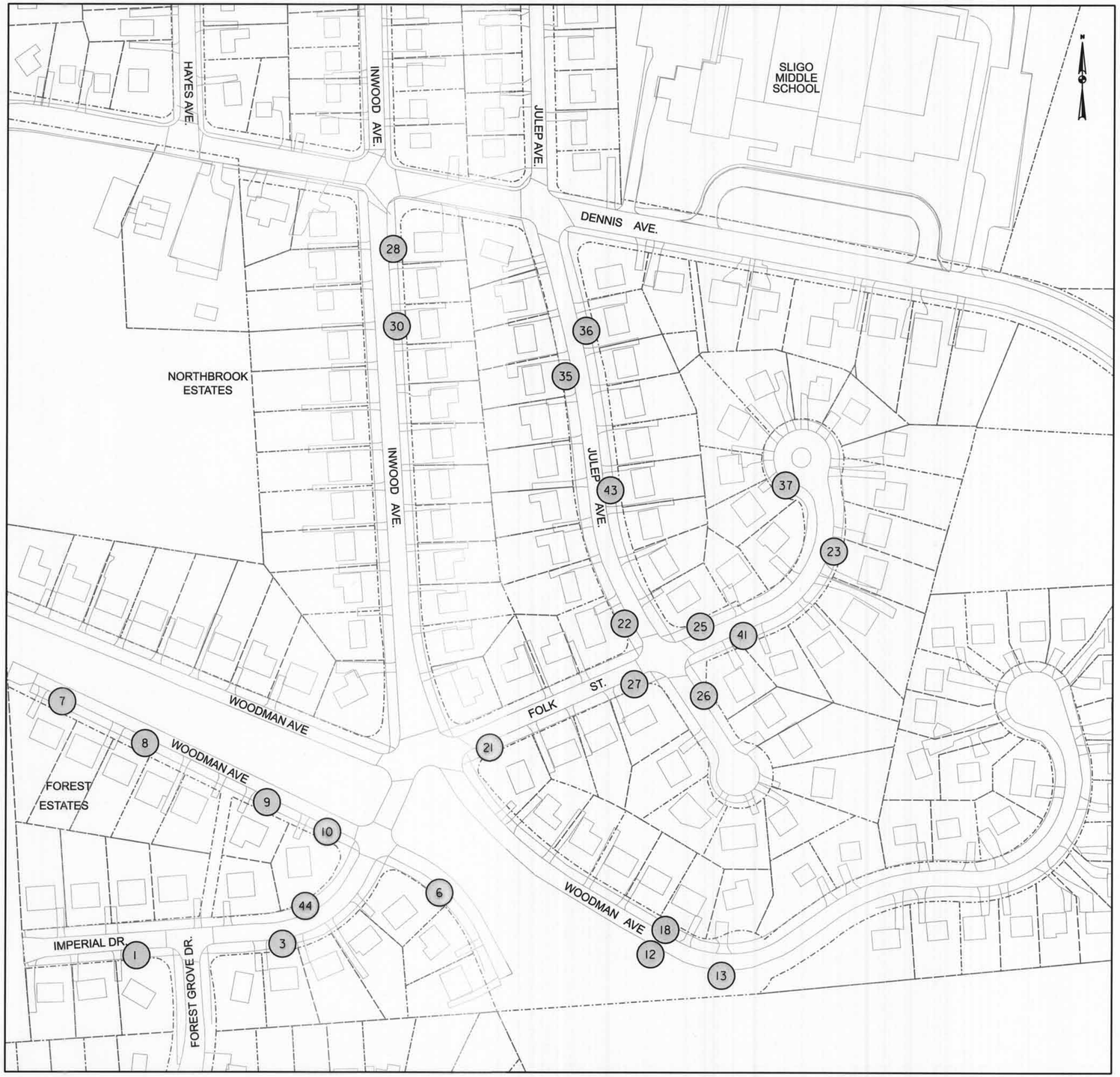
OWNER/CONTACT/ADDRESS:

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~~ 270304 S-3

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
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
1	1700 Imperial Dr	Bioretention
3	1606 Imperial Dr	Rain Garden
6	1504 Woodman Ave S.	Bioswale & Rain Garden
7	1708 Woodman Ave S.	Bioretention
8	1702-1704 Woodman Ave S.	Bioretention
9	1602 Woodman Ave S.	Bioretention
10	1600 Woodman Ave S. (along Woodman Ave S.)	Bioretention
12	1507 Woodman Ave N. (Across Street-Stream Side)	Bioretention
13	1505 Woodman Ave N. (Across Street-Stream Side)	Bioswale
18	1505/1507 Woodman Ave N. (resident side of road)	Bioretention
21	1515 Woodman Ave N. (along Folk Street)	Bioretention
22	10300 Julep Ave	Rain Garden
23	10309 Folk Street	Rain Garden
25	10301 Julep Ave (along Folk Street)	Rain Garden
26	10209 Julep Court	Rain Garden
27	10207 Folk Street	Rain Garden
28	1504 Dennis Ave (along Inwood Ave)	Rain Garden
30	10321 Inwood Ave	Rain Garden
35	10312 Julep Ave	Rain Garden
36	10315 Julep Ave	Rain Garden
37	10312 Folk St	Rain Garden
41	10303 Folk St	Rain Garden
43	10307 Julep Ave	Rain Garden
44	1600 Woodman Ave S. (along Imperial Drive)	Rain Garden

**BMP IDs 2, 4-5, 11, 14-17, 19-20, 24, 29, 31-34, 38-40 and 42 have been removed from the project due to major utility and/or tree conflicts

STATE OF MARYLAND
KIMI C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

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4th Floor
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(410) 662-7400

McCormick Taylor
Engineers & Planners
Since 1946

OVERALL SITE PLAN

FOREST ESTATES

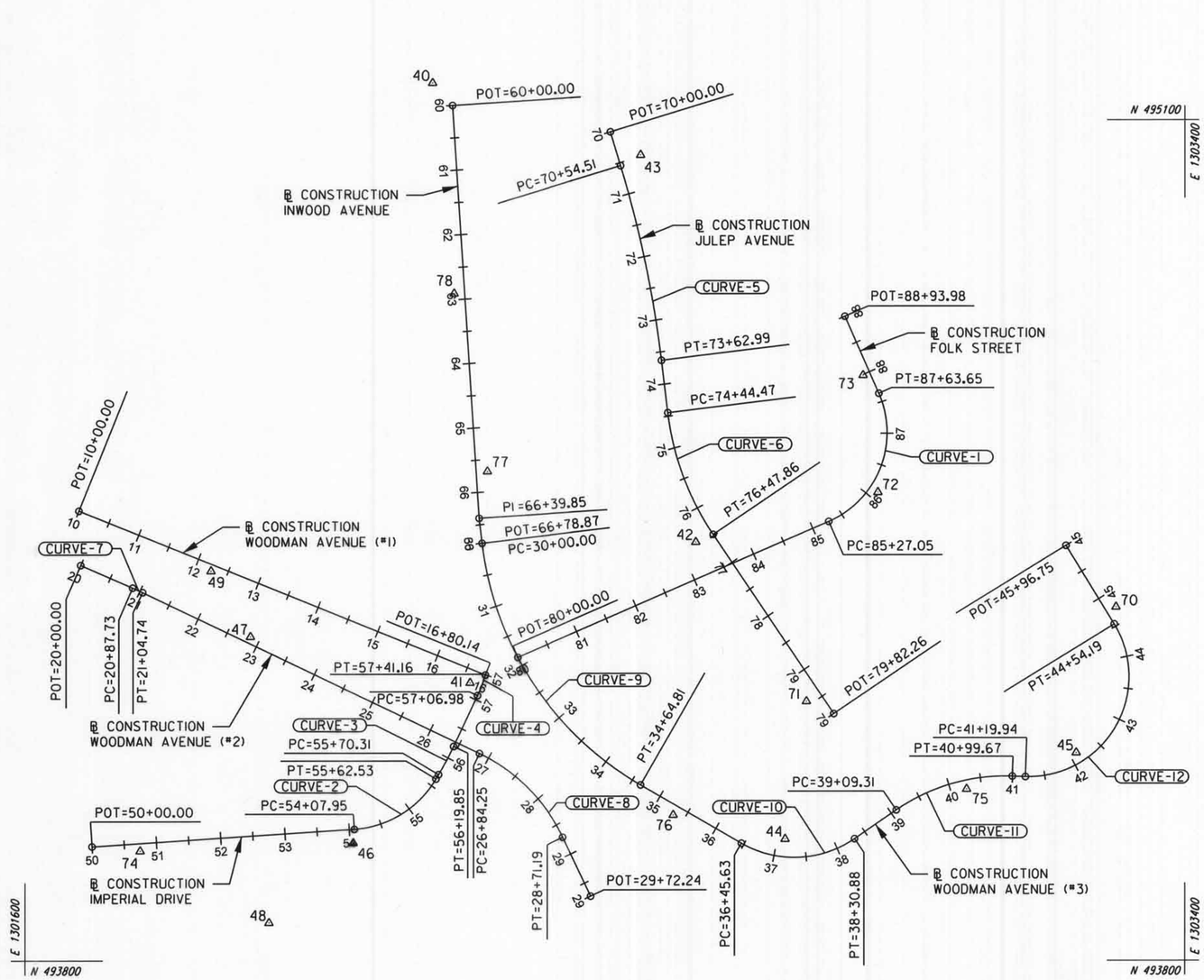
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

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	MAY 11'
SCALE	

SHEET 2 OF 33

FILE: H316313 - roadway lid - forest estates and the four corners area\design\engineering\planset\pGN-L001_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:11 AM



BASELINE CONTROL COORDINATES

B CONSTRUCTION	POINT NO.	NORTHING	EASTING	STATION	BEARING AHEAD	RADIUS
FOLK STREET	POT=1000	494269.0729	1302364.8210	80+00.00	N 66°33'31" E	
	PC=1001	494478.7372	1302848.3688	85+27.05	N 23°49'02" W	
	PI=	494538.8015	1302986.8950	86+78.03		
	CC =1002	494616.3574	1302788.6973			150.00'
	PT=1003	494676.9306	1302925.9230	87+63.65	N 23°49'02" W	
	POT=1004	494796.1619	1302873.2927	88+93.98		
IMPERIAL DRIVE	POT=1005	493976.4876	1301703.9429	50+00.00	N 86°13'47" E	
	PC=1006	494003.3130	1302111.0136	54+07.95	N 30°52'33" E	
	PI=	494008.8312	1302194.7519	54+91.87		
	CC =1007	494162.9667	1302100.4927			160.00'
	PT=1008	494080.8581	1302237.8178	55+62.53	N 30°52'33" E	
	PC=1009	494087.5321	1302241.8082	55+70.31	N 25°11'53" E	
	PI=	494108.8122	1302254.5319	55+95.10		
	CC =1010	494344.1215	1301812.6674			500.00'
	PT=1011	494131.2466	1302265.0879	56+19.85	N 25°11'53" E	
	PC=1012	494210.0783	1302302.1801	57+06.98	N 16°40'59" E	
	PI=	494225.5711	1302309.4698	57+24.10		
	CC =1013	494308.0007	1302094.0667			230.00'
INWOOD AVENUE	POT=1015	495122.8411	1302263.2883	60+00.00	S 3°42'30" E	
	PI=1016	494484.3356	1302304.6715	66+39.85	S 6°47'57" E	
	POT=1017	494445.5889	1302309.2912	66+78.87		
JULEP AVENUE	POT=1018	495081.9145	1302509.0695	70+00.00	S 16°53'57" E	
	PC=1019	495029.7627	1302524.9136	70+54.51	S 6°56'30" E	
	PI=	494881.8089	1302569.8633	72+09.14		
	CC =1020	494513.7890	1300826.5626			1775.00'
	PT=1021	494728.3113	1302588.5516	73+62.99	S 6°56'30" E	
	PC=1022	494647.4289	1302598.3990	74+44.47	S 34°02'31" E	
	PI=	494544.5559	1302610.9238	75+48.10		
	CC =1023	494699.3976	1303025.2471			430.00'
	PT=1024	494458.6832	1302668.9375	76+47.86	S 34°02'31" E	
	POT=1025	494181.5860	1302856.1378	79+82.26		
WOODMAN AVENUE	POT=1026	494495.9979	1301683.4684	10+00.00	S 68°04'08" E	
	POT=1014	494241.9725	1302314.3852	16+80.14		
WOODMAN AVENUE	POT=1027	494411.8524	1301686.2871	20+00.00	S 66°27'16" E	
	PC=1028	494376.8057	1301766.7144	20+87.73	S 64°30'19" E	
	PI=	494373.4076	1301774.5126	20+96.24		
	CC =1029	493918.4339	1301566.9764			500.00'
	PT=1030	494369.7462	1301782.1907	21+04.74	S 64°30'19" E	
	PC=1031	494120.3079	1302305.2722	26+84.25	S 25°33'29" E	
	PI=	494078.4530	1302393.0434	27+81.49		
	CC =1032	493872.0861	1302186.9043			275.00'
	PT=1033	493990.7281	1302434.9952	28+71.19	S 25°33'29" E	
	POT=1034	493899.5614	1302478.5929	29+72.24		

TRAVERSE CONTROL COORDINATES

POINT NO.	STATION	OFFSET	ALIGNMENT	NORTHING	EASTING	ELEVATION
40				495157.6713	1302232.389	330.05
41	16+62.70	20.26	WOODMAN 1	494229.6901	1302290.641	298.06
42	76+42.88	28.92	JULEP	494446.9078	1302642.024	318.61
43	70+47.79	-34.67	JULEP	495046.2631	1302556.139	336.53
44	37+14.41	-27.77	WOODMAN 3	493987.776	1302780.816	292.75
45	42+11.63	-16.36	WOODMAN 3	494121.1903	1303231.834	324.49
46	54+04.89	21.06	IMPERIAL	493982.0954	1302109.341	305.44
47	22+85.40	-9.96	WOODMAN 2	494300.9736	1301949.547	300.79
48	52+66.23	135.73	IMPERIAL	493858.5547	1301978.519	316.39
49	12+24.97	10.17	WOODMAN 1	494402.5361	1301888.355	301.12
70	44+75.31	16.37	WOODMAN 3	494346.6178	1303293.431	316.47
71	79+42.78	24.31	JULEP	494200.693	1302813.895	321.07
72	86+11.60	14.35	FOLK	494523.8325	1302924.534	331.89
73	86+11.60	14.35	FOLK	494704.9547	1302901.593	339.55
74	50+73.85	11.69	IMPERIAL	493969.6836	1301778.405	310.24
75	40+25.54	13.55	WOODMAN 3	494064.8158	1303062.154	317.65
76	35+31.98	14.94	WOODMAN 3	494025.0296	1302606.999	291.98
77	65+68.27	-17.52	INWOOD	494556.8904	1302317.526	307.22
78	62+90.19	16.28	INWOOD	494832.2058	1302265.807	318.18

CURVE DATA

							CENTER OF CURVE	
CURVE NO.	DELTA	Dc	R	T	L	E	NORTH	EAST
CURVE-1	90°22'33"	38°11'50"	150.00'	150.99'	236.60'	62.83	494616.3574	1302788.6973
CURVE-2	55°21'14"	35°48'36"	160.00'	83.92'	154.58'	20.67	494162.9667	1302100.4927
CURVE-3	5°40'40"	11°27'33"	500.00'	24.79'	49.55'	0.61	494344.1215	1301812.6674
CURVE-4	8°30'54"	24°54'40"	230.00'	17.12'	34.18'	0.64	494308.0007	1302094.0667
CURVE-5	9°57'27"	3°13'41"	1775.00'	154.63'	308.48'	6.72	494513.7890	1300826.5626
CURVE-6	27°06'02"	13°19'29"	430.00'	103.63'	203.39'	12.31	494699.3976	1303025.2471
CURVE-7	1°56'58"	11°27'33"	500.00'	8.51'	17.01'	0.07	493918.4339	1301566.9764
CURVE-8	38°56'50"	20°50'05"	275.00'	97.24'	186.93'	16.69	493872.0861	1302186.9043
CURVE-9	53°15'50"	11°27'33"	500.00'	250.73'	464.81'	59.34	494504.7840	1302805.7748
CURVE-10	64°19'43"	34°43'29"	165.00'	103.76'	185.25'	29.91	494124.2455	1302795.2850
CURVE-11	36°21'27"	19°05'55"	300.00'	98.51'	190.37'	15.76	493784.8258	1303122.6523
CURVE-12	123°33'12"	36°57'54"	155.00'	288.79'	334.24'	172.76	494238.8627	1303158.5184

STATE OF MARYLAND
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PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 D.S

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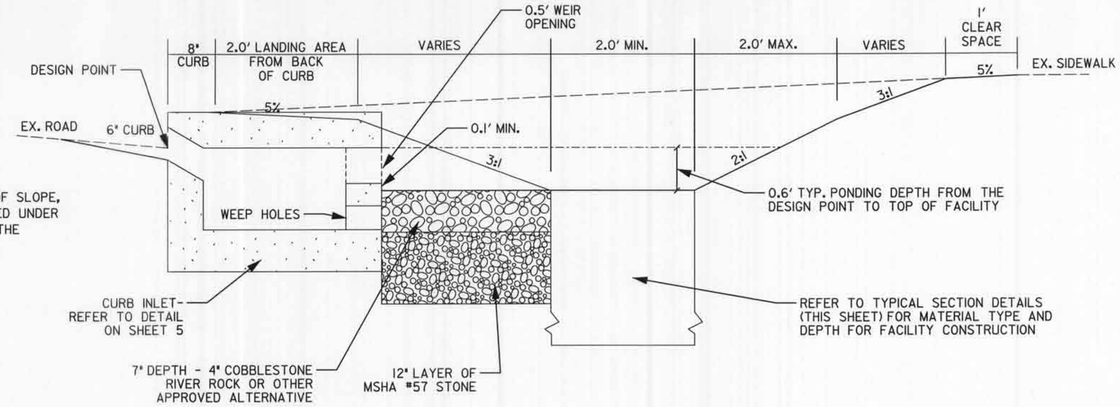
DESIGN			
DRAFT	WJW		
APPROVED	HJD	DATE	MAY 11'
		SCALE	1"=100'

SHEET 3 OF 33

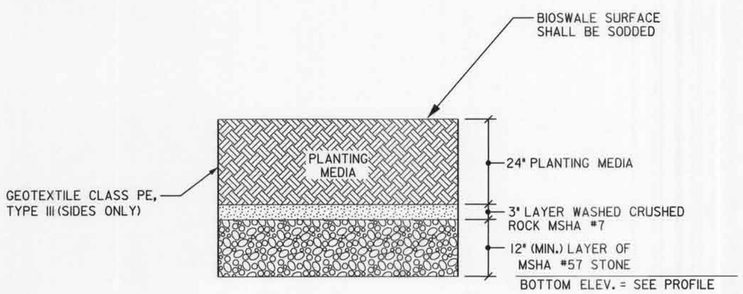
FILE: I:\5192\013 - rockvey ltd - forest estates and the four corners area\design\engineering\plans\dp\DS-P001_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:11 AM

NOTE:
FOR ALL DISTURBED AREAS, REGARDLESS OF SLOPE, FOUR (4) INCHES OF TOPSOIL SHALL BE USED UNDER SOD OR PROPOSED PLANTINGS. REFER TO THE LANDSCAPE PLAN- SHEET 32.



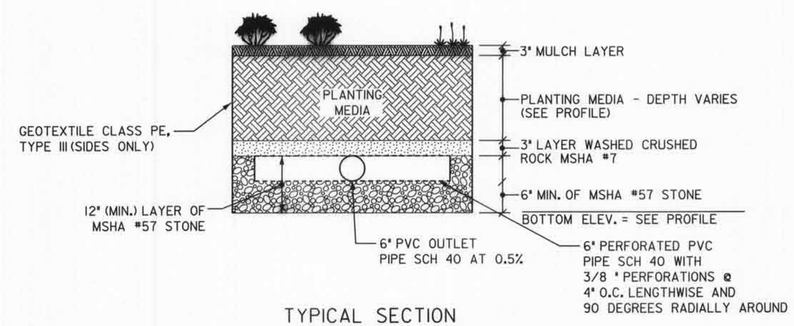
TYPICAL RIGHT OF WAY SECTION

NOT TO SCALE



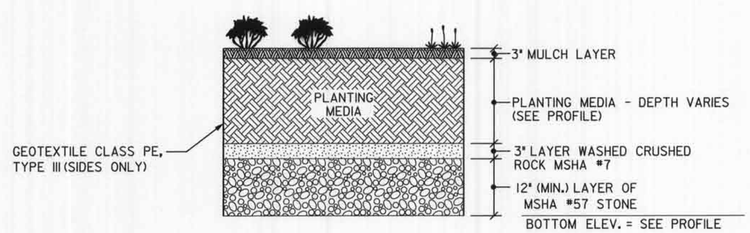
TYPICAL SECTION
BIOSWALE DETAIL

NOT TO SCALE



TYPICAL SECTION
BIORETENTION DETAIL

NOT TO SCALE



TYPICAL SECTION
RAINGARDEN DETAIL

NOT TO SCALE

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
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STORMWATER MANAGEMENT DETAILS

FOREST ESTATES

SLIGO (13th) ELECTION DISTRICT

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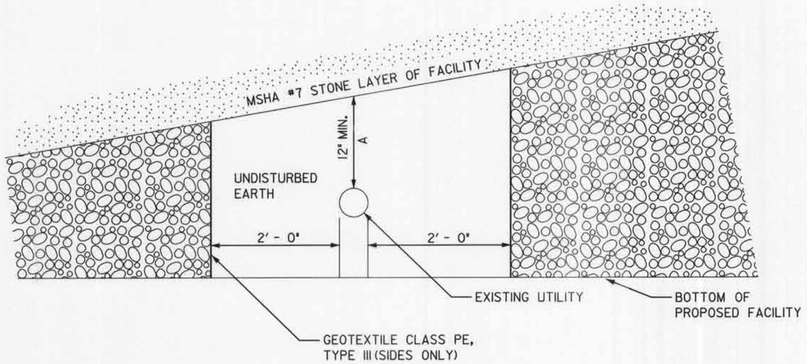
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS
DRAFT	WJW
APPROVED	HJD
DATE	MAY 11'
SCALE	NOT TO SCALE

SHEET 4 OF 33

FILE: L6162013 - roadway fpl - forest estates.dgn
PLOTTED: Monday, October 03, 2011 AT 11:11 AM



NOTES:

1. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES AND SHALL HAND DIG AROUND UTILITIES LOCATED IN THE VICINITY OF THE PROPOSED EXCAVATION. CONTACT MISS UTILITY 48 HOURS PRIOR TO DIGGING TO HAVE UTILITIES LOCATED.

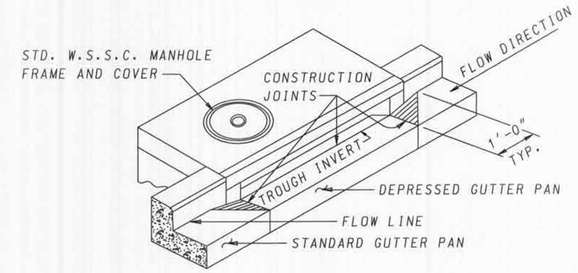
2. WHEN THE CONTRACTOR ENCOUNTERS AN EXISTING UTILITY WITH LESS THAN 12" OF VERTICAL CLEARANCE BETWEEN THE TOP OF UTILITY AND THE BOTTOM OF THE FACILITY, THE TYPICAL UTILITY CROSSING TREATMENT SHALL BE FOLLOWED.

3. WHEN THE VERTICAL CLEARANCE BETWEEN THE TOP OF UTILITY AND THE BOTTOM OF THE NO. 57 STONE LAYER (SHOWN AS DIMENSION A) IS LESS THAN 12", ADJUST MEDIA DEPTH AND CHANNEL SLOPE TO OBTAIN THE REQUIRED COVER DEPTH.

4. UNDISTURBED EARTH AREA SURROUNDING EXISTING UTILITY SHALL EXTEND ACROSS THE ENTIRE FACILITY WIDTH.

TYPICAL UTILITY CROSSING DETAIL

NOT TO SCALE



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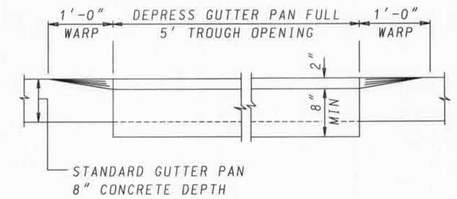
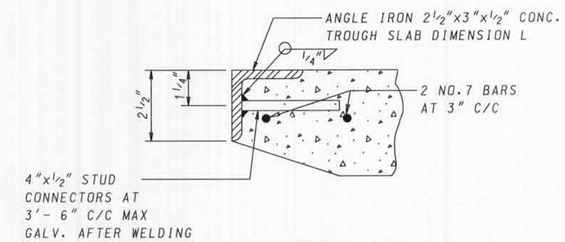
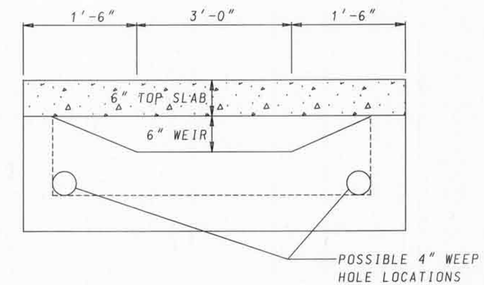


SECTION A-A

(SHOWN LOOKING TOWARD ROADWAY)

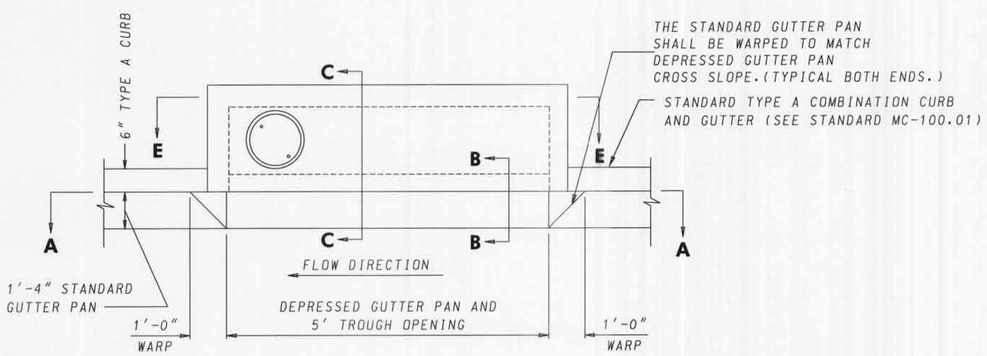


SECTION D-D



SECTION E-E

(SHOWN LOOKING TOWARD ROADWAY)

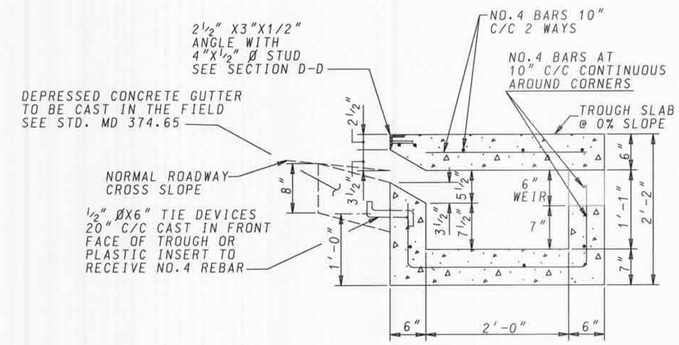


PLAN

WHENEVER STANDARD MC-101.01 CURB IS USED IN CONJUCTION WITH THIS STANDARD, A 10 FOOT TRANSITION SHALL BE PROVIDED FROM THE STANDARD MC-100.01 TO STANDARD MC-101.01 FOR CURB RETURNS AND CURB SECTIONS WHICH INCLUDES INLETS.

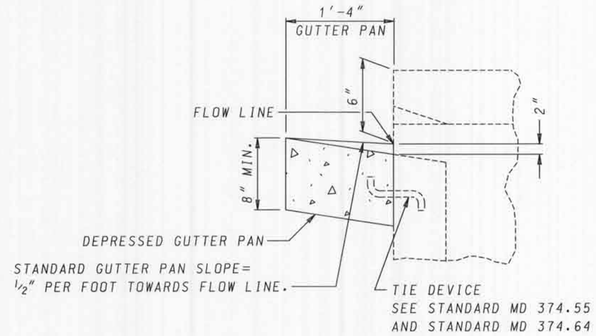
CURB INLET DETAIL

NOT TO SCALE



SECTION C-C

(MODIFIED MSHA STD. NO. MD 374.55-01)



SECTION B-B

GENERAL NOTES:

1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION FOR MATERIALS AND METHODS OF CONSTRUCTION.

2. CONTRACTOR MUST PROVIDE SHOP DRAWINGS AND SEALED COMPUTATIONS FOR THE CURB INLETS TO MONTGOMERY COUNTY DEP FOR APPROVAL.

3. CURB INLET SHALL BE H-20 LOAD RATED.

STATE OF MARYLAND — KIM C. SCHMIDT — No. 31204 — PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 D.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

STORMWATER MANAGEMENT DETAILS

FOREST ESTATES

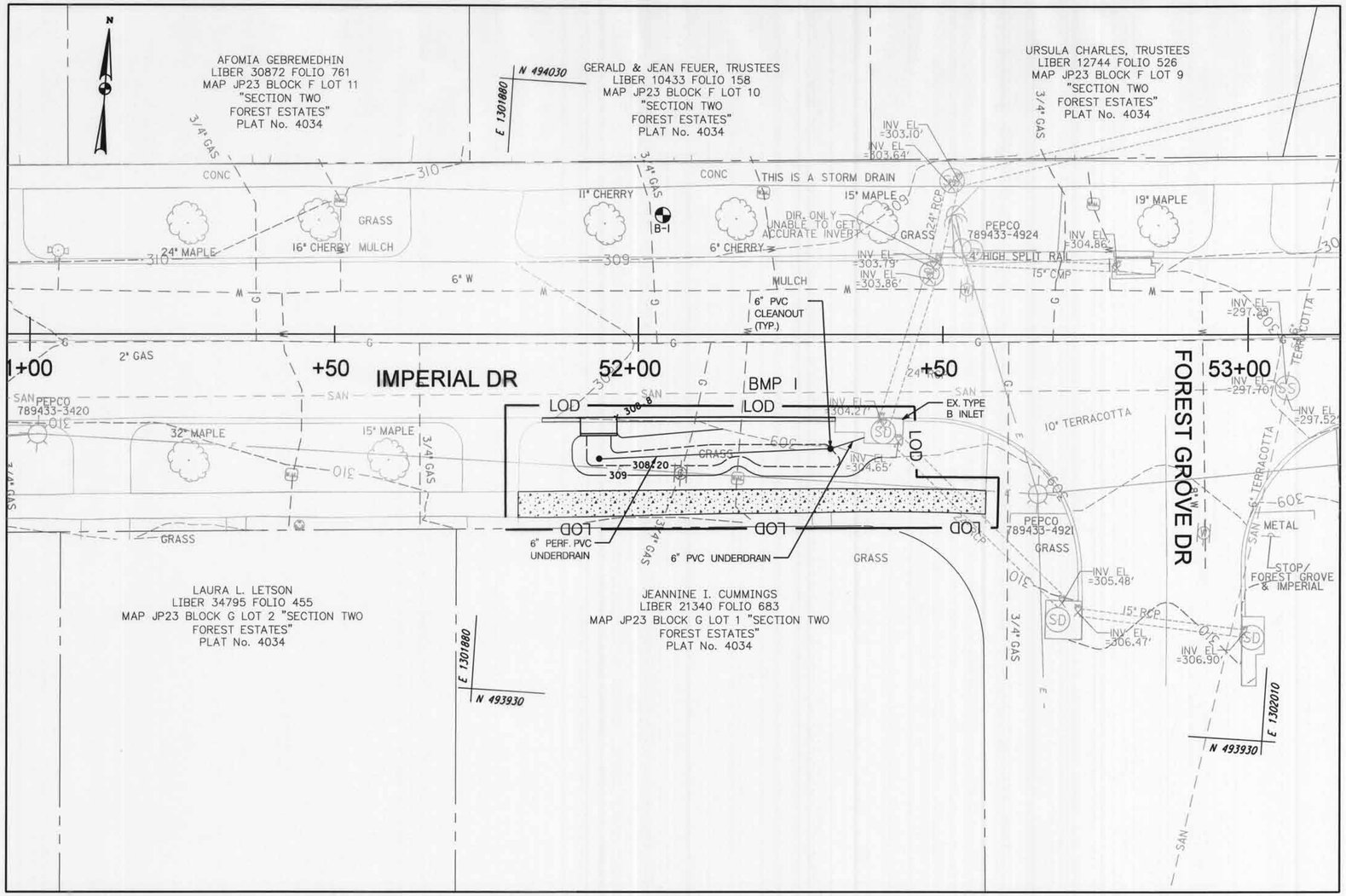
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

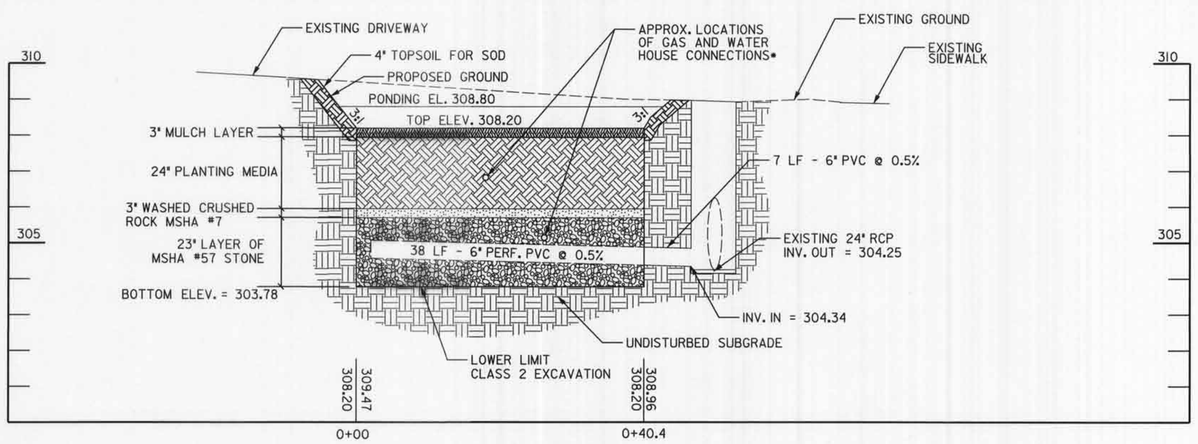
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS		
DRAFT	WJW		
APPROVED	HJD	DATE	MAY '11'
		SCALE	NOT TO SCALE

SHEET 5 OF 33

FILE: \351\2013 - cowboy lot - forest estates and the four corners area\design\engineering\planes\pDE-0002_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:11 AM





PROFILE - BIORETENTION FACILITY (BMP 1)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: BIORETENTION BMP ID: 1

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	1.05	
TREATMENT VOLUME (CF)	225	
TARGET WQv TREATMENT VOLUME (CF)	933	
FILTER BED AREA (SF)	130	
FILTER BED SURFACE ELEVATION	308.20	
DESIGN POINT ELEVATION	308.80	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" / 304.34	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
51+84 TO 51+90	R	6	
51+96 TO 52+32	R	36	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
51+80 TO 52+57	R	304	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIMI C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE 10/5/11

BY

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

PLAN AND PROFILE - BMP 1

FOREST ESTATES

SLIGO (13th) ELECTION DISTRICT

PARCEL X, SUBDIVISION X, LIBER X FOLIO X

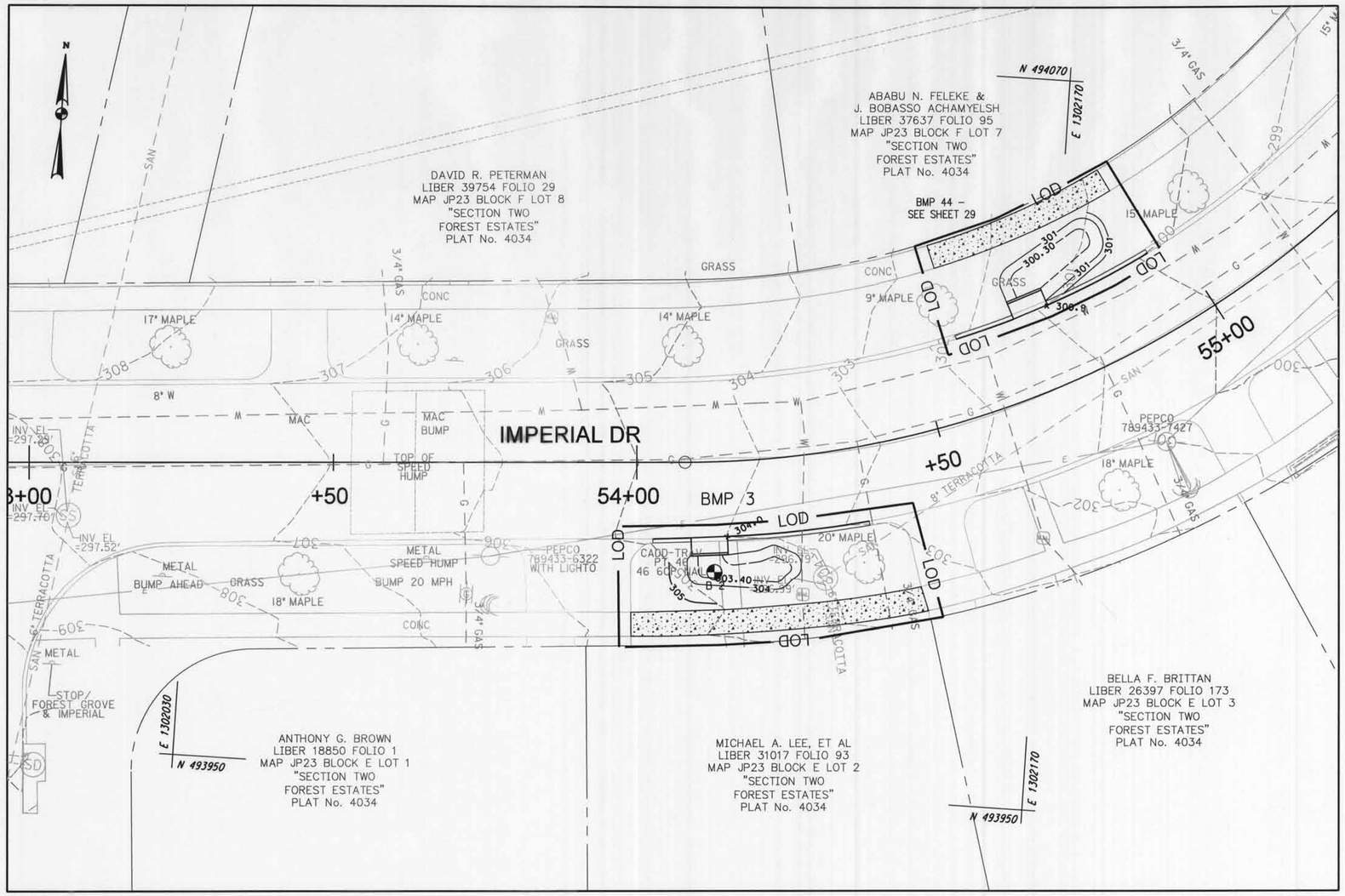
MONTGOMERY COUNTY, MARYLAND

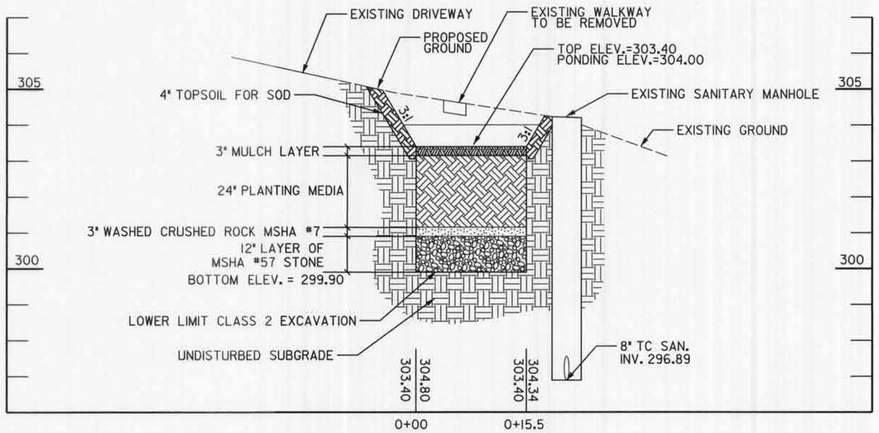
CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS	
DRAFT	WJW	
APPROVED	HJD	
DATE	MAY 11'	
SCALE	1"=10'	

SHEET 6 OF 33

FILE: L951923-13 - rockvej 6a - forest estates and the four corners area\dcs\eng\engineering\plans\pdf\PD-P001_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:12 AM





PROFILE - RAIN GARDEN FACILITY (BMP 3)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: RAIN GARDEN — BMP ID: 3

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.55	
TREATMENT VOLUME (CF)	82	
TARGET WQv TREATMENT VOLUME (CF)	579	
FILTER BED AREA (SF)	47	
FILTER BED SURFACE ELEVATION	303.40	
DESIGN POINT ELEVATION	304.00	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
54+03 TO 54+09	R	6	
54+14 TO 54+36	R	23	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
53+99 TO 54+42	R	197	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND — KIM C. SCHMIDT — No. 31204 — PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE 10/5/11

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

PLAN AND PROFILE - BMP 3

FOREST ESTATES

SLIGO (13th) ELECTION DISTRICT

PARCEL X, SUBDIVISION X, LIBER X FOLIO X

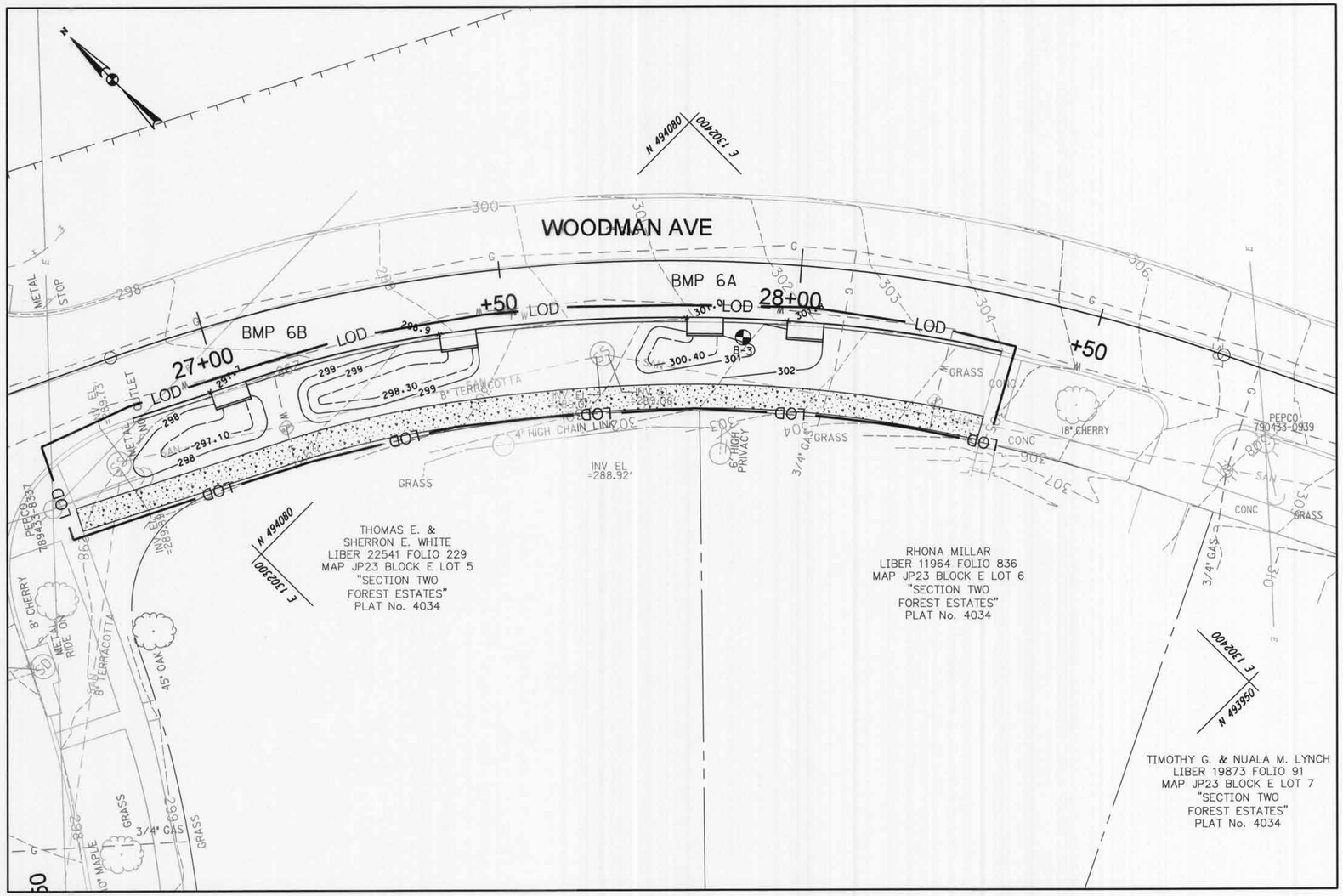
MONTGOMERY COUNTY, MARYLAND

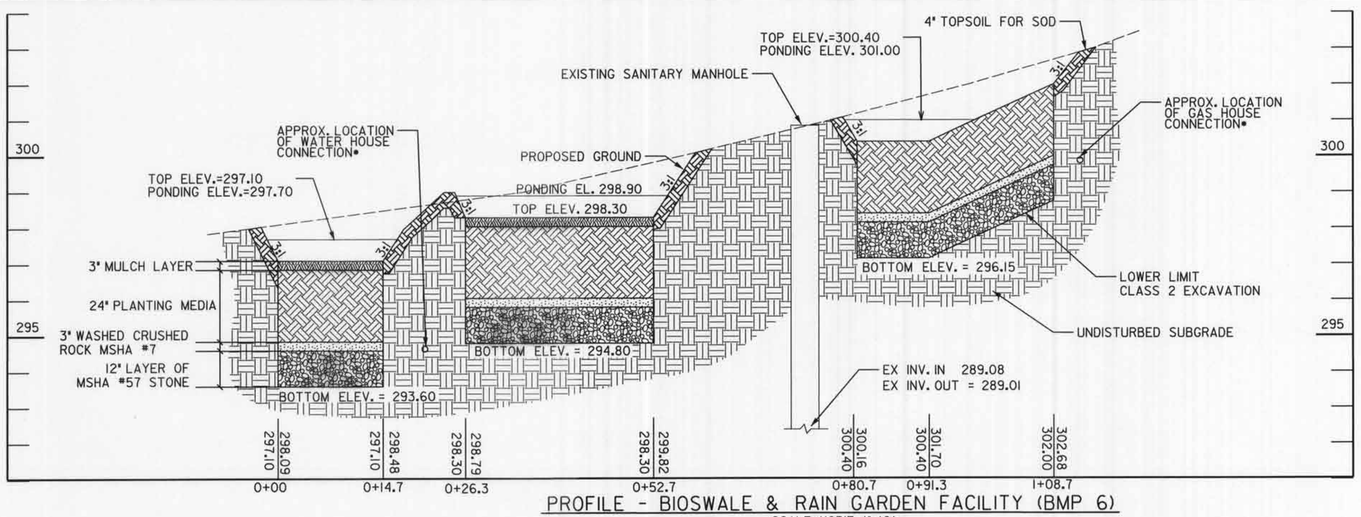
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS		
DRAFT	WJW		
APPROVED	HJD	DATE	MAY 11'
		SCALE	1"=10'

SHEET 7 OF 33

FILE: U:\192\13 - roadway\p - forest estates and the four corners area\design\engineering\plans\pdf\PD03_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:12 AM





PROFILE - BIOSWALE & RAIN GARDEN FACILITY (BMP 6)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: BIOSWALE — BMP ID: 6A

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.57 (6A & 6B)	
TREATMENT VOLUME (CF)	159	
TARGET WQv TREATMENT VOLUME (CF)	576	
FILTER BED AREA (SF)	37	
FILTER BED SURFACE ELEVATION	300.40	
DESIGN POINT ELEVATION	301.60 / 301.00	
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 33	
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 4 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: 6B

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	REFER TO DATA FOR 6A	
TREATMENT VOLUME (CF)	286	
TARGET WQv TREATMENT VOLUME (CF)	REFER TO DATA FOR 6A	
FILTER BED AREA (SF)	123	
FILTER BED SURFACE ELEVATION	298.30 / 297.10	
DESIGN POINT ELEVATION	298.90 / 297.70	
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 33	
COMPOSITION OF FILTER MEDIA	REFER TO MCDEP SPECIFICATIONS	

COMBINATION CONC. CURB AND GUTTER – (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
26+84 TO 26+98	R	14	
27+05 TO 27+39	R	33	
27+45 TO 27+81	R	35	
27+87 TO 27+98	R	11	
28+05 TO 28+35	R	29	

4 FOOT CONC. SIDEWALK – MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
26+71 TO 28+34	R	597	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND — KIM C. SCHMIDT — No. 31204 — PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

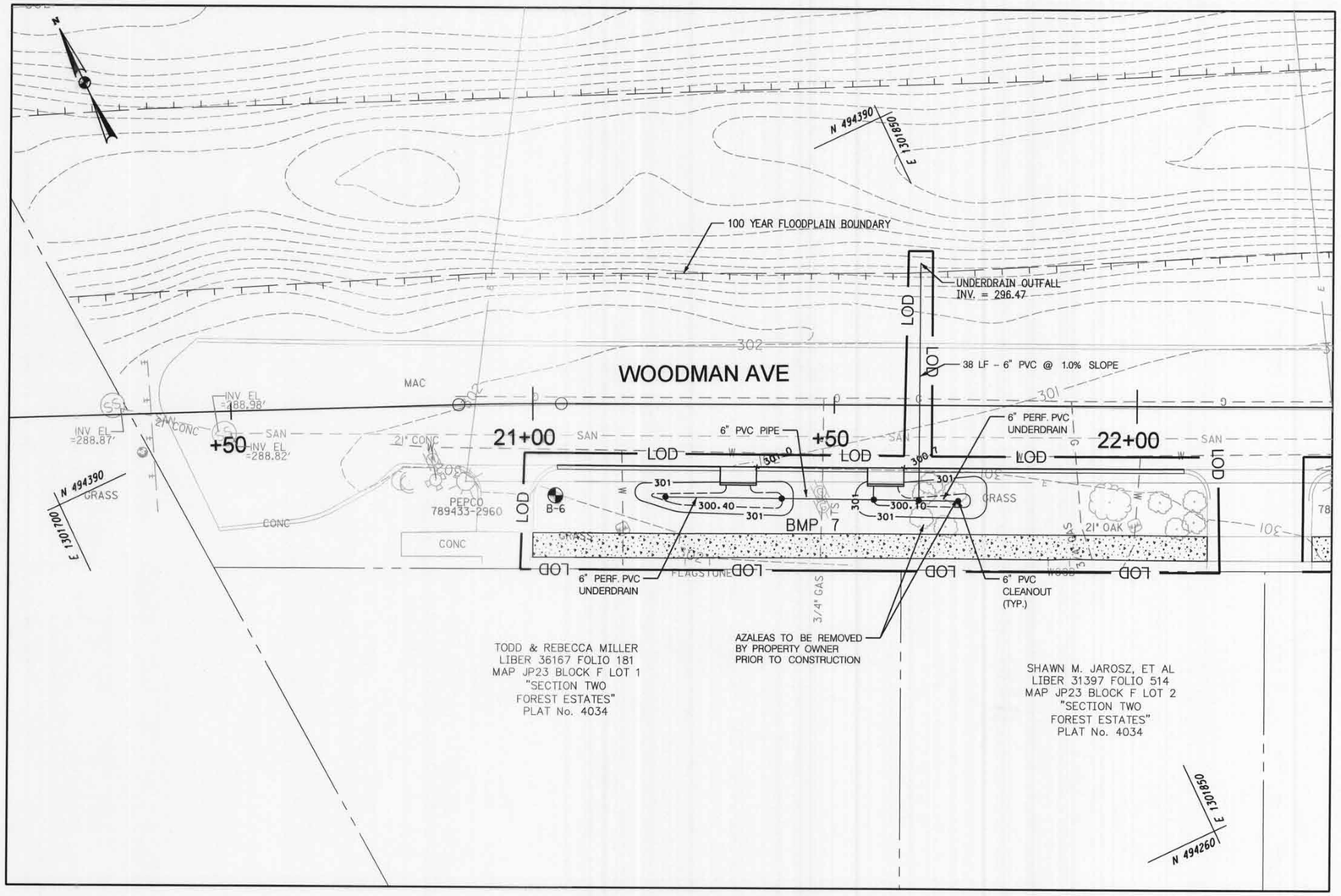
PLAN AND PROFILE - BMP 6
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

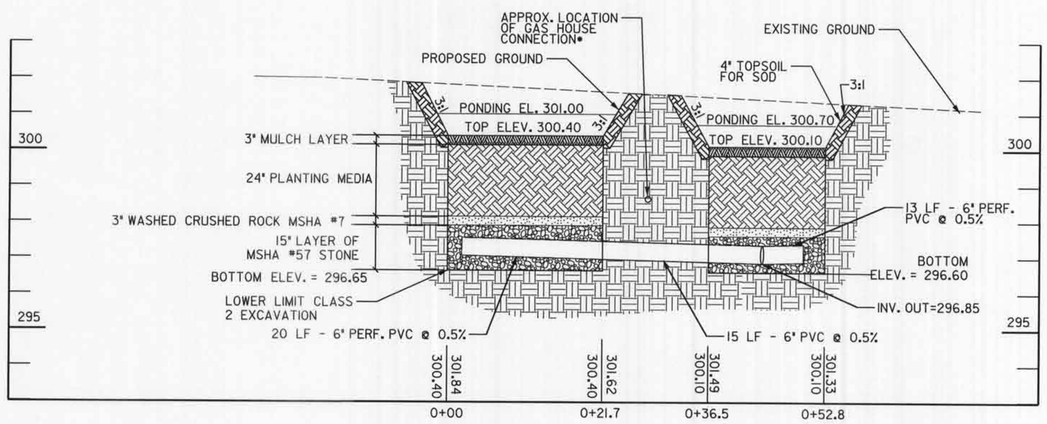
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS	DATE	MAY 11'
DRAFT	WJW	SCALE	1"=10'
APPROVED	HJD		

SHEET 8 OF 33

FILE: 150120.13 - mccormick - forest estates and the four corners area\design\engineering\plansets\PD-P006_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:12 AM





PROFILE - BIORETENTION FACILITY (BMP 7)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: BIORETENTION — BMP ID: 7

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.21	
TREATMENT VOLUME (CF)	155	
TARGET WQv TREATMENT VOLUME (CF)	433	
FILTER BED AREA (SF)	83	
FILTER BED SURFACE ELEVATION	300.40 (UPPER) 300.10 (LOWER)	
DESIGN POINT ELEVATION	301.00 (UPPER) 300.70 (LOWER)	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" / 296.47	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
21+04 TO 21+31	R	27	
21+37 TO 21+56	R	18	
21+62 TO 22+08	R	46	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
21+00 TO 22+12	R	451	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND — KIM C. SCHMIDT — No. 31204 — PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
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Engineers & Planners
Since 1946
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

PLAN AND PROFILE - BMP 7

FOREST ESTATES

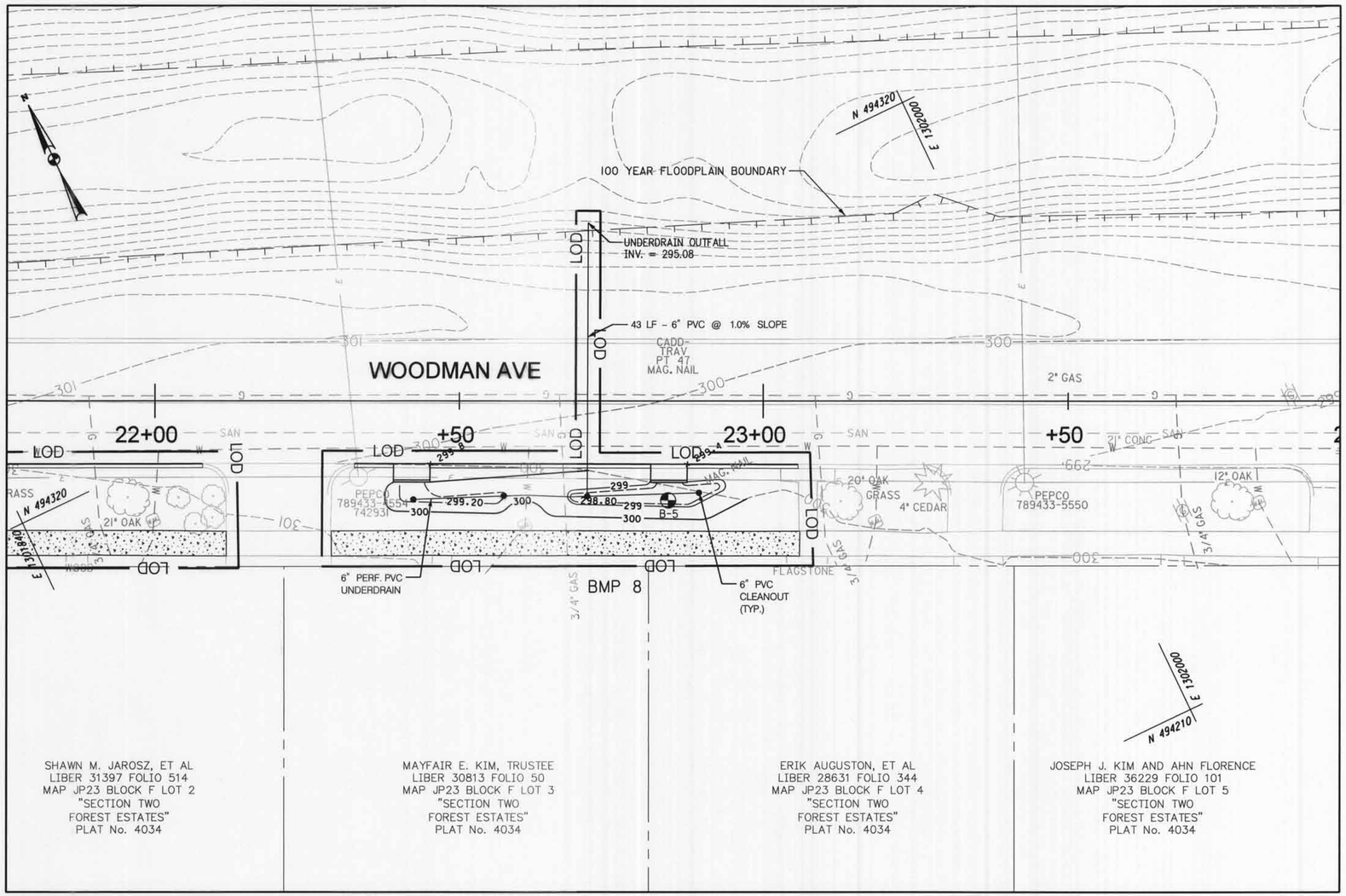
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

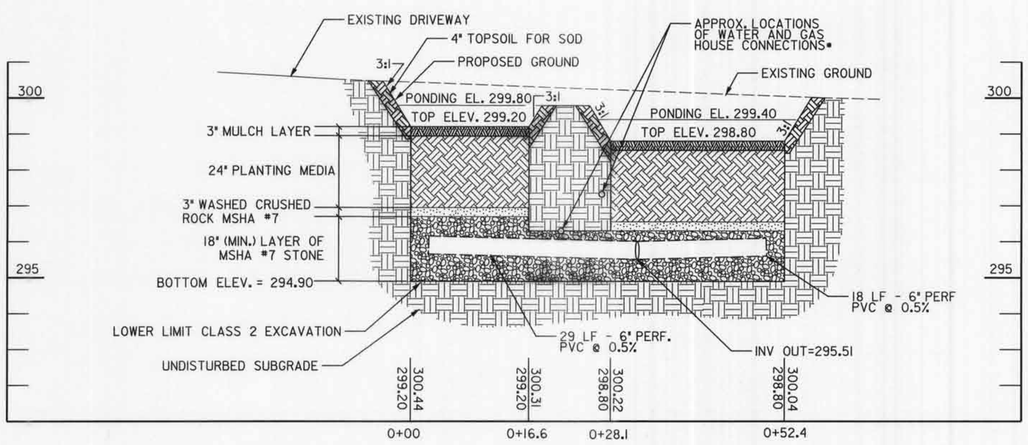
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS
DRAFT	WJW
APPROVED	HJD
DATE	MAY 11'
SCALE	1"=10'

SHEET 9 OF 33

ILE: 1561613 - mccfarley ltd - forest estates and the four corners area\design\engineering\plansets\HO-P006_Forest.dgn
PLOTTED: Monday, October 03, 2011 11:12 AM





PROFILE - RAIN GARDEN FACILITY (BMP 8)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

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)	0.95	
TREATMENT VOLUME (CF)	174	
TARGET WQv TREATMENT VOLUME (CF)	821	
FILTER BED AREA (SF)	88	
FILTER BED SURFACE ELEVATION	299.20 / 289.80	
DESIGN POINT ELEVATION	299.80 / 299.40	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" / 295.08	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
22+33 TO 22+39	R	6	
22+45 TO 22+82	R	36	
22+88 TO 23+06	R	18	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
22+29 TO 23+06	R	314	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

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4th Floor
Baltimore, Maryland 21202
(410) 662-7400

PLAN AND PROFILE - BMP 8

FOREST ESTATES

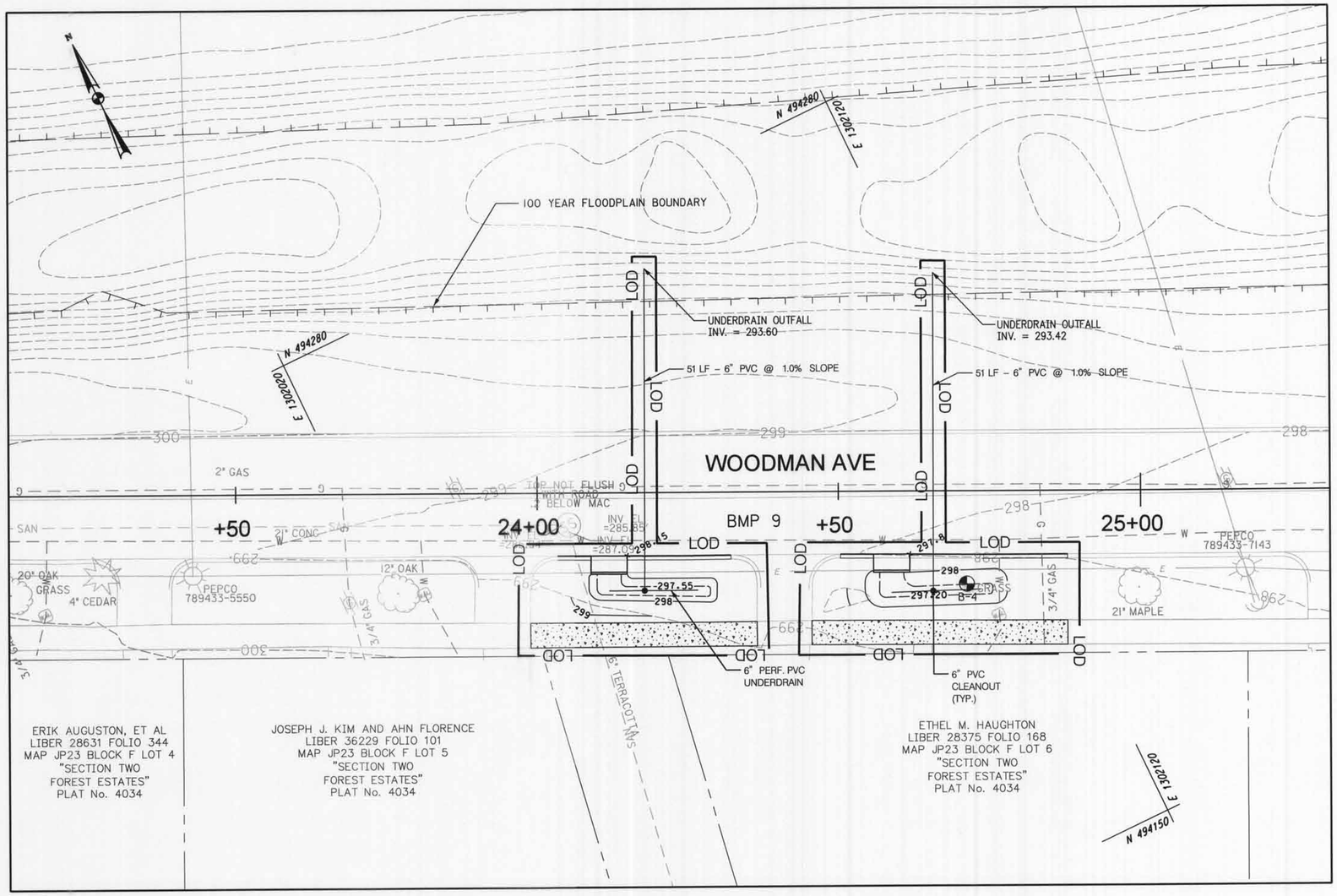
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

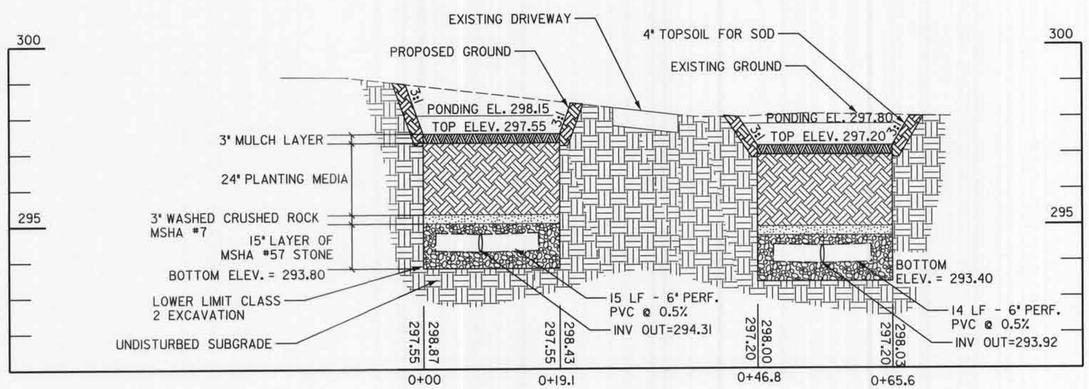
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS
DRAFT	WJW
APPROVED	HJD
DATE	MAY 11'
SCALE	1"=10'

SHEET 10 OF 33

FILE: 15/15/13 - roadway fid - forest estates and the four corners area\design\engineering\plans\pp\10-P007_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:12 AM





PROFILE - BIORETENTION FACILITY (BMP 9)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

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)	0.75	
TREATMENT VOLUME (CF)	154	
TARGET WQv TREATMENT VOLUME (CF)	920	
FILTER BED AREA (SF)	79	
FILTER BED SURFACE ELEVATION	297.55 (UPPER) 297.20 (LOWER)	
DESIGN POINT ELEVATION	298.15 (UPPER) 297.80 (LOWER)	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" / 293.60,293.42	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
24+03 TO 24+09	R	6	
24+15 TO 24+32	R	17	
24+50 TO 24+56	R	6	
24+62 TO 24+88	R	26	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
23+99 TO 24+37	R	151	
24+46 TO 24+88	R	168	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

PLAN AND PROFILE - BMP 9

FOREST ESTATES

SLIGO (13th) ELECTION DISTRICT

PARCEL X, SUBDIVISION X, LIBER X FOLIO X

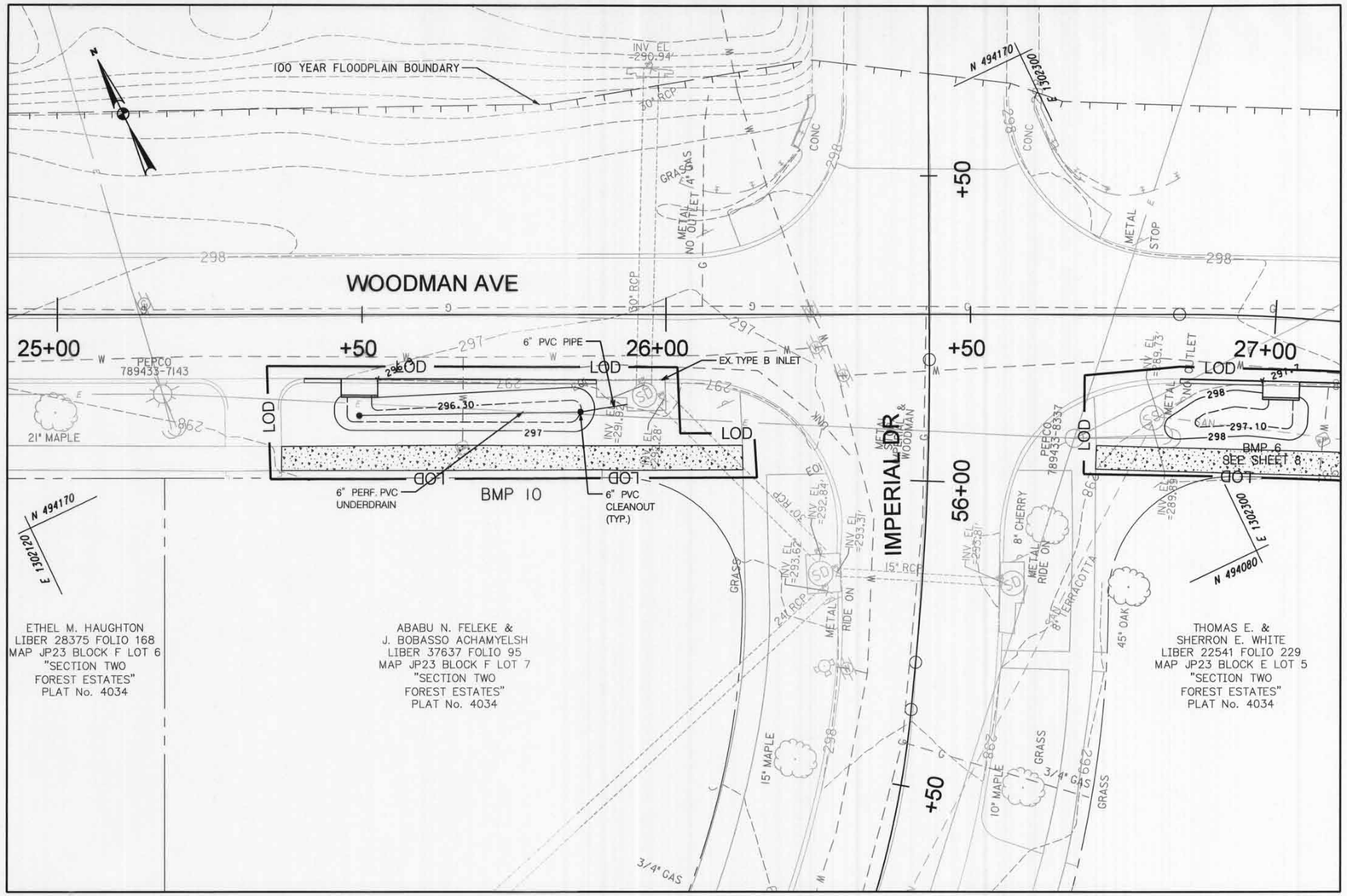
MONTGOMERY COUNTY, MARYLAND

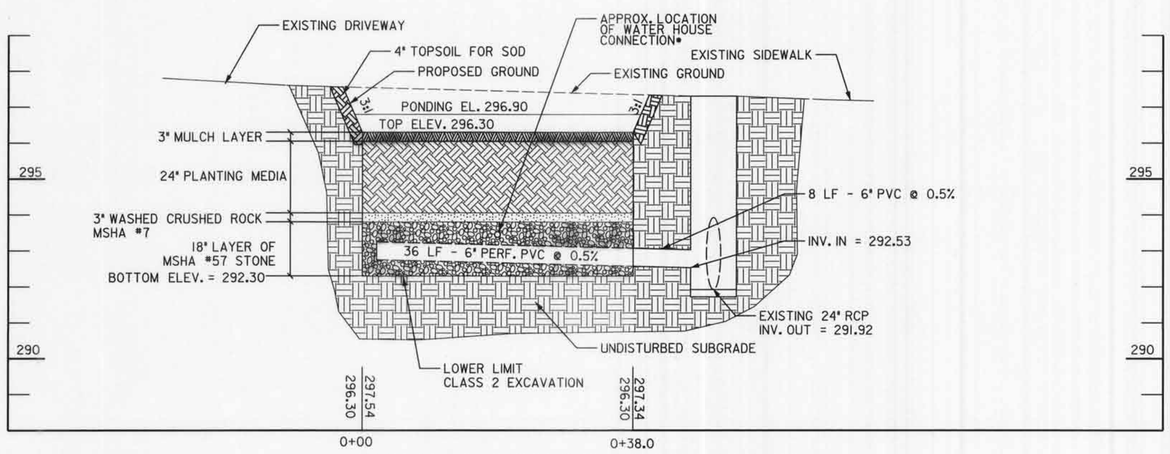
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS		
DRAFT	WJW		
APPROVED	PJD	DATE	MAY 11'
		SCALE	1"=10'

SHEET 11 OF 33

FILE: I:\5182\13 - roadway ltd - forest estates and the four corners area\design\engineering\plansset\phD-P006_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:12 AM





PROFILE - BIORETENTION FACILITY (BMP 10)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: BIORETENTION BMP ID: 10

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.41	
TREATMENT VOLUME (CF)	193	
TARGET WQv TREATMENT VOLUME (CF)	517	
FILTER BED AREA (SF)	110	
FILTER BED SURFACE ELEVATION	296.30	
DESIGN POINT ELEVATION	296.90	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" / 292.53	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
25+41 TO 25+47	R	6	
25+53 TO 25+89	R	36	

4 FOOT CONC. SIDEWALK - MC-111.01

STA. TO STA.	OFFSET	S.F.	REMARKS
25+37 TO 26+13	R	304	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIMI C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE 10/5/11

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

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

PLAN AND PROFILE - BMP 10

FOREST ESTATES

SLIGO (13th) ELECTION DISTRICT

PARCEL X, SUBDIVISION X, LIBER X FOLIO X

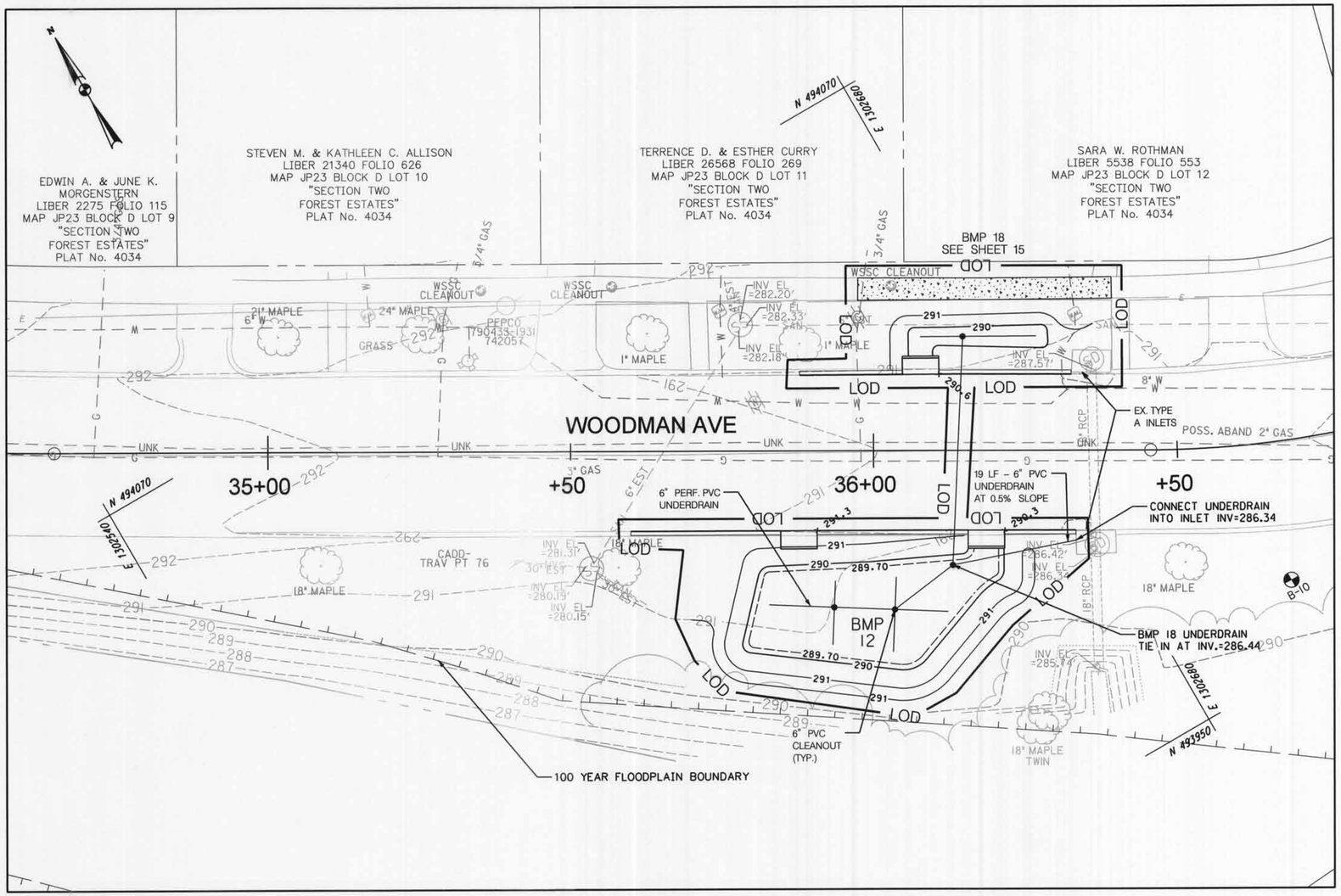
MONTGOMERY COUNTY, MARYLAND

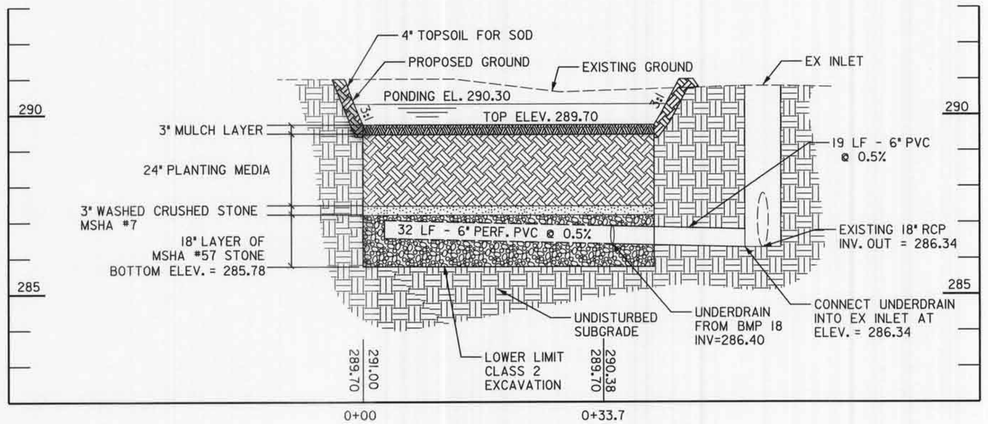
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS		
DRAFT	WJW		
APPROVED	HJD		
DATE	MAY 11'		
SCALE	1"=10'		

SHEET 12 OF 33

FILE: L:\51\62\13 - rockley lot - forest estates and the four corners area\dsd\engineering\engineering\plans\pp\HD-P003_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:12 AM





PROFILE - BIORETENTION FACILITY (BMP 12)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: BIORETENTION BMP ID: 12

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.16	
TREATMENT VOLUME (CF)	771	
TARGET WQv TREATMENT VOLUME (CF)	453	
FILTER BED AREA (SF)	511	
FILTER BED SURFACE ELEVATION	289.70	
DESIGN POINT ELEVATION	290.30	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" / 286.34	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
35+60 TO 35+85	R	25	
35+90 TO 36+15	R	25	
36+22 TO 36+33	R	12	

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

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

McCormick Taylor
Engineers & Planners
Since 1946

PLAN AND PROFILE - BMP 12

FOREST ESTATES

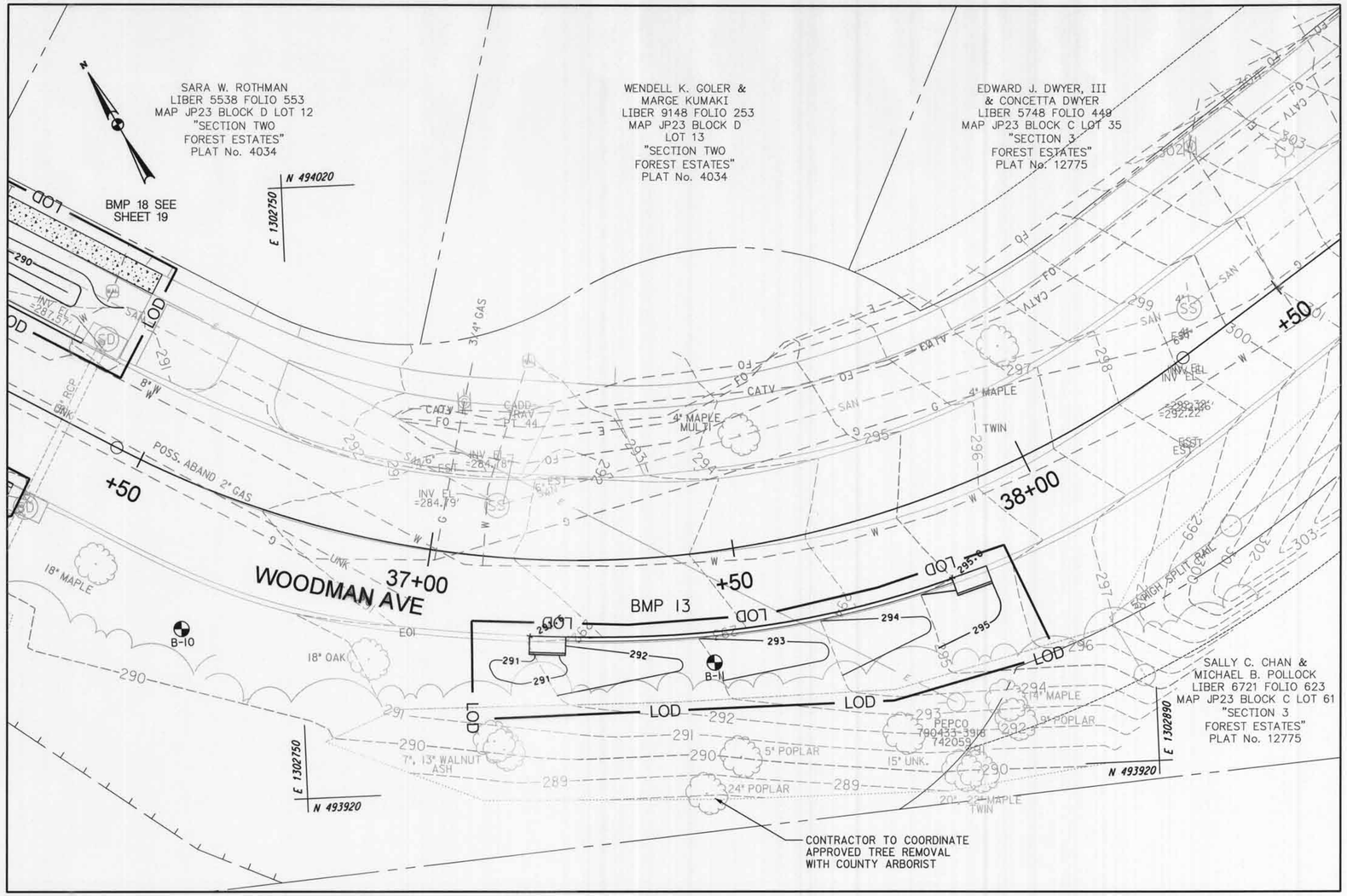
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

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	MAY 11'	SCALE	1"=10'

SHEET 13 OF 33

F.E. 1345615 - roadway lid - forest estates and the four corners areas\designengineering\planset\PID-P011_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:12 AM



AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

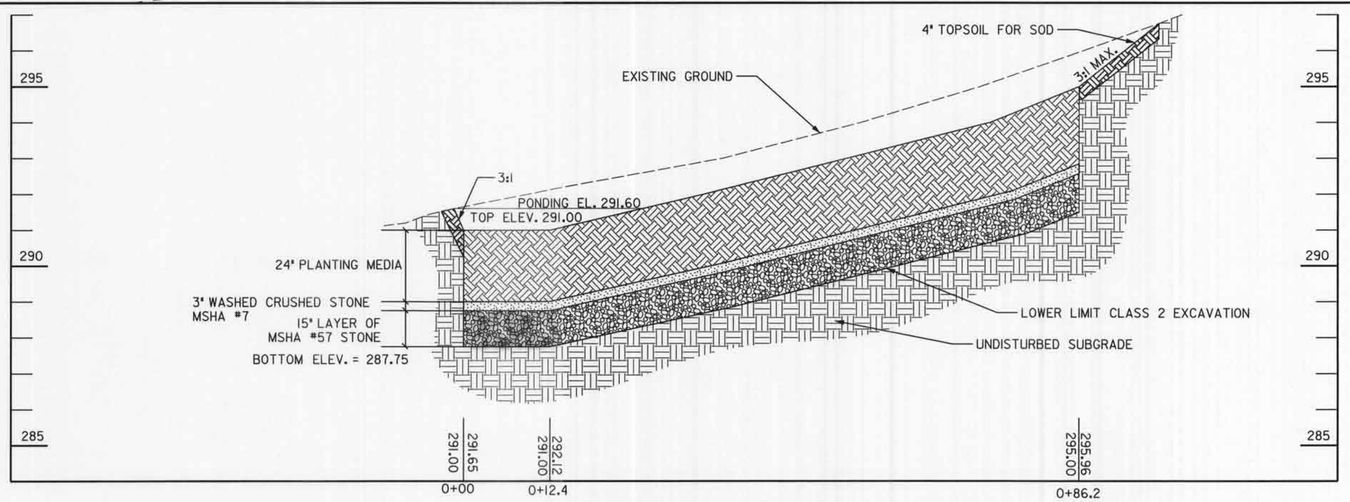
TYPE OF FACILITY: BIOSWALE BMP ID: 13

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.81	
TREATMENT VOLUME (CF)	375	
TARGET WQv TREATMENT VOLUME (CF)	1,112	
FILTER BED AREA (SF)	43	
FILTER BED SURFACE ELEVATION	291.00	
DESIGN POINT ELEVATION	291.60	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER – (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
37+23 TO 37+82	R	64	



PROFILE - BIOSWALE FACILITY (BMP 13)

SCALE: HORIZ. 1"=10', VERT. 1"=2'

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

PLAN AND PROFILE - BMP 13

FOREST ESTATES

SLIGO (13th) ELECTION DISTRICT

PARCEL X, SUBDIVISION X, LIBER X FOLIO X

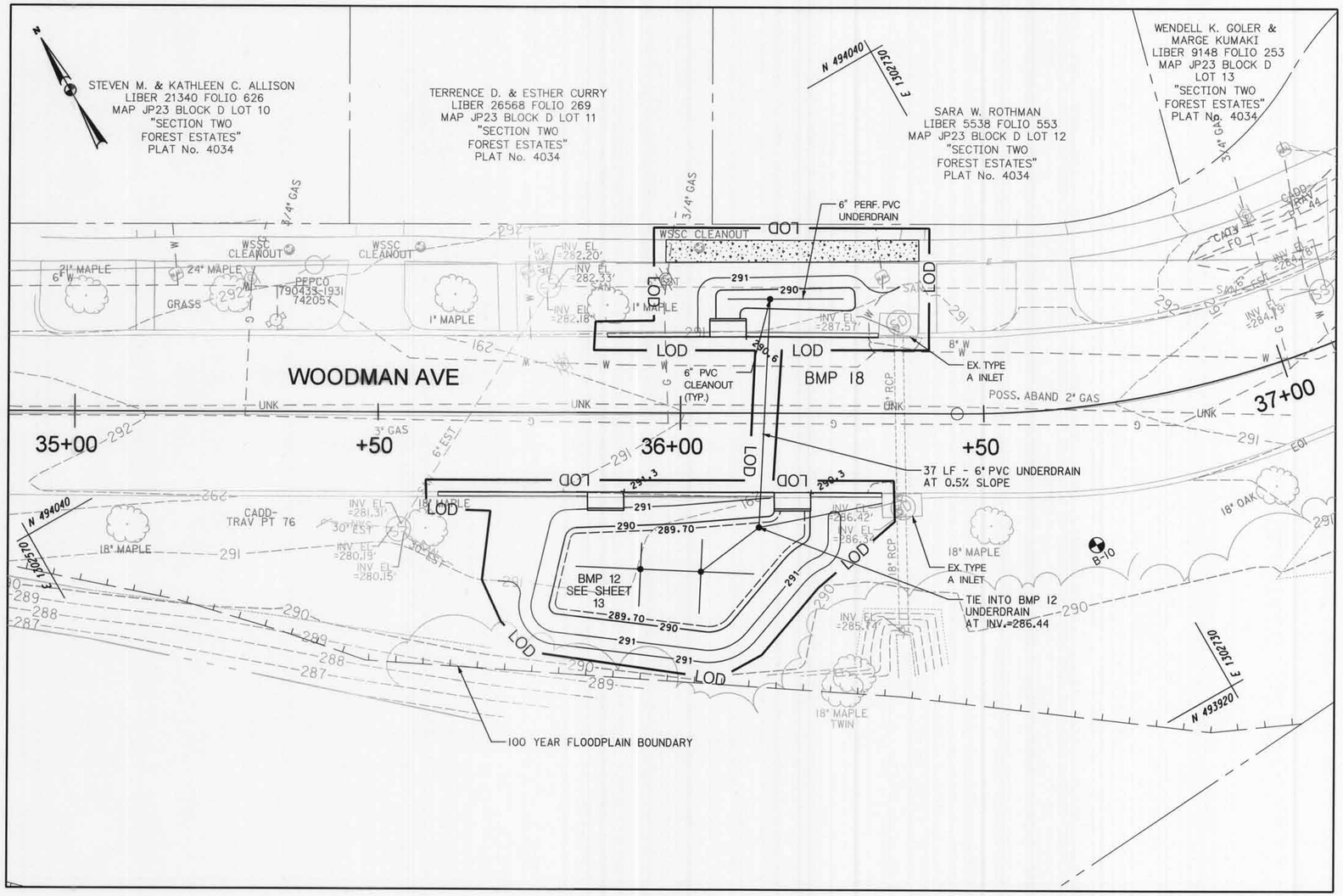
MONTGOMERY COUNTY, MARYLAND

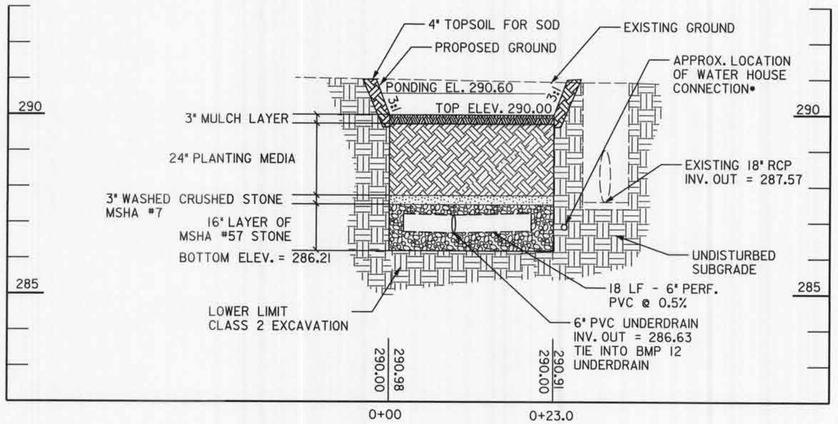
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS
DRAFT	WJW
APPROVED	HJD
DATE	MAY 11'
SCALE	1"=10'

SHEET 14 OF 33

FILE: L:\5150\13 - roadway\jd - forest estates and the four corners area\designing\engineering\plansset\pr\D-P012_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:12 AM





PROFILE - BIORETENTION FACILITY (BMP 18)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: BIORETENTION — BMP ID: 18

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	1.89	
TREATMENT VOLUME (CF)	139	
TARGET WQv TREATMENT VOLUME (CF)	2,140	
FILTER BED AREA (SF)	83	
FILTER BED SURFACE ELEVATION	290.00	
DESIGN POINT ELEVATION	290.60	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" PVC / 286.44	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
35+88 TO 36+05	L	17	
36+11 TO 36+33	L	22	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
35+97 TO 36+39	L	150	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 G.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

PLAN AND PROFILE - BMP 18

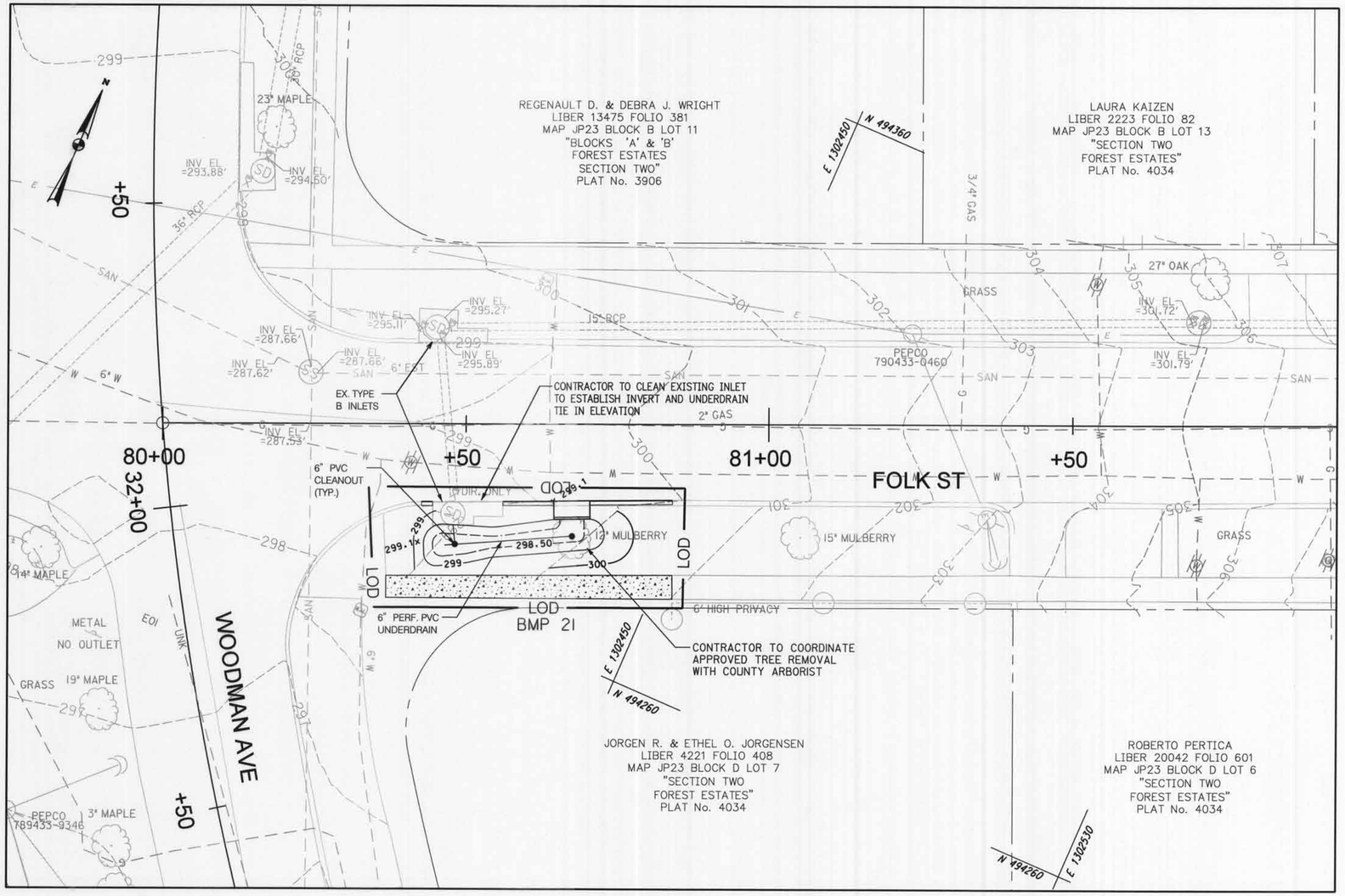
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

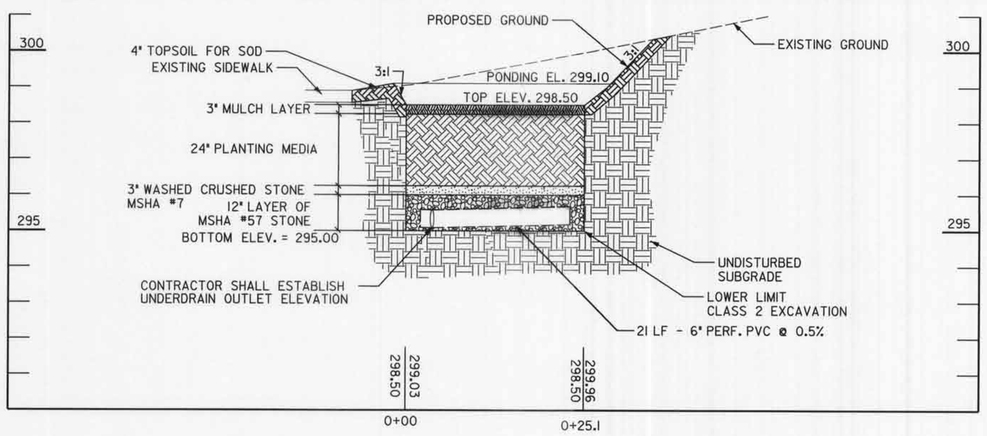
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS		
DRAFT	WJW	APPROVED	HJD
DATE	MAY 11'	SCALE	1"=10'

SHEET 15 OF 33

FILE: I:\5182\13 - roadway list - forest estates and the four corners area\design\engineering\plans\pr\D-F014_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:12 AM





PROFILE - BIORETENTION FACILITY (BMP 21)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: BIORETENTION — BMP ID: 21

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.36	
TREATMENT VOLUME (CF)	120	
TARGET WQv TREATMENT VOLUME (CF)	583	
FILTER BED AREA (SF)	68	
FILTER BED SURFACE ELEVATION	298.50	
DESIGN POINT ELEVATION	299.10	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" / T.B.D.	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
80+43 TO 80+45	R	2	
80+56 TO 80+65	R	8	
80+71 TO 80+84	R	14	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
80+37 TO 80+84	R	179	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND — KIMI C. SCHMIDT — No. 31204 — PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE 10/5/11

BY

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

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

PLAN AND PROFILE - BMP 21

FOREST ESTATES

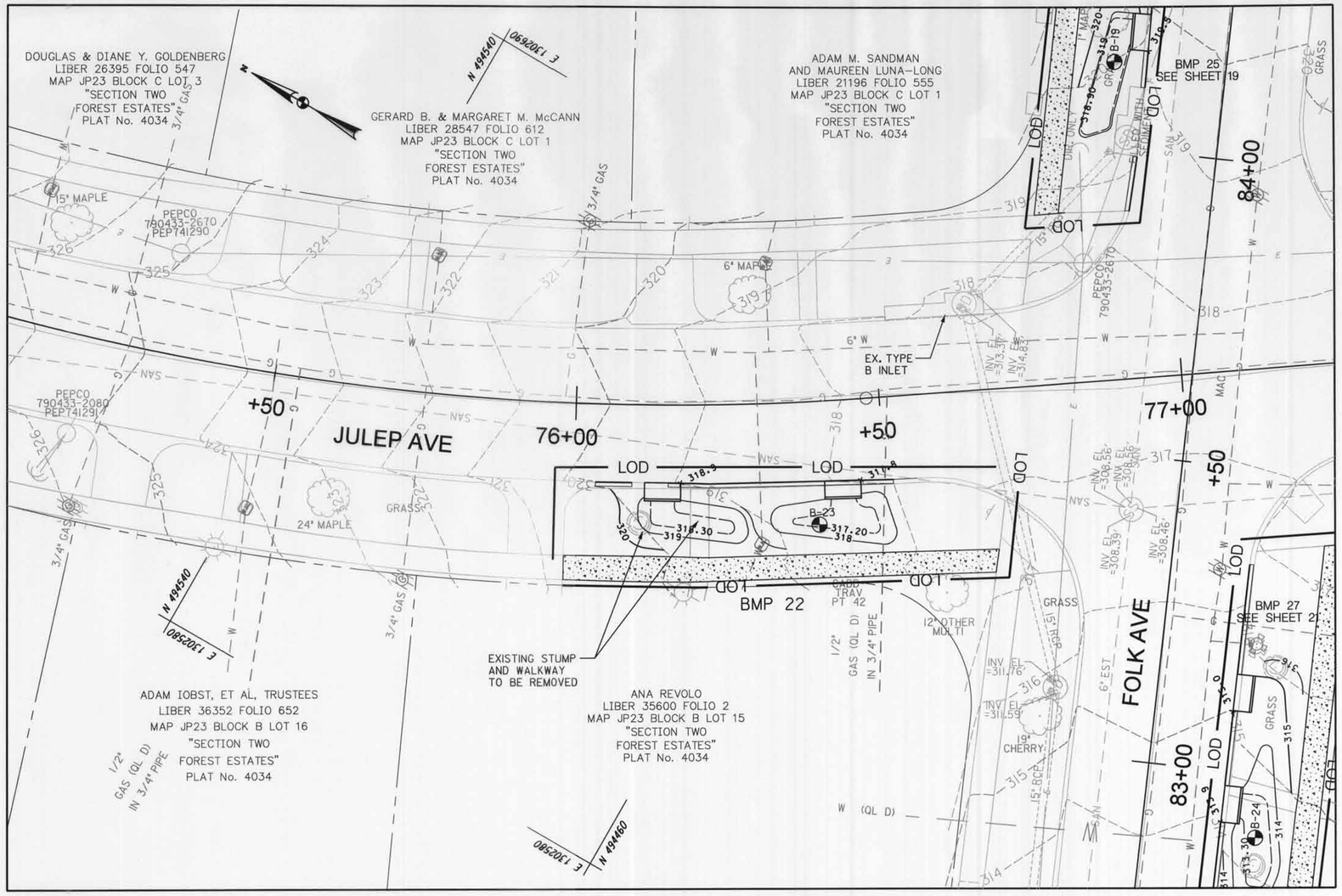
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

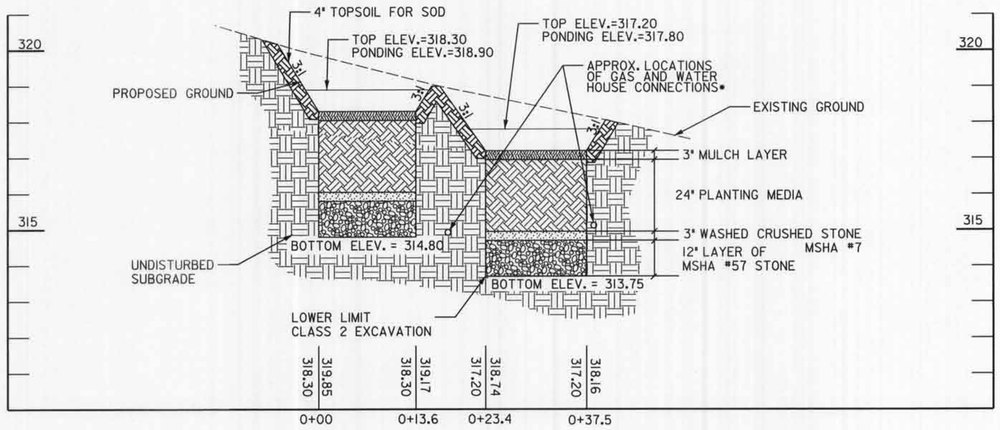
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS
DRAFT	WJW
APPROVED	HJD
DATE	MAY '11
SCALE	1"=10'

SHEET 16 OF 33

FILE: I:\91\9213 - roadway \ic - forest estates and the four corners area\design\engineering\plans\pdf\D-P016_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:12 AM





PROFILE - RAIN GARDEN FACILITY (BMP 22)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

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)	0.56	
TREATMENT VOLUME (CF)	152	
TARGET WQv TREATMENT VOLUME (CF)	1,005	
FILTER BED AREA (SF)	88	
FILTER BED SURFACE ELEVATION	318.30 / 317.20	
DESIGN POINT ELEVATION	318.90 / 317.80	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER – (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
76+04 TO 76+09	R	6	
76+15 TO 76+51	R	38	

4 FOOT CONC. SIDEWALK – MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
75+99 TO 76+68	R	283	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND — KIM C. SCHMIDT — No. 31204 — PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
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509 South Exeter Street
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Baltimore, Maryland 21202
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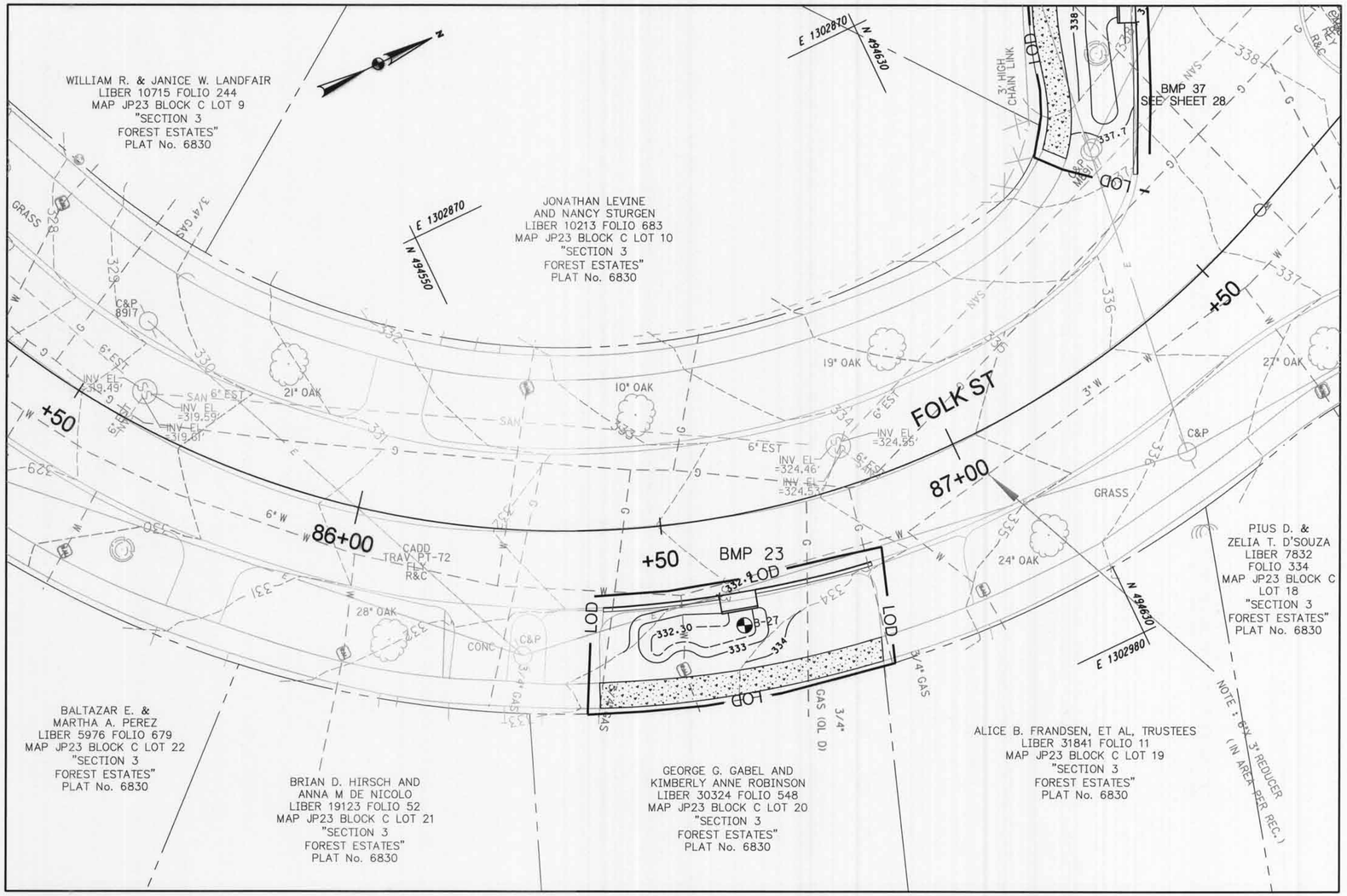
PLAN AND PROFILE - BMP 22
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

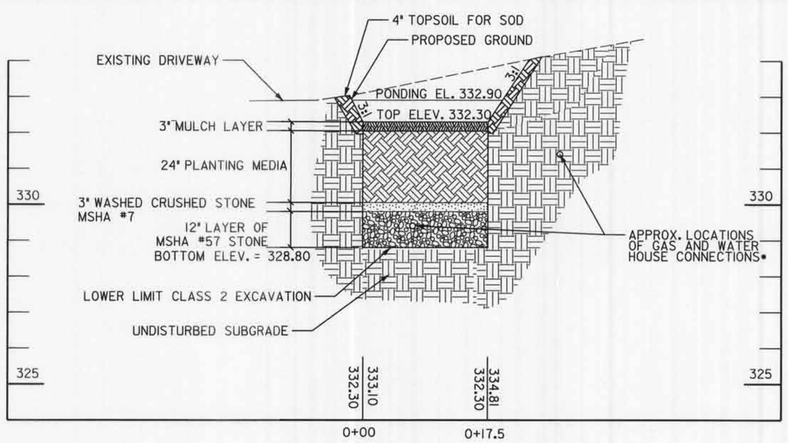
CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS		
DRAFT	WJW	APPROVED	HJD
DATE	MAY 11'	SCALE	1"=10'

SHEET 17 OF 33

FILE: 13516013 - roadway &c - forest estates and the four corners area\design\engineering\planset\p13-P016_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:13 AM





PROFILE - RAIN GARDEN FACILITY (BMP 23)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

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)	0.51	
TREATMENT VOLUME (CF)	97	
TARGET WQv TREATMENT VOLUME (CF)	861	
FILTER BED AREA (SF)	55	
FILTER BED SURFACE ELEVATION	332.30	
DESIGN POINT ELEVATION	332.90	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER – (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
86+40 TO 86+58	R	19	
86+63 TO 86+81	R	20	

4 FOOT CONC. SIDEWALK – MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
86+39 TO 86+79	R	188	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

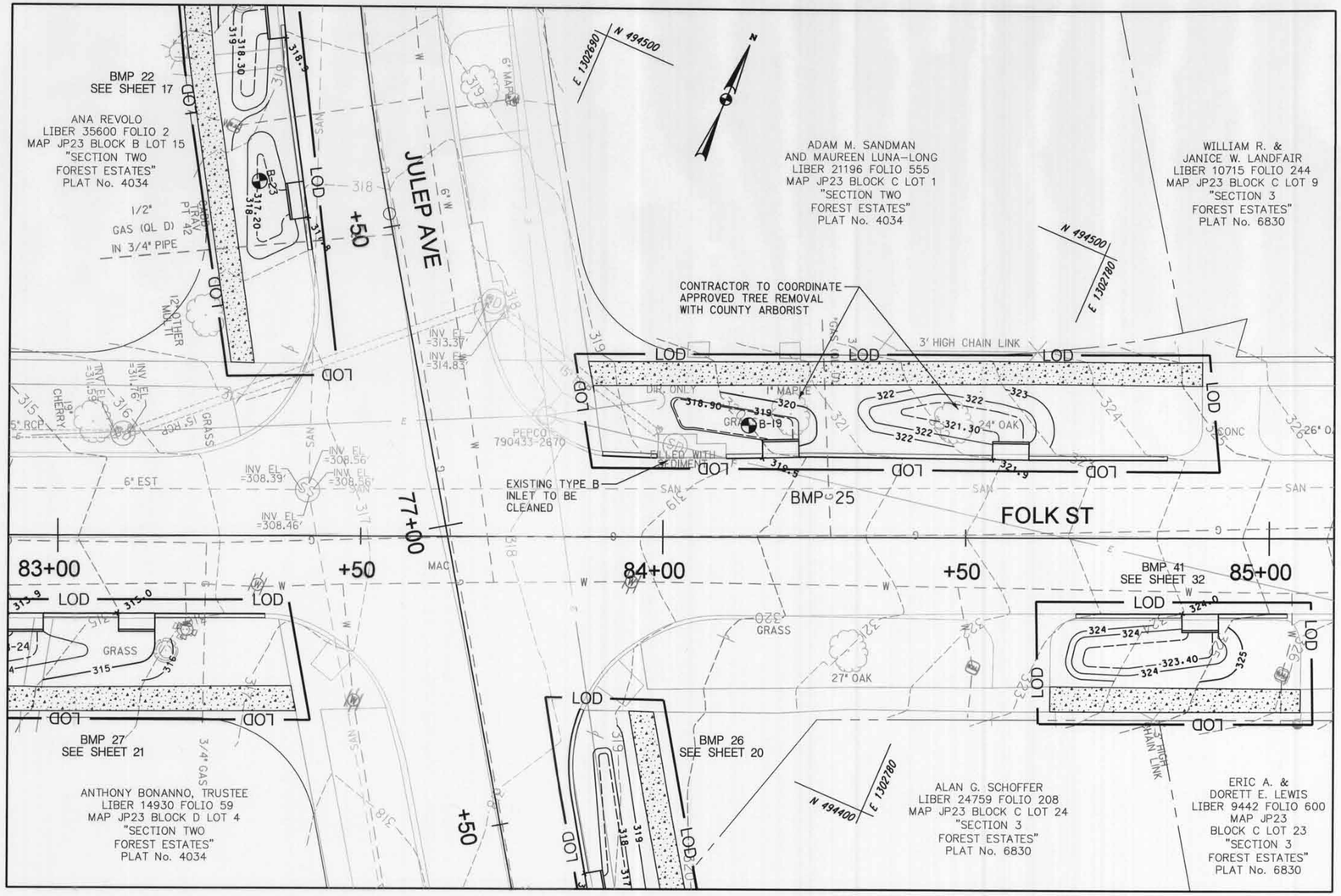
PLAN AND PROFILE - BMP 23
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

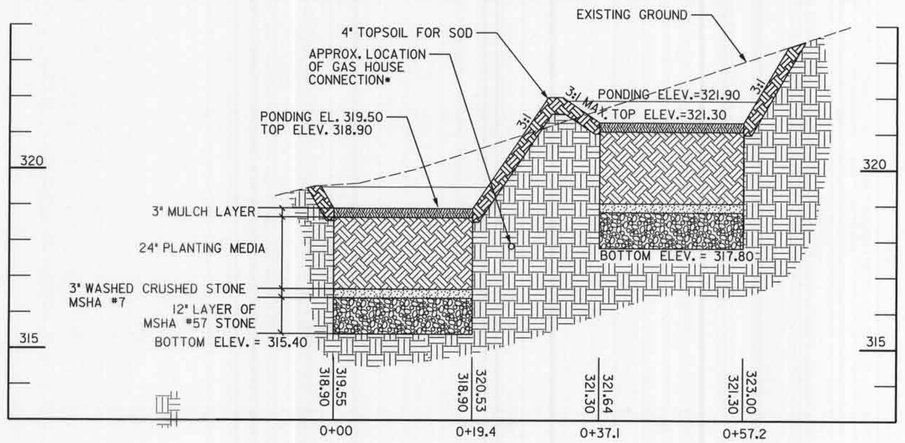
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS	
DRAFT	WJW	
APPROVED	HJD	
DATE	MAY 11'	
SCALE	1"=10'	

SHEET 18 OF 33

FILE: I:\5182\13 - roadway ltd – forest estates and the four corners area\design\engineering\plansset\HD-P017_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:13 AM





PROFILE - RAIN GARDEN FACILITY (BMP 25)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

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)	2.33	
TREATMENT VOLUME (CF)	234	
TARGET WQv TREATMENT VOLUME (CF)	1,981	
FILTER BED AREA (SF)	141	
FILTER BED SURFACE ELEVATION	318.90 / 321.30	
DESIGN POINT ELEVATION	319.50 / 321.90	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
83+90 TO 83+99	L	9	
84+10 TO 84+16	L	6	
84+22 TO 84+54	L	32	
84+61 TO 84+83	L	23	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
83+88 TO 84+89	L	386	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND — KIM C. SCHMIDT — No. 31204 — PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 3-3

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

PLAN AND PROFILE - BMP 25

FOREST ESTATES

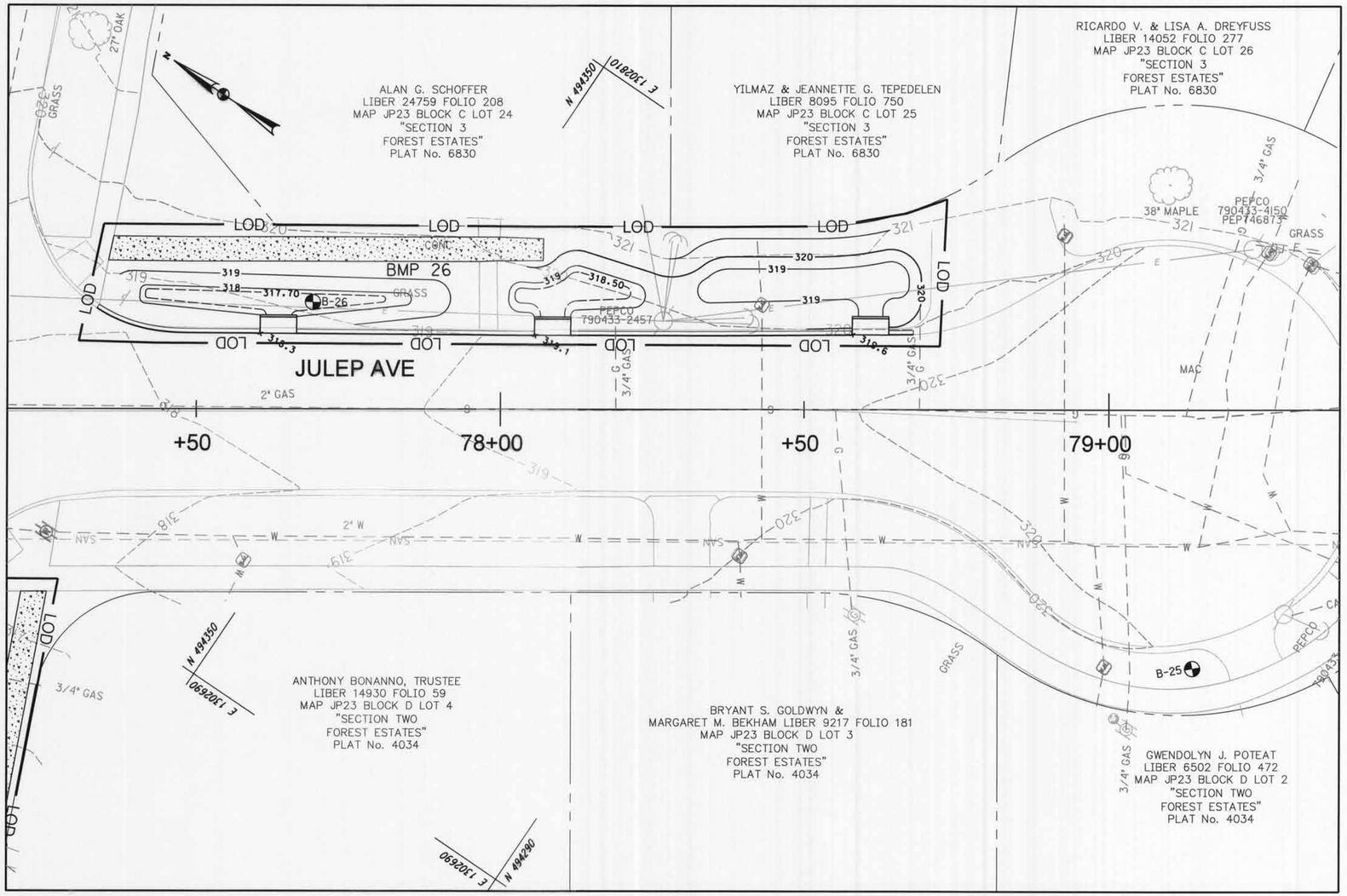
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

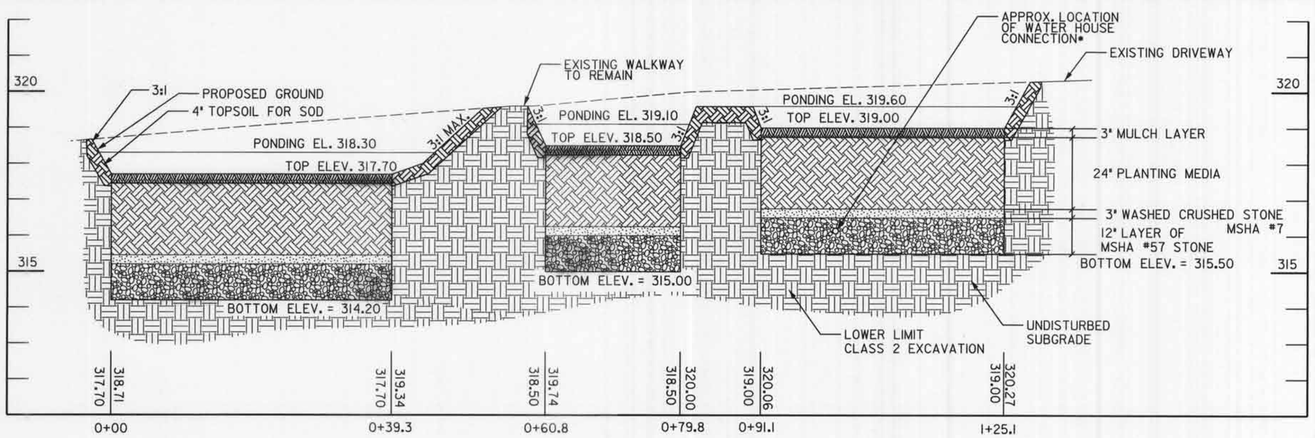
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS		
DRAFT	WJW		
APPROVED	HJD		
DATE	MAY 11'		
SCALE	1"=10'		

SHEET 19 OF 33

FILE: 1G182C13 - roadway lid - forest estates and the four corners smallsites\engineering\plansets\pr\PD-P018_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:13 AM





PROFILE - RAIN GARDEN FACILITY (BMP 26)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

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)	0.77	
TREATMENT VOLUME (CF)	592	
TARGET WQv TREATMENT VOLUME (CF)	957	
FILTER BED AREA (SF)	352	
FILTER BED SURFACE ELEVATION	317.70 / 318.50 / 319.00	
DESIGN POINT ELEVATION	318.30 / 319.10 / 319.60	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
77+34 TO 77+60	L	28	
77+66 TO 78+06	L	39	
78+12 TO 78+58	L	46	
78+64 TO 78+68	L	4	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
77+36 TO 78+07	L	284	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

PLAN AND PROFILE - BMP 26

FOREST ESTATES

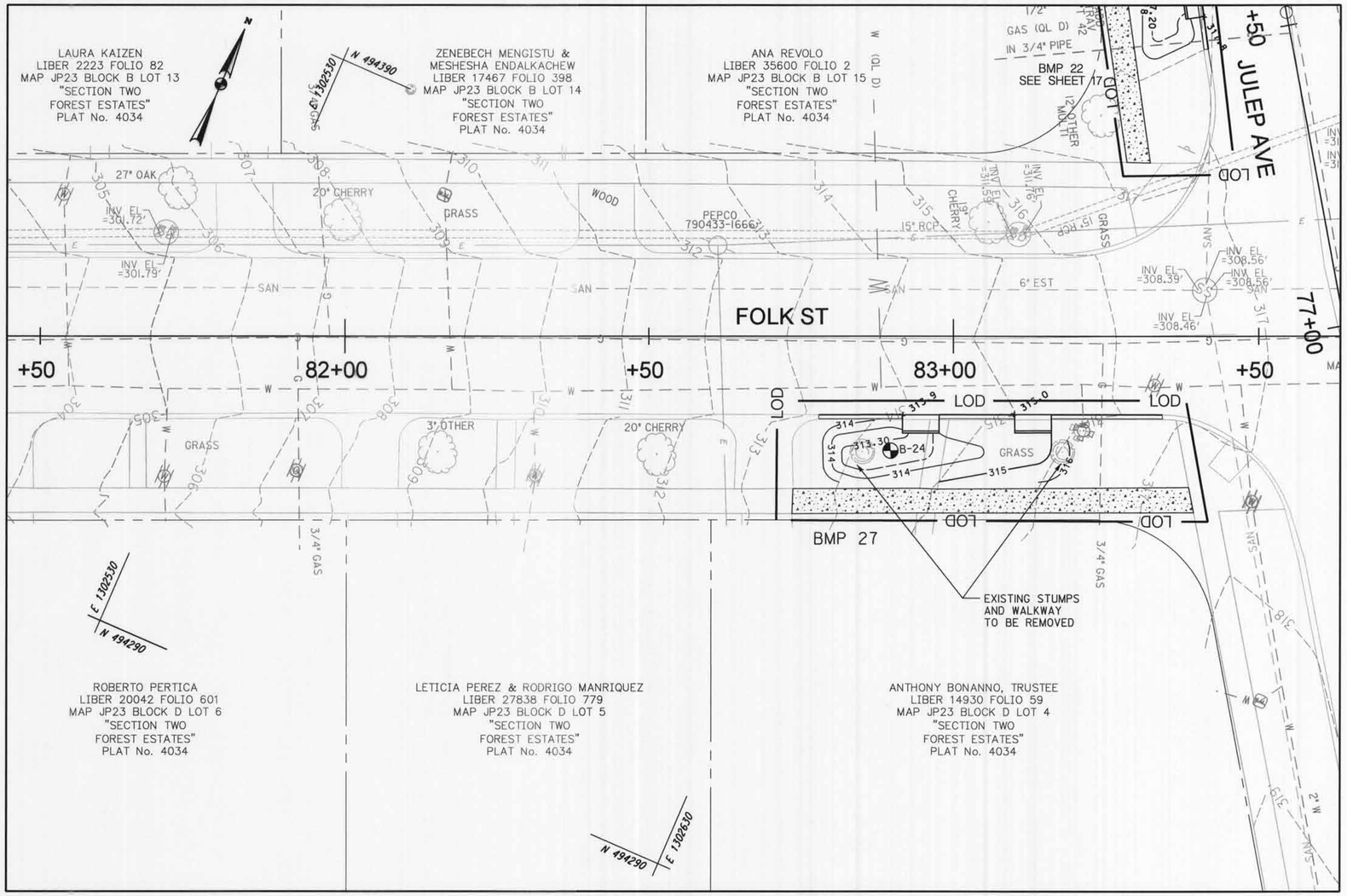
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

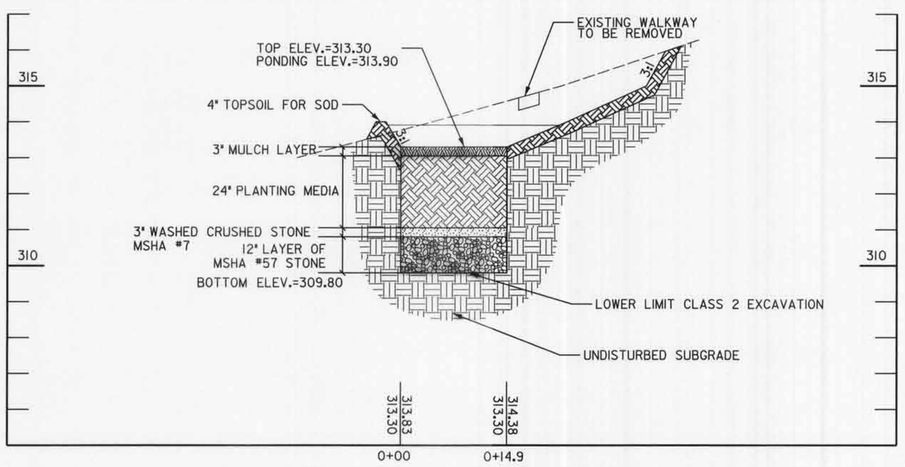
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS
DRAFT	WJW
APPROVED	HJD
DATE	MAY 11'
SCALE	1"=10'

SHEET 20 OF 33

FILE: I:\5152\13 - roadway bid - forest estates and the four corners area\design\engineering\plans\sht\HD-PP19_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:13 AM





PROFILE - RAIN GARDEN FACILITY (BMP 27)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

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)	0.37	
TREATMENT VOLUME (CF)	102	
TARGET WQv TREATMENT VOLUME (CF)	806	
FILTER BED AREA (SF)	61	
FILTER BED SURFACE ELEVATION	313.30	
DESIGN POINT ELEVATION	315.00 / 313.90	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER – (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
82+78 TO 82+92	R	14	
82+98 TO 83+10	R	12	
83+16 TO 83+34	R	18	

4 FOOT CONC. SIDEWALK – MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
82+74 TO 83+39	R	264	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

PLAN AND PROFILE - BMP 27

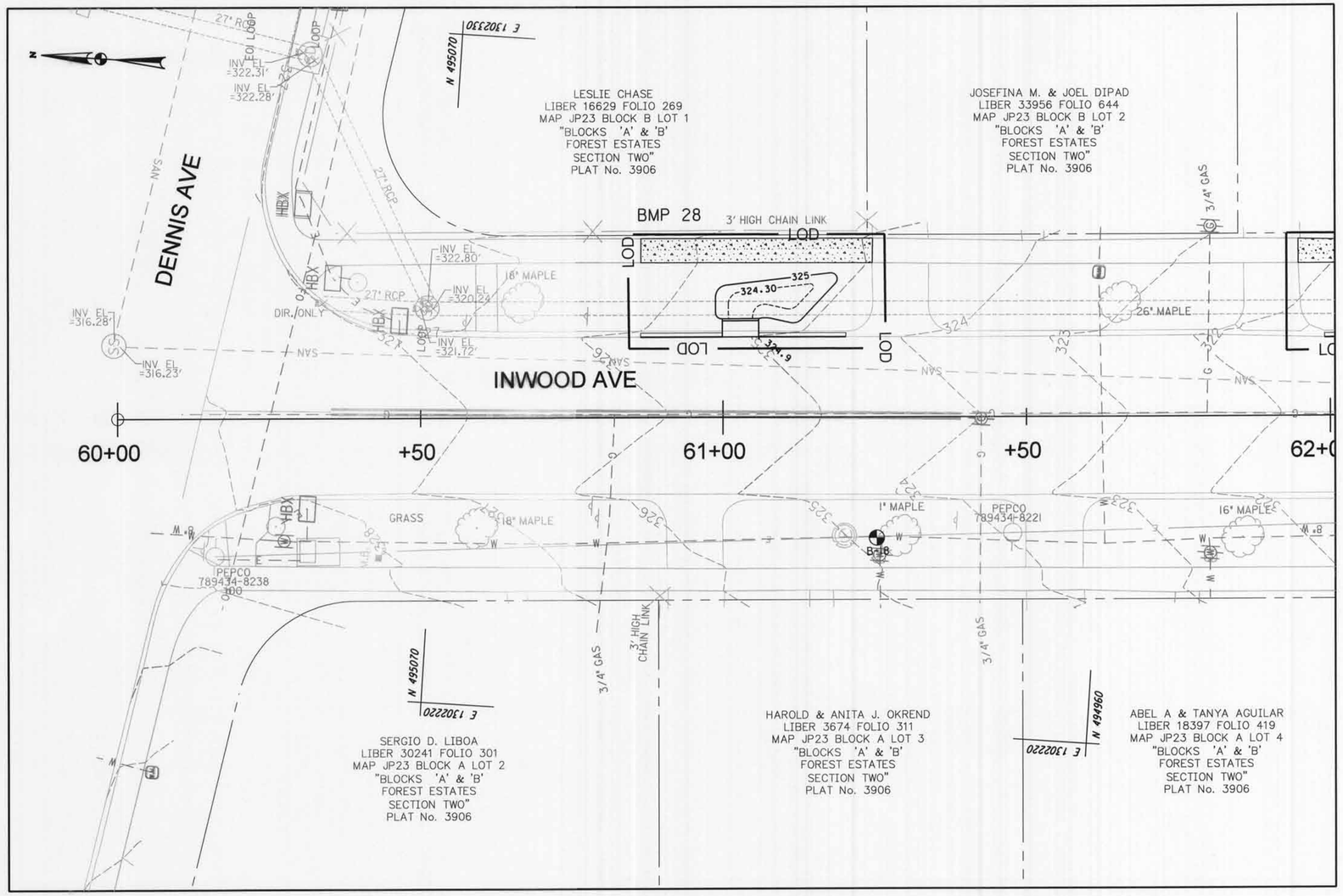
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

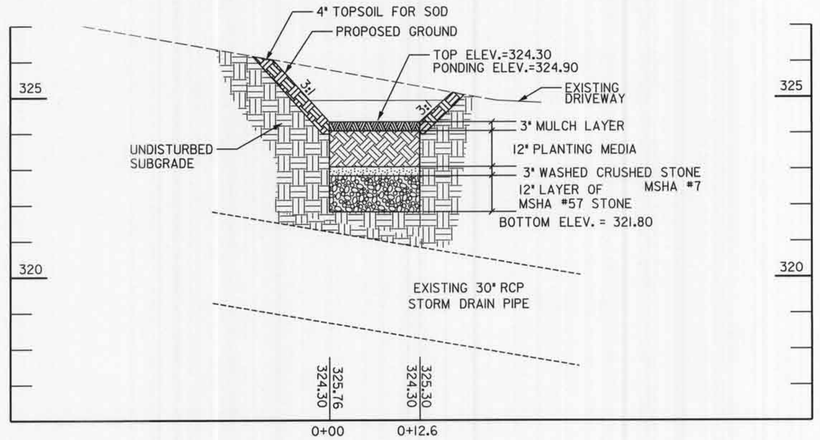
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS		
DRAFT	WJW		
APPROVED	HJD	DATE	MAY 11'
		SCALE	1"=10'

SHEET 21 OF 33

FILE: 15150113 - roadway tpl - forest estates and the four corners area\design\engineering\plansset\pHD-P020_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:13 AM





PROFILE - RAIN GARDEN FACILITY (BMP 28)

SCALE: HORIZ. 1"=10'
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.

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: RAIN GARDEN — BMP ID: 28

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.15	
TREATMENT VOLUME (CF)	61	
TARGET WQv TREATMENT VOLUME (CF)	255	
FILTER BED AREA (SF)	45	
FILTER BED SURFACE ELEVATION	324.30	
DESIGN POINT ELEVATION	324.90	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER – (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
60+86 TO 61+00	L	14	
61+06 TO 61+20	L	15	

4 FOOT CONC. SIDEWALK – MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
60+86 TO 61+25	L	153	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND — KIM C. SCHMIDT — No. 31204 — PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

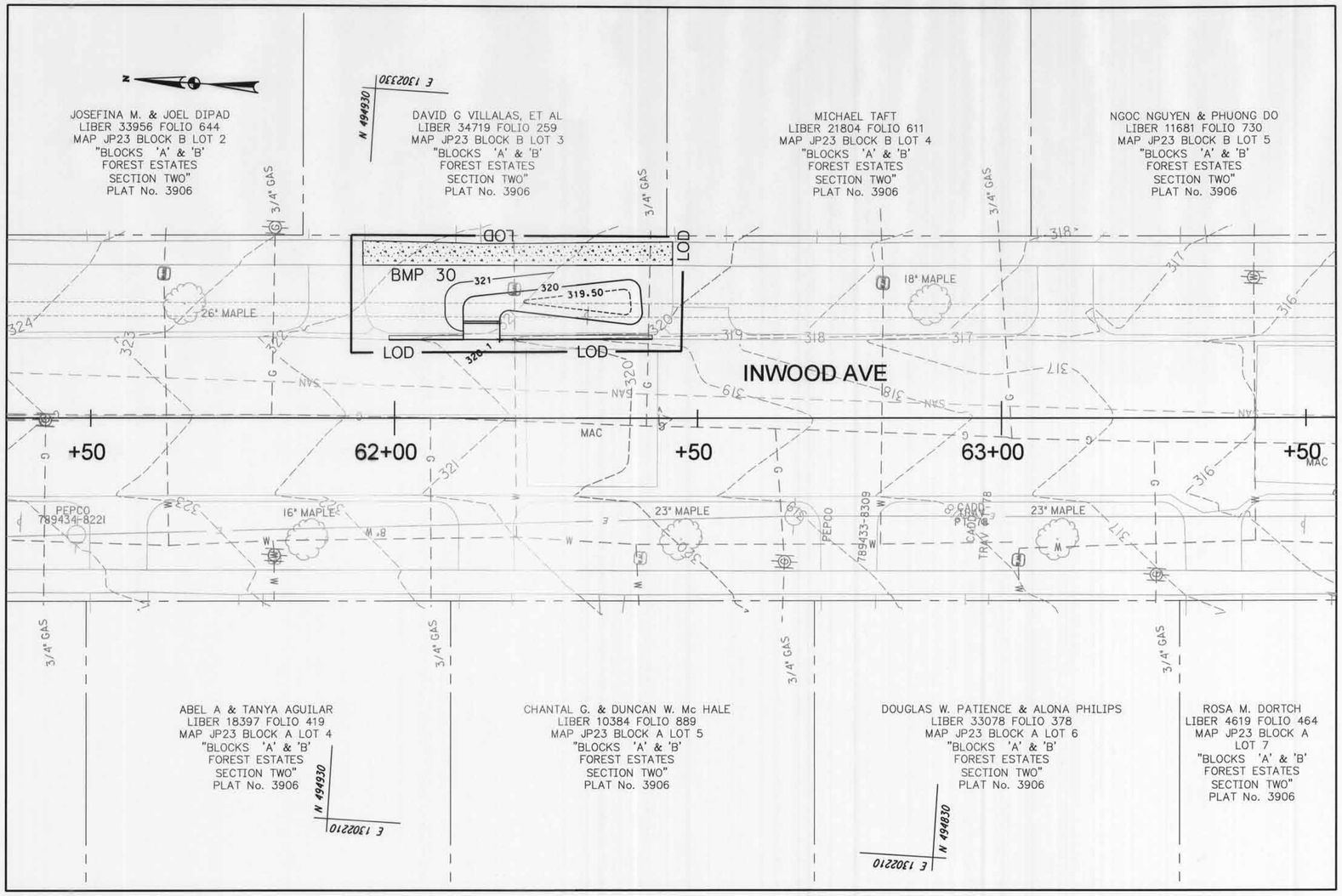
PLAN AND PROFILE - BMP 28
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

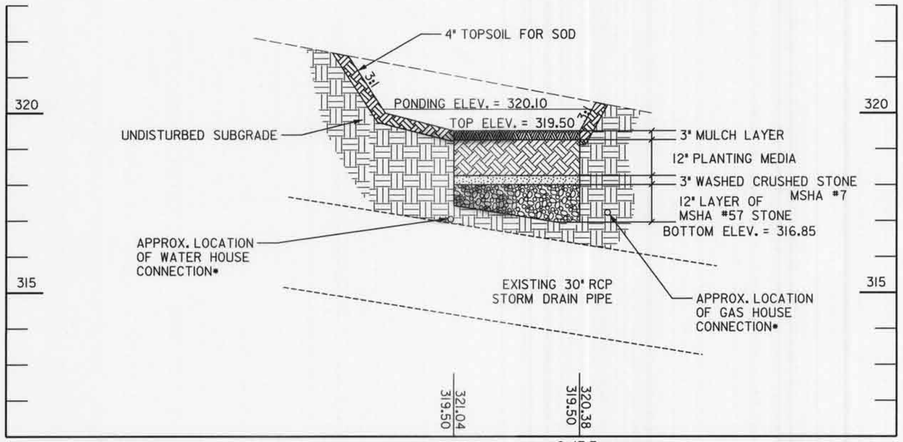
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS		
DRAFT	WJW		
APPROVED	HJD	DATE	MAY 11'
		SCALE	1"=10'

SHEET 22 OF 33

FILE: 15152013 - roadway & c - forest estates and the four corners area\design\engineering\planset\pHD-P021_Forest.dgn
PLOTTED: Monday, October 03, 2011 11:13 AM





PROFILE - RAIN GARDEN FACILITY (BMP 30)

SCALE: HORIZ. 1"=10'
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.

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: RAIN GARDEN BMP ID: 30

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.20	
TREATMENT VOLUME (CF)	78	
TARGET WQv TREATMENT VOLUME (CF)	388	
FILTER BED AREA (SF)	42	
FILTER BED SURFACE ELEVATION	319.50	
DESIGN POINT ELEVATION	320.10	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
61+99 TO 62+11	L	14	
62+17 TO 62+43	L	24	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
61+95 TO 62+46	L	191	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.3

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

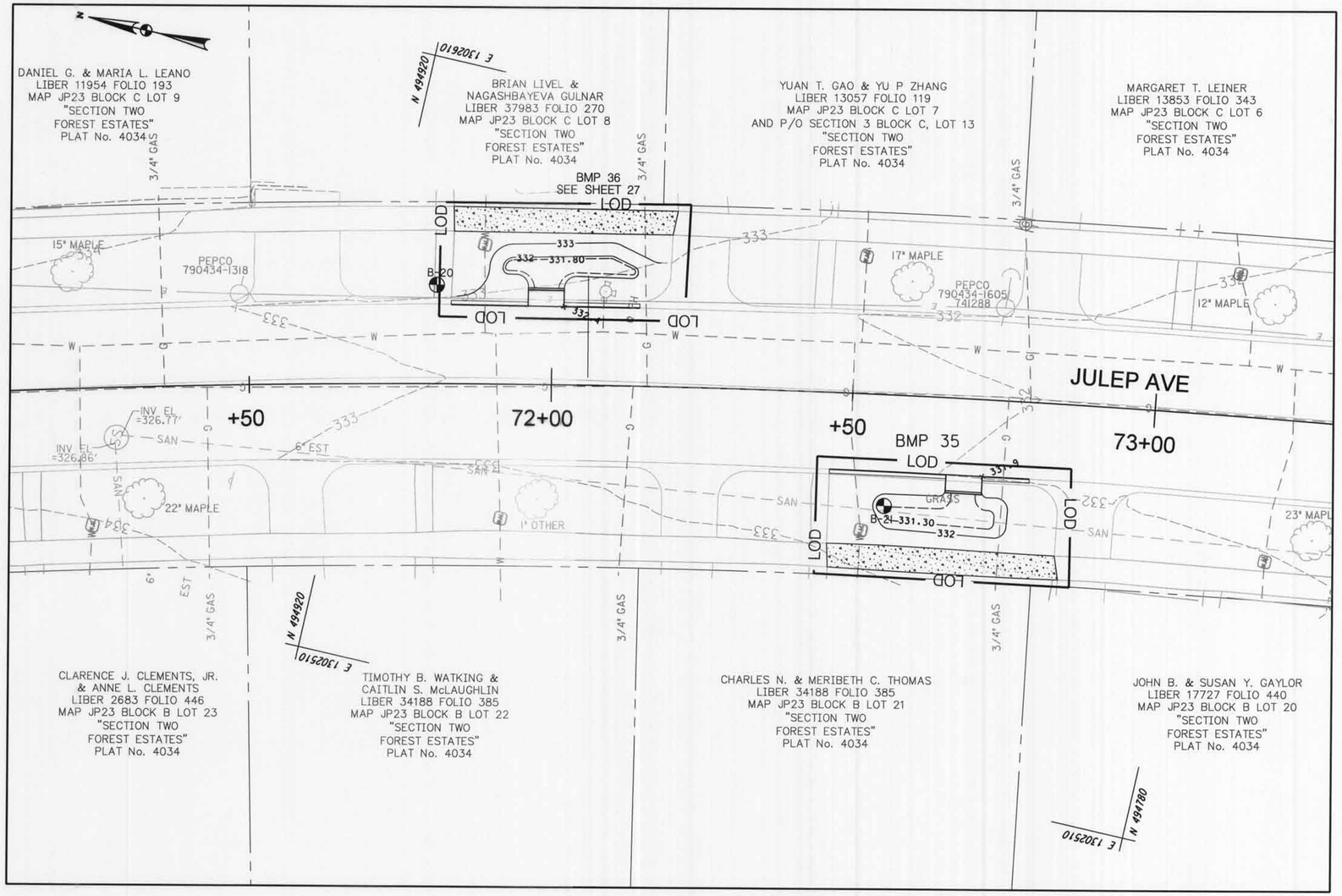
PLAN AND PROFILE - BMP 30
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

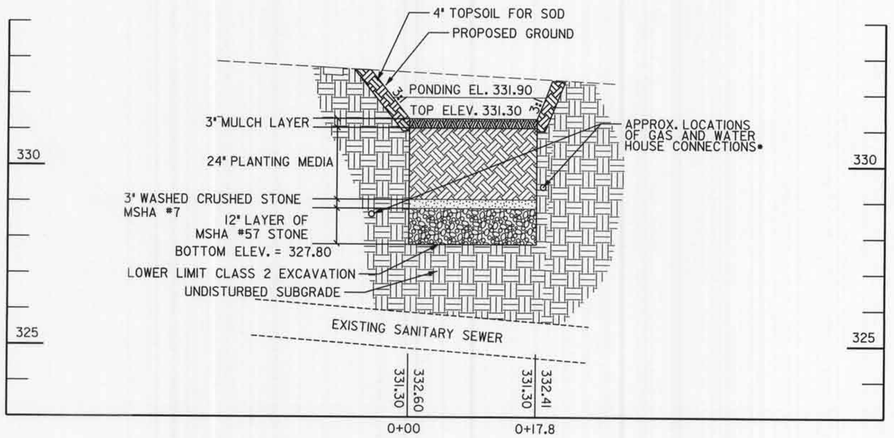
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS		
DRAFT	WJW		
APPROVED	HJD		
DATE	MAY 11'		
SCALE	1"=10'		

SHEET 23 OF 33

FILE: L:\51\52\13 - roadway jul. - forest estates and the four corners area\dsta\pp\engineering\plans\pp\HD-P023_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:13 AM





PROFILE - RAIN GARDEN FACILITY (BMP 35)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: RAIN GARDEN — BMP ID: 35

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.39	
TREATMENT VOLUME (CF)	101	
TARGET WQv TREATMENT VOLUME (CF)	723	
FILTER BED AREA (SF)	58	
FILTER BED SURFACE ELEVATION	331.30	
DESIGN POINT ELEVATION	331.90	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
72+47 TO 72+66	R	19	
72+72 TO 72+80	R	8	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
72+47 TO 72+86	R	154	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND — KIM C. SCHMIDT — No. 31204 — PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.3

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
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 Taylor
Engineers & Planners Since 1946

PLAN AND PROFILE - BMP 35

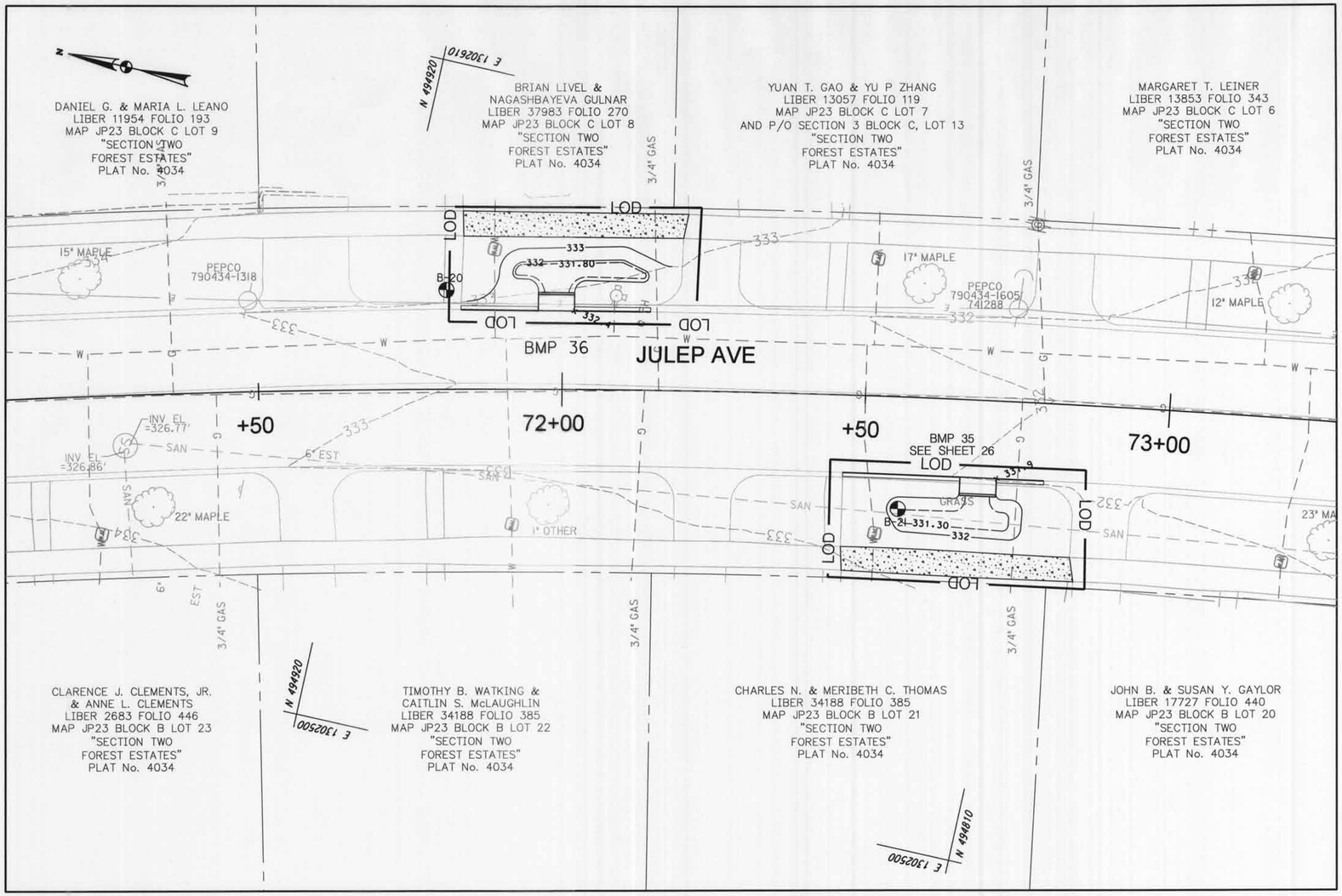
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

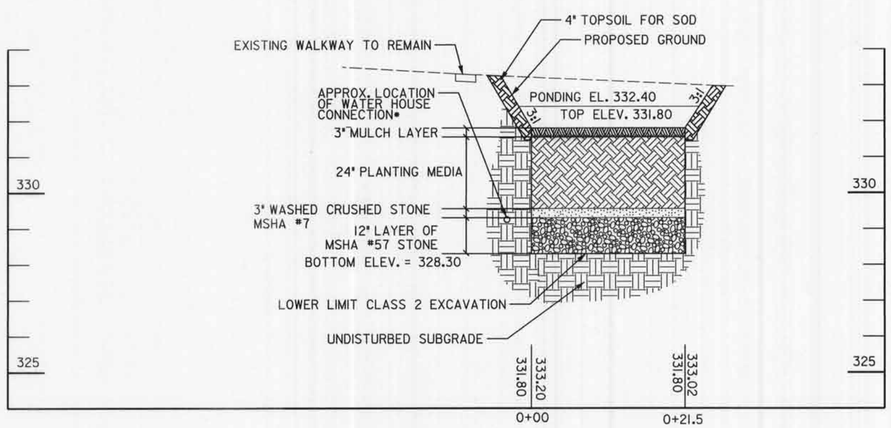
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS
DRAFT	WJW
APPROVED	HJD
DATE	MAY 11'
SCALE	1"=10'

SHEET 24 OF 33

F.E.B. 14/5/2013 - roadway for forest estates and the four corners area/design/engineering/plans/phD-P027_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:13 AM





PROFILE - RAIN GARDEN FACILITY (BMP 36)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: RAIN GARDEN — BMP ID: 36

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.63	
TREATMENT VOLUME (CF)	103	
TARGET WQv TREATMENT VOLUME (CF)	1,148	
FILTER BED AREA (SF)	59	
FILTER BED SURFACE ELEVATION	331.80	
DESIGN POINT ELEVATION	332.40	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER – (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
71+83 TO 71+96	L	13	
72+02 TO 72+14	L	13	

4 FOOT CONC. SIDEWALK – MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
71+84 TO 72+20	L	149	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

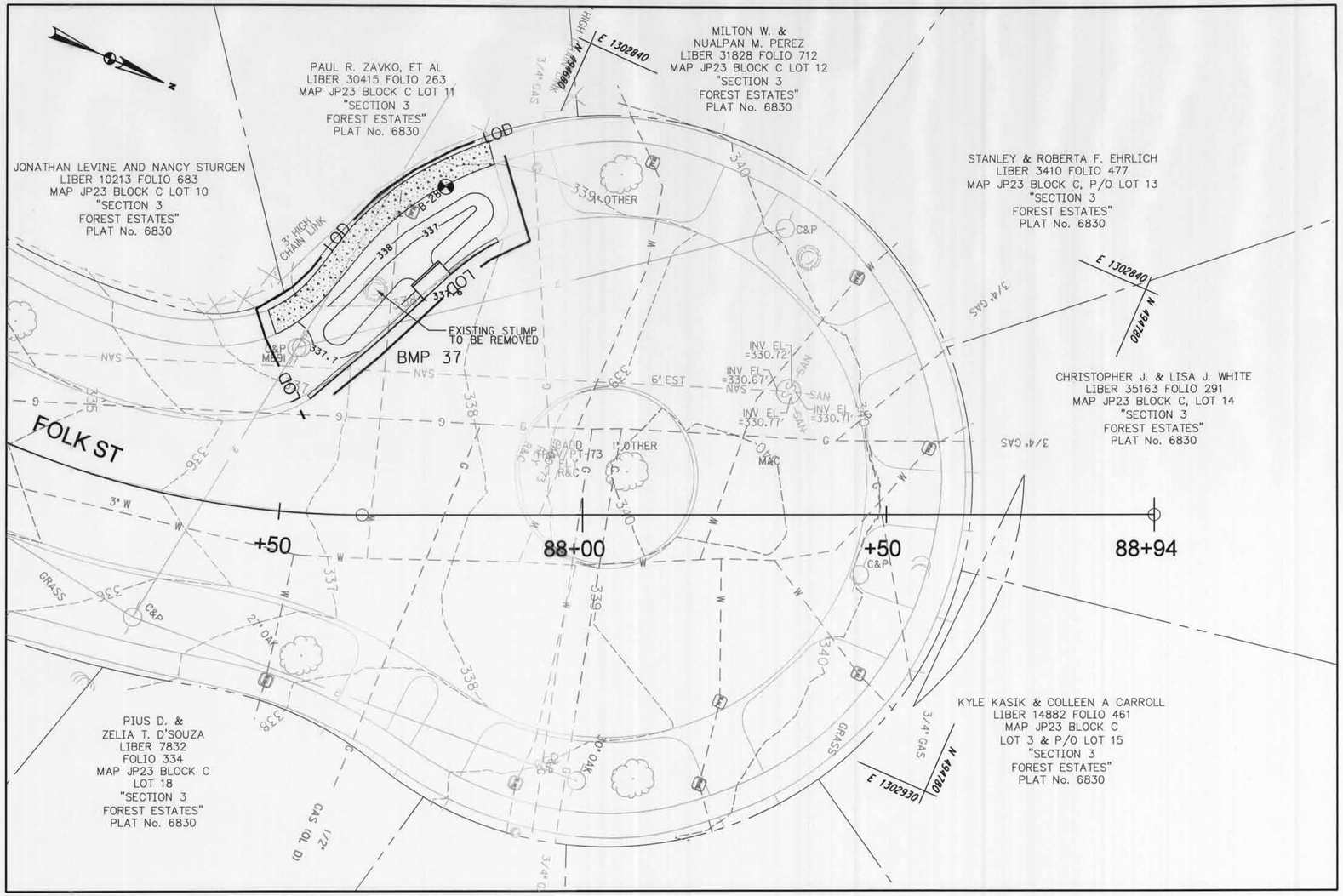
PLAN AND PROFILE - BMP 36
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

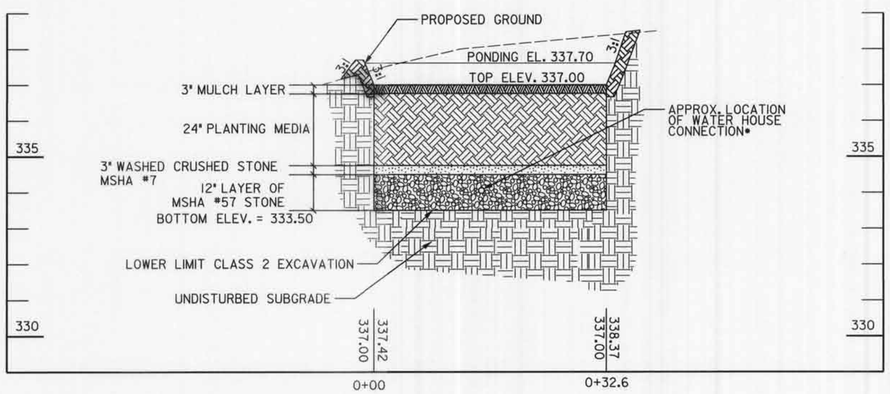
CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS
DRAFT	WJW
APPROVED	HJD
DATE	MAY 11'
SCALE	1"=10'

SHEET 25 OF 33

FILE: 1351001G - monkey fist, forest estates and the four corners area\dwgs\engineering\plans\prj\HD-P028_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:15 AM





PROFILE - RAIN GARDEN FACILITY (BMP 37)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: RAIN GARDEN — BMP ID: 37

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.32	
TREATMENT VOLUME (CF)	189	
TARGET WQv TREATMENT VOLUME (CF)	580	
FILTER BED AREA (SF)	110	
FILTER BED SURFACE ELEVATION	337.00	
DESIGN POINT ELEVATION	337.70	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
87+54 TO 87+70	L	25	
87+74 TO 87+86	L	10	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
87+44 TO 87+85	L	182	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 B.3

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE 10/5/11

BY

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

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

PLAN AND PROFILE - BMP 37

FOREST ESTATES

SLIGO (13th) ELECTION DISTRICT

PARCEL X, SUBDIVISION X, LIBER X FOLIO X

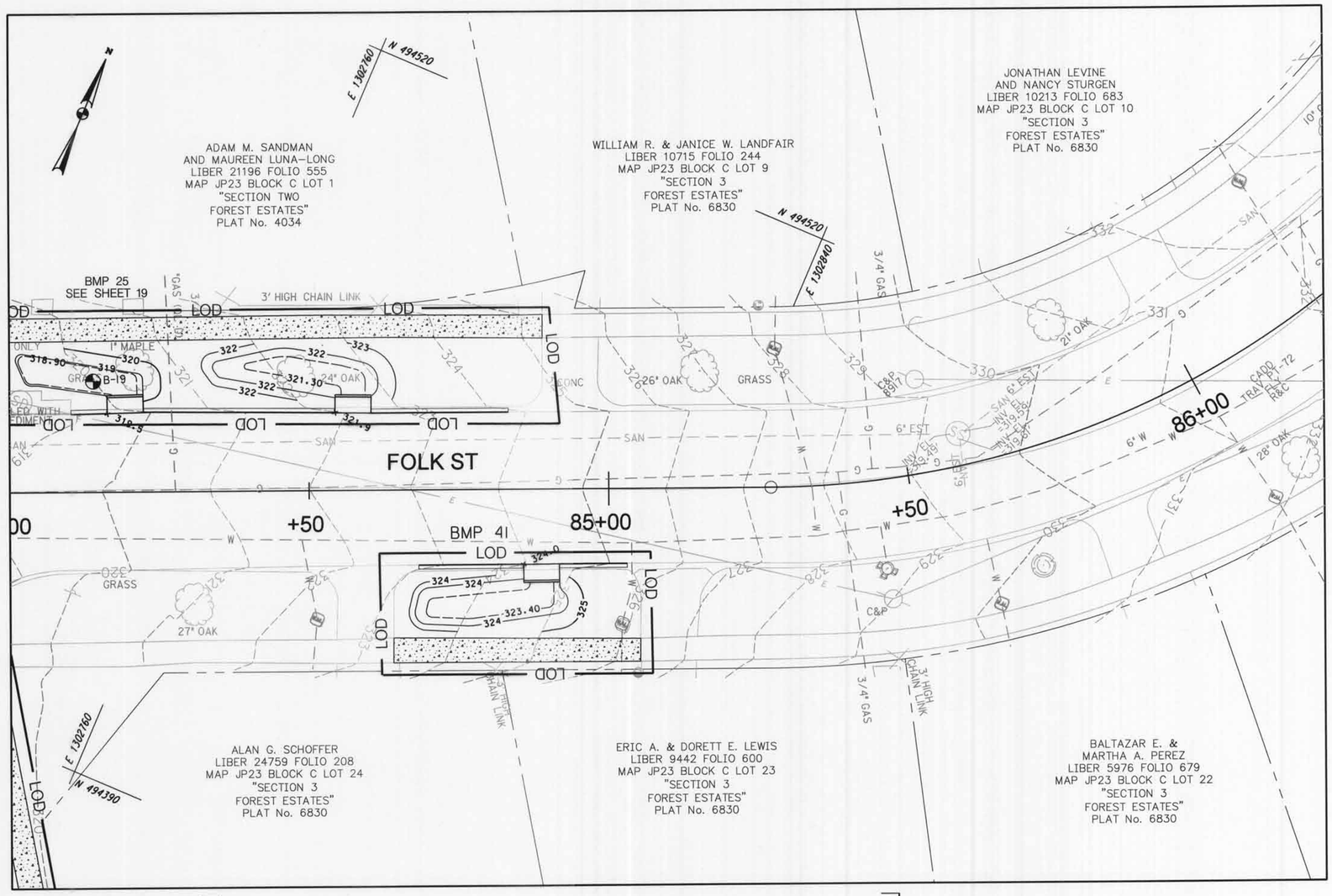
MONTGOMERY COUNTY, MARYLAND

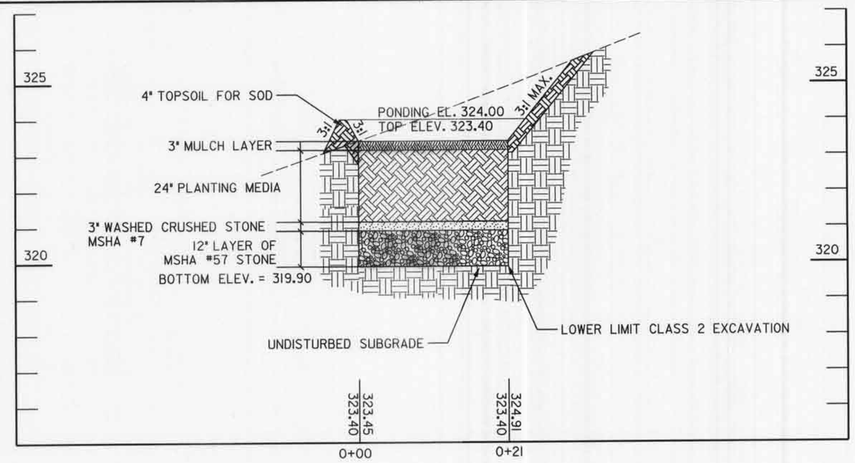
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS	
DRAFT	WJW	
APPROVED	HJD	
DATE	MAY 11'	
SCALE	1"=10'	

SHEET 26 OF 33

FILE: L:\51\62\13 - courtney ka - forest estates and the four corners area\dwgs\engineering\plans\pnf\HD-PD29_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:13 AM





PROFILE - RAIN GARDEN FACILITY (BMP 41)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

CONTRACTOR SHALL VERFY SOILS AT TIME OF CONSTRUCTION TO DETERMINE IF ADEQUATE INFILTRATION RATES EXIST AT THIS LOCATION TO SUPPORT A BIOSWALE FACILITY.

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: RAIN GARDEN — BMP ID: 41

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.44	
TREATMENT VOLUME (CF)	133	
TARGET WQv TREATMENT VOLUME (CF)	705	
FILTER BED AREA (SF)	79	
FILTER BED SURFACE ELEVATION	323.40	
DESIGN POINT ELEVATION	324.00	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER – (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
84+68 TO 84+86	R	17	
84+92 TO 85+03	R	11	

4 FOOT CONC. SIDEWALK – MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
84+64 TO 85+05	R	164	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND — KIM C. SCHMIDT — No. 31204 — PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

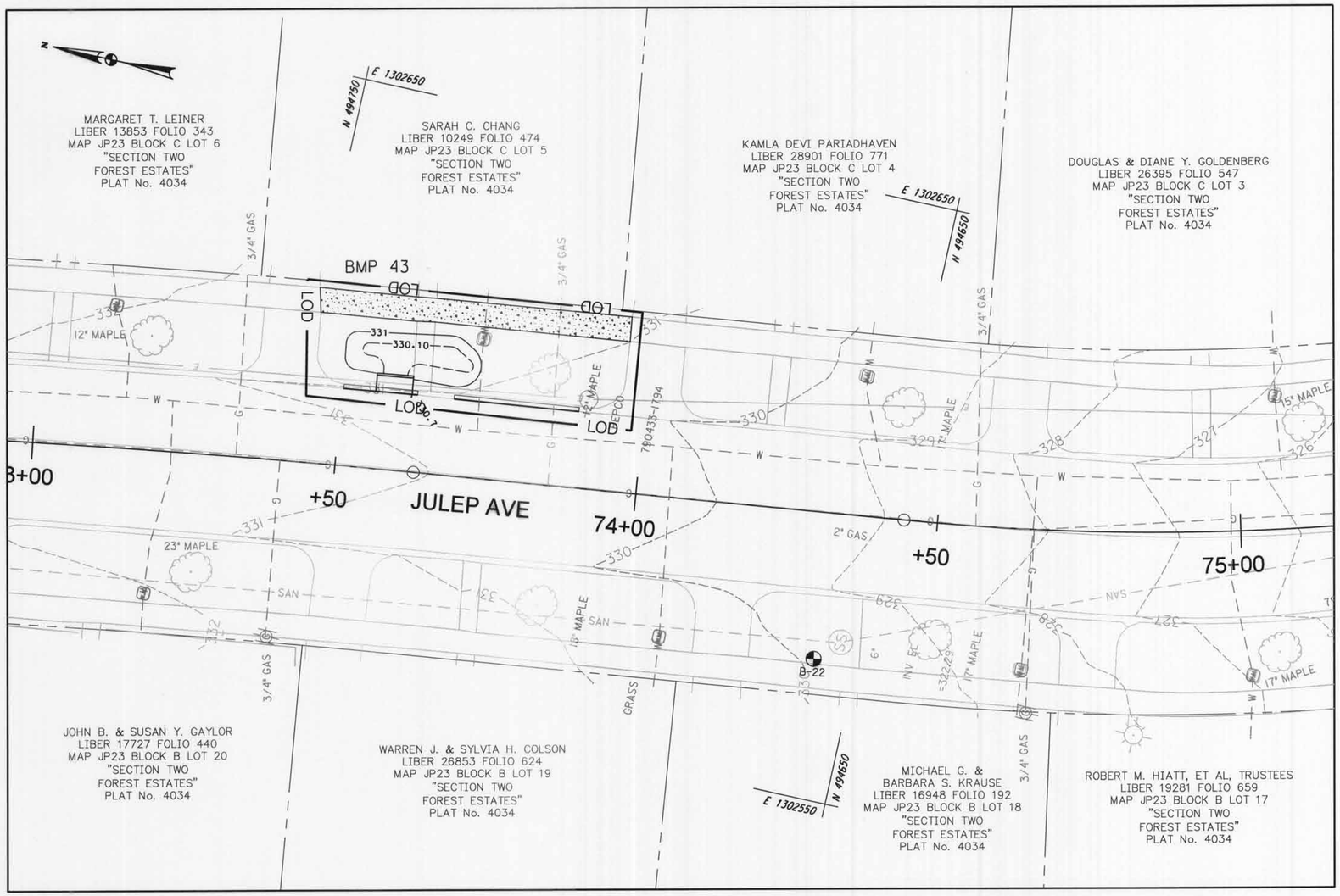
PLAN AND PROFILE - BMP 41
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

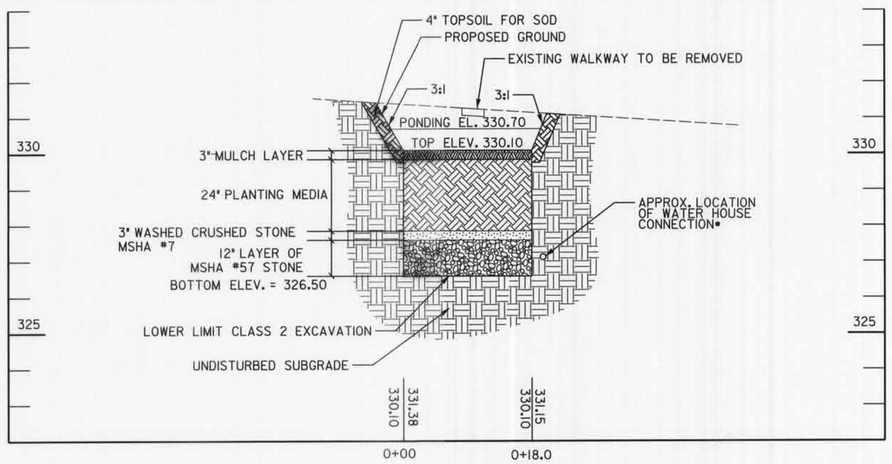
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS
DRAFT	WJW
APPROVED	HJD
DATE	MAY 11'
SCALE	1"=10'

SHEET 27 OF 33

FILE: L5192C13 - roadway lic - forest estates and the four corners amerideskgn\engineering\planset\pfd-P031_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:13 AM





PROFILE - RAIN GARDEN FACILITY (BMP 43)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

CONTRACTOR SHALL VERFY SOILS AT TIME OF CONSTRUCTION TO DETERMINE IF ADEQUATE INFILTRATION RATES EXIST AT THIS LOCATION TO SUPPORT A BIOSWALE FACILITY.

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: RAIN GARDEN BMP ID: 43

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.28	
TREATMENT VOLUME (CF)	107	
TARGET WQv TREATMENT VOLUME (CF)	541	
FILTER BED AREA (SF)	62	
FILTER BED SURFACE ELEVATION	330.10	
DESIGN POINT ELEVATION	330.70	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
73+50 TO 73+62	L	12	
73+69 TO 73+89	L	21	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
73+45 TO 73+97	L	207	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

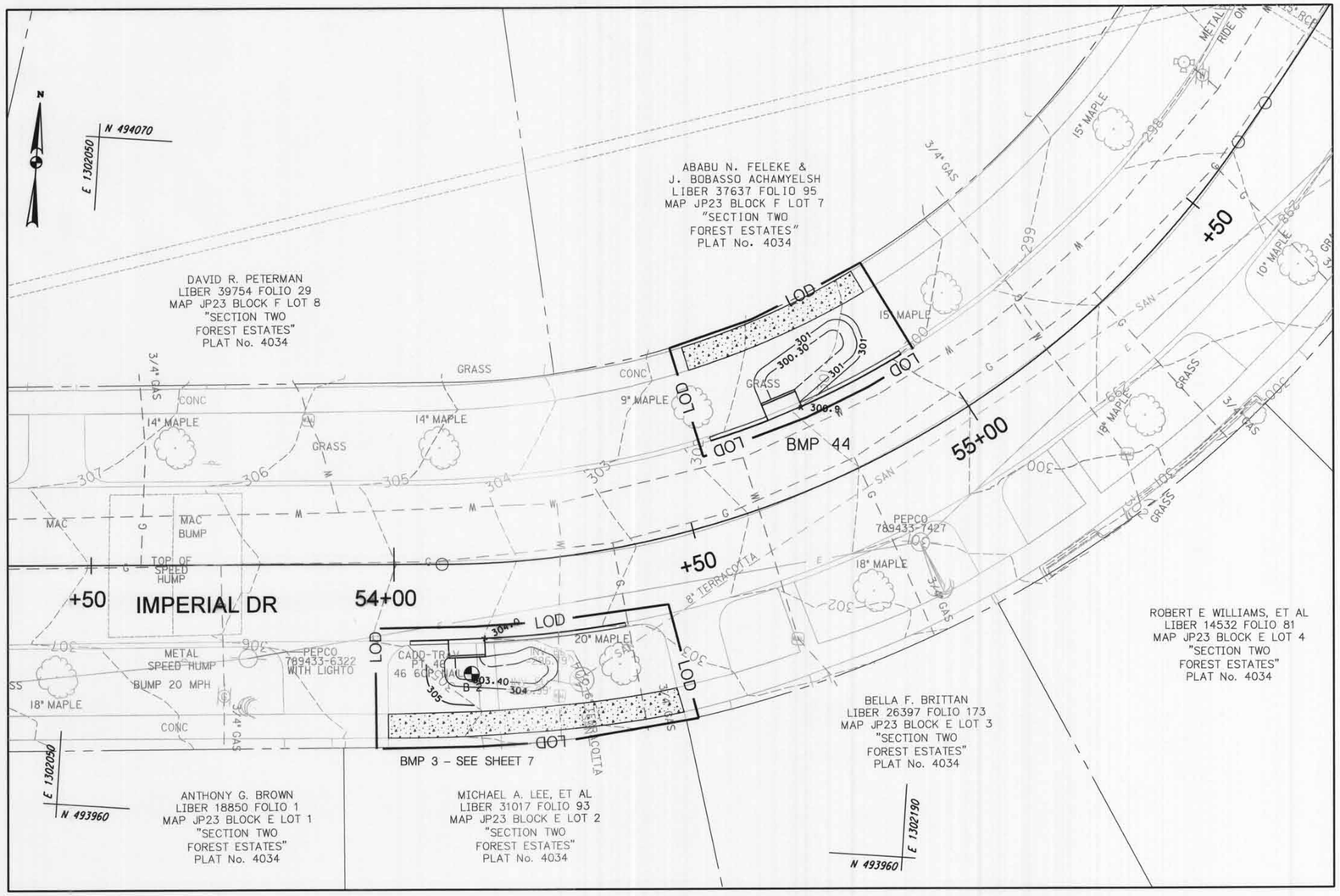
PLAN AND PROFILE - BMP 43
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

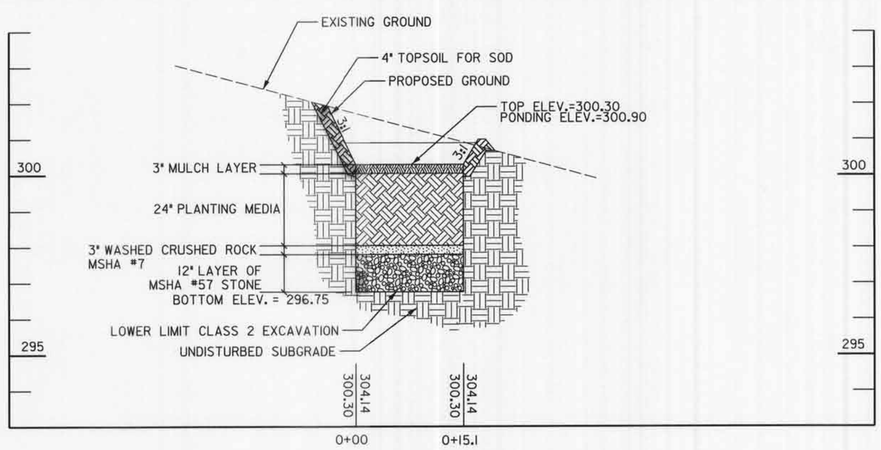
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS		
DRAFT	WJW		
APPROVED	HJD	DATE	MAY 11'
		SCALE	1"=10'

SHEET 28 OF 33

F.B. 1545/0/13 - Roadway & c. forest patches and the four corners area/design/engineering/PlanSet/pH0-P033_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:14 AM





PROFILE - RAIN GARDEN FACILITY (BMP 44)

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)

*TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY: RAIN GARDEN BMP ID: 44

FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	0.22	
TREATMENT VOLUME (CF)	97	
TARGET WQv TREATMENT VOLUME (CF)	399	
FILTER BED AREA (SF)	60	
FILTER BED SURFACE ELEVATION	300.30	
DESIGN POINT ELEVATION	300.90	
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 33	
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 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

COMBINATION CONC. CURB AND GUTTER - (TYPE A) MC-100.01

STA. TO STA.	OFFSET	L.F.	REMARKS
54+56 TO 54+68	L	10	
54+75 TO 54+95	L	19	

4 FOOT CONC. SIDEWALK - MC-110.01

STA. TO STA.	OFFSET	S.F.	REMARKS
54+56 TO 54+95	L	124	

CONTRACTOR SHALL REPLACE SIDEWALK TO NEAREST EXISTING SIDEWALK JOINT.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 JS

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

PLAN AND PROFILE - BMP 44
FOREST ESTATES
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	MAY 11'	SCALE	1"=10'

SHEET 29 OF 33

FILE: 1401613 - roadway 6c - forest estates and the four corners area\dwg\engineering\plans\phBD-PP34_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:14 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 SC/SM 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 WITH IN 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 PERVIOUS 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 5 % 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

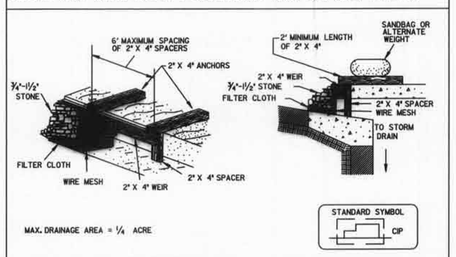
AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM EIGHT INCH HEIGHT (BEFORE COMPACTION) LAYERS, WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM 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 TIRED 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 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

STATE OF MARYLAND KIM C. SCHMIDT No. 31204 PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

EROSION AND SEDIMENT CONTROL NOTES
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

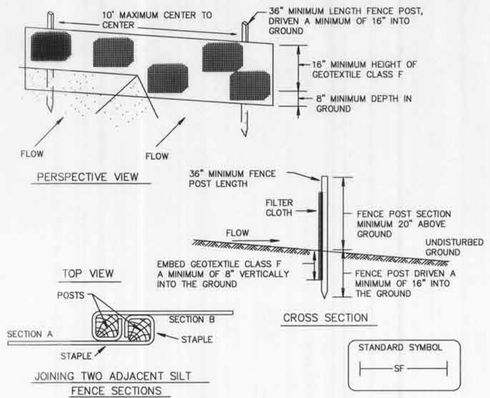
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PAUL BOGLE, P.E.
(240) 777-7757

DESIGN	KCS	DATE	MAY 11'
DRAFT	WJW	SCALE	NOT TO SCALE
APPROVED	HJD		

SHEET 30 OF 33

FILE: L151621C13 - roadway lot - forest estates and the four corners areas\dsgn\engineering\dataset\ES-N001_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:14 AM

DETAIL 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

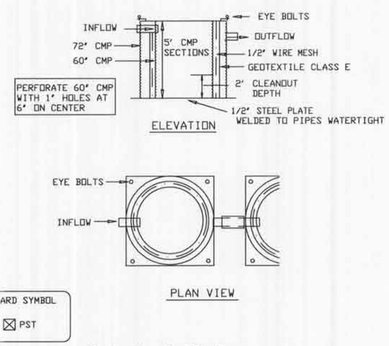
Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 1 & 1A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 21 - PORTABLE SEDIMENT TANK



Construction Specifications

1. The following formula should be used in determining the storage volume of the sediment tank: 1 cubic foot of storage for each gallon per minute of pump discharge capacity.

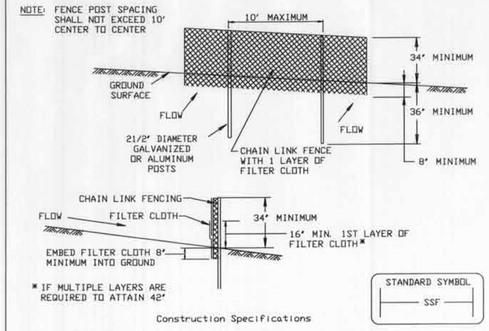
2. An example of a typical sediment tank is shown above. Other container designs can be used if the storage volume is adequate and approval is obtained from the local approving agency.

3. Tanks may be connected in series.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D - 14 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 - SUPER SILT FENCE

NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details For Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

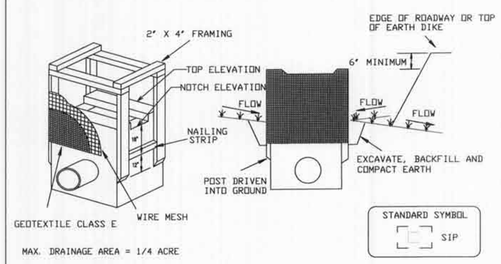
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3 & 3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23A - STANDARD INLET PROTECTION



Construction Specifications

1. Excavate completely around the inlet to a depth of 18" below the notch elevation.

2. Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.

3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.

4. Stretch the Geotextile Class E tightly over the wire mesh with the geotixtile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.

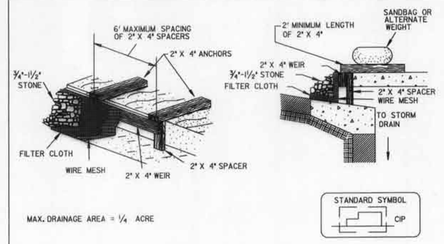
5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.

6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.

7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

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

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 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

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.

STATE OF MARYLAND · KIM C. SCHMIDT · No. 31204 · PROFESSIONAL ENGINEER

DPS PERMIT NO. 27030 4 3-5

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.

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

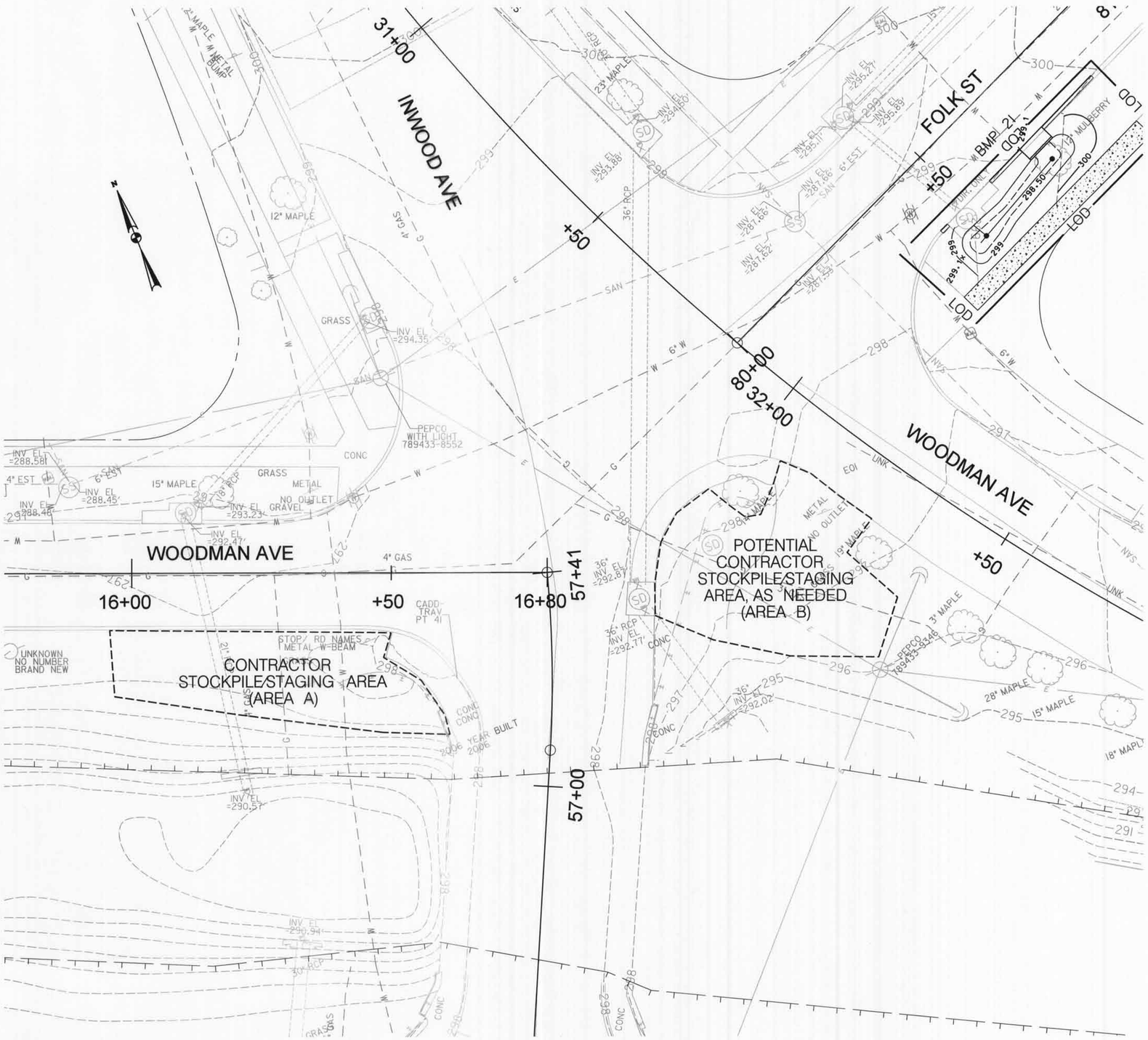
EROSION AND SEDIMENT CONTROL NOTES
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

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	MAY 11'
		SCALE	NOT TO SCALE

SHEET 31 OF 33

FILE: I:\51813 - roadway \8\ - forest est\ne and the four corners area\design\engineering\plans\ed\S-N002_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:14 AM



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 MCDEP'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 ALONG THE EAST SIDE OF INWOOD AVENUE, NORTH OF THE BRIDGE (AREA A). IF THE CONTRACTOR NEEDS ADDITIONAL SPACE TO STOCKPILE MATERIALS, AREA B (WEST SIDE OF INWOOD AVENUE) MAY BE USED AS LONG AS 3/4 INCH PLYWOOD IS PLACED ON ALL NON-PAVED SURFACES.

11. STOCKPILE/STAGING AREAS ARE TO BE REMOVED AND RESTORED TO ORIGINIAL 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.

STATE OF MARYLAND
KIM C. SCHMIDT
No. 31204
PROFESSIONAL ENGINEER

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE 10/5/11
BY

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

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

EROSION AND SEDIMENT CONTROL PLAN

FOREST ESTATES

SLIGO (13th) ELECTION DISTRICT

PARCEL X, SUBDIVISION X, LIBER X FOLIO X

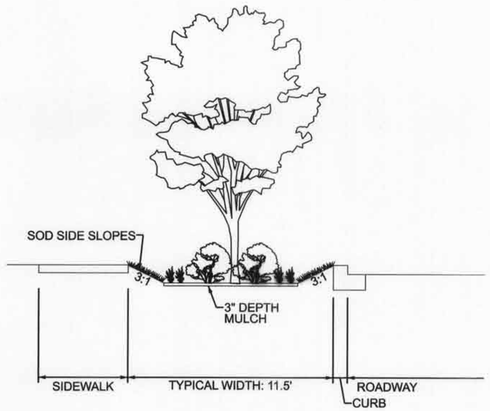
MONTGOMERY COUNTY, MARYLAND

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	MAY 11'
SCALE	

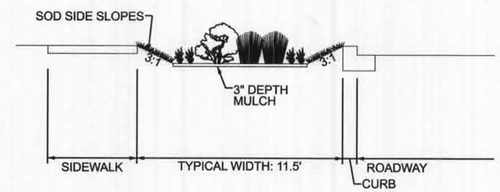
SHEET 32 OF 33

FILE: 1M5f0010 - roadway i.e., forest estates and the four corners area\design\engineering\plans\ed\DS-P001_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:14 AM



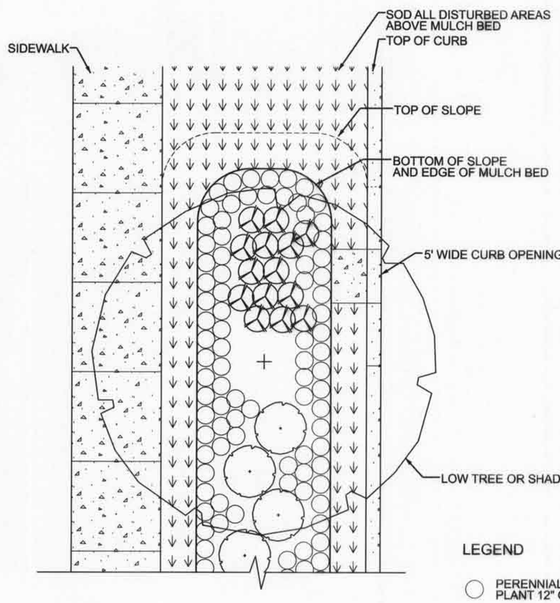
RAIN GARDEN PLANTING TYPICAL SECTION

NOT TO SCALE



BIORETENTION PLANTING TYPICAL SECTION

NOT TO SCALE

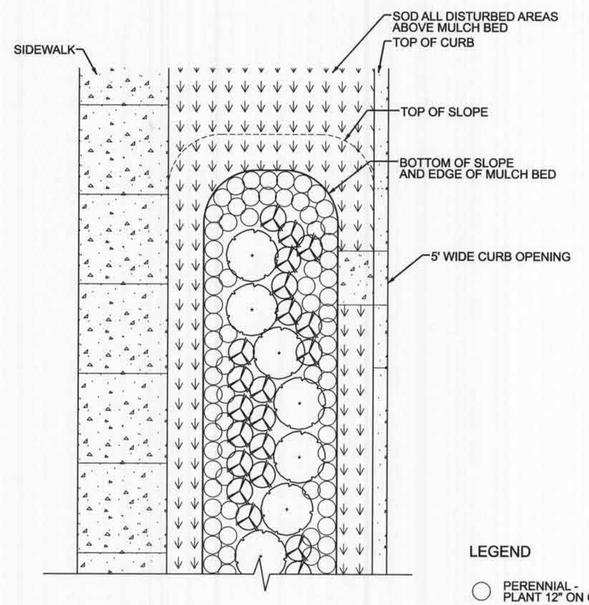


LEGEND

- PERENNIAL - PLANT 12" ON CENTER
- ORNAMENTAL GRASS - PLANT 18" ON CENTER
- SHRUB - PLANT 3' ON CENTER

RAIN GARDEN PLANTING TYPICAL PLAN VIEW

NOT TO SCALE



LEGEND

- PERENNIAL - PLANT 12" ON CENTER
- ORNAMENTAL GRASS - PLANT 18" ON CENTER
- SHRUB - PLANT 3' ON CENTER

BIORETENTION PLANTING TYPICAL PLAN VIEW

NOT TO SCALE

CONCEPTUAL PLANTING SCHEDULE

QUANTITY	ITEM	SIZE	UNIT
GROUNDCOVERS			
	Turgrass Sod		SY
	Shredded Hardwood Bark Mulch	3" Depth	SY
ORNAMENTAL GRASSES			
	Carex crinita / Fringed Sedge	0†	EA
	Eragrostis spectabilis / Purple Love Grass	0†	EA
	Panicum virgatum 'Shenandoah' / Shenandoah Switchgrass	0†	EA
	Panicum virgatum 'Rotstrahlbusch' / Dwarf Red Switchgrass	0†	EA
PERENNIALS			
	Aesclepias tuberosa / Butterfly Milkweed	0†	EA
	Aster Novi-Belgii / Woods Pink Aster	0†	EA
	Coreopsis verticiliata 'Moonbeam' / Moonbeam Tickseed	0†	EA
	Echinacea purpurea / Purple Coneflower	0†	EA
	Rudbeckia fulgida 'Goldstrum' / Black-Eyed Susan	0†	EA
SHRUBS			
	Clethra anlifolia 'Hummingbird' / Dwarf Summer Sweet	18" H, Container	EA
	Ilex glabra 'Compacta' / Dwarf Inkberry	18" H, Container	EA
	Ilex verticiliata 'Red Sprite' / Dwarf Winterberry	18" H, Container	EA
	Ilex verticiliata 'Jim Dandy' / Male Winterberry	18" H, Container	EA
	Potentilla fruiticosa / Bushy Cinquefoil	18" H, Container	EA
LOW TREES			
	Amelanchier canadensis / Serviceberry	5' H, Container	EA
	Chioanthus virginicus / Fringetree	5' H, Container	EA
	Prunus virginiana 'Schubert' / Red Choke Cherry	5' H, Container	EA
SHADE TREES			
	Acer rubrum / Red Maple	2 1/2" Cal, B&B	EA
	Carpinus caroiina / American Hornbeam	2 1/2" Cal, B&B	EA
	Quercus phellos / Willow Oak	2 1/2" Cal, B&B	EA

NOTES:

1. This plan is for landscape purposes only.
2. All proposed layouts are conceptual.
3. Cluster species in groupings of 5 to 15. Use larger groupings with larger facilities.
4. No large woody trees to be planted in bioretention facilities with an underdrain system.
5. No shade trees to be planted beneath or within 20' of an overhead utility line. Low trees may be used beneath utility lines.
6. Space trees at least 30' apart on center.
7. Facility may be entirely sodded without any mulch if adjacent property owner(s) prefer turfgrass only.
8. Rain Garden facilities that are sodded only may still include street trees, but should not inicude mulched beds, shrubs, perennials, or ornamental grasses. Individual trees should inicude 3' diamter mulch rings at 3" depth around each trunk.

10/4/2011

DPS PERMIT NO. 270304 J.S

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE 10/5/11

BY

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

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

LANDSCAPE PLAN

FOREST ESTATES

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		
DRAFT	WJW		
APPROVED	HJD		
DATE	MAY 11'		
SCALE	1" = 10'		

SHEET 33 OF 33

FILE: 15182013 - roadway lid - forest estates and the four corners area\design\landscape\plans\plan\LD-D001_Forest.dgn
PLOTTED: Monday, October 03, 2011 AT 11:14 AM