



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
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	Bioswale
23	10309 Folk Street	Rain Garden
25	10301 Julep Ave (along Folk Street)	Bioswale
26	10209 Julep Court	Rain Garden
27	10207 Folk Street	Bioswale
28	1504 Dennis Ave (along Inwood Ave)	Modified Biofilter
29	10322 Inwood Ave	Bioswale
30	10321 Inwood Ave	Modified Biofilter
31	10312 Inwood Ave	Bioswale
35	10312 Julep Ave	Rain Garden
36	10315 Julep Ave	Rain Garden
37	10312 Folk St	Rain Garden
39	10306 Inwood Ave	Bioswale
41	10303 Folk St	Bioswale
42	10311 Inwood Ave	Modified Biofilter
43	10307 Julep Ave	Rain Garden

**BMP IDs 2, 4-5, 11, 14-17, 19-20, 24, 32-34, 38 and 40 have been removed from the project due to major utility and/or tree conflicts

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____
S.M. FILE NO. _____		

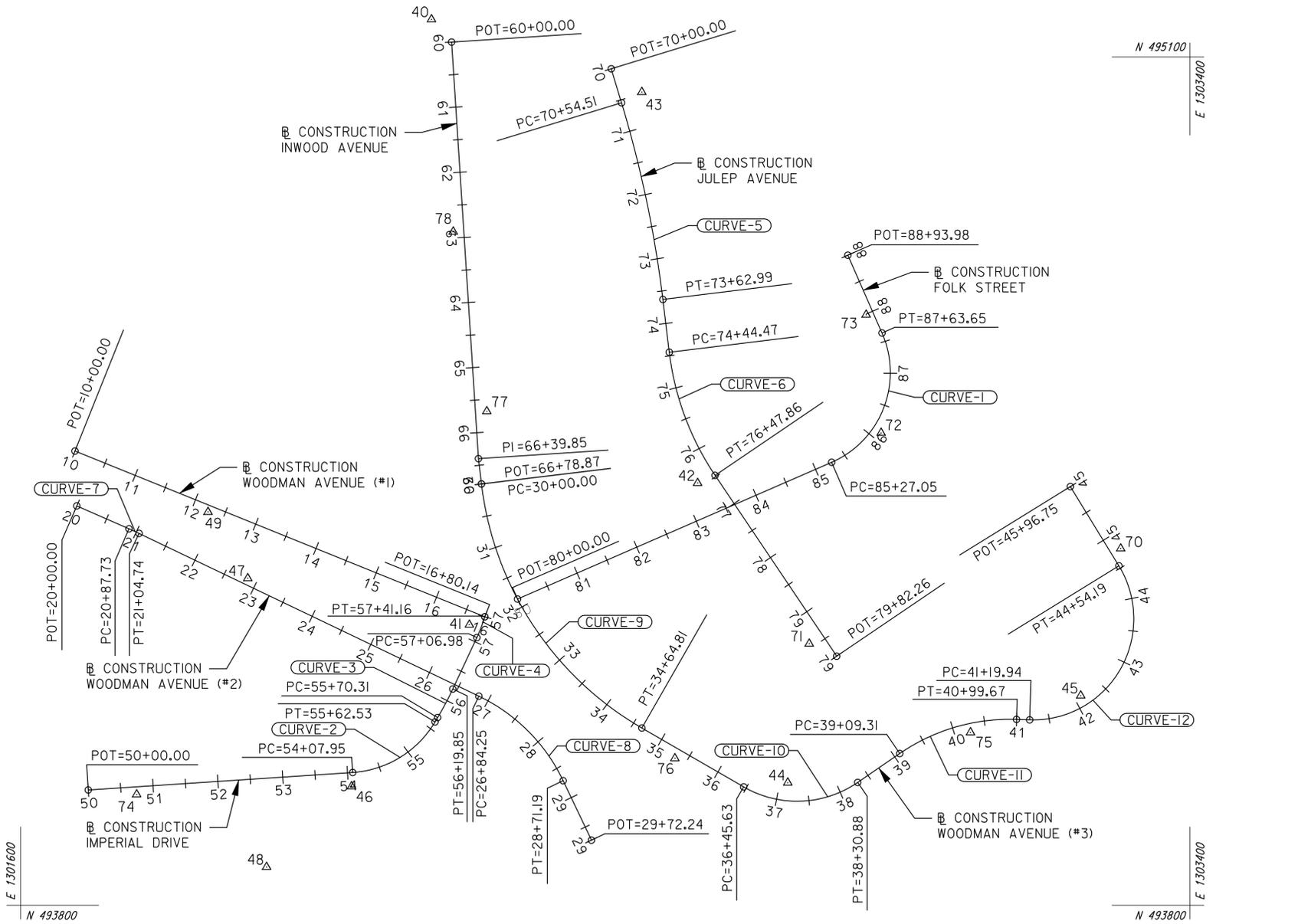
509 South Exeter Street
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Baltimore, Maryland 21202
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Taylor

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
(240) 777-7709

DESIGN
DRAFT W/W
APPROVED H/D
DATE MAY 11
SCALE
SHEET **2**
OF **36**

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.
FILE: I:\1518213 - roadway\13 - Forest Estates and the four corners area\design\engineering\plans\1518213_Forest.dgn
PLOTTED: Tuesday, August 30, 2014, AT 12:25 PM



N 493800
E 1301600

N 495100
E 1303400

N 493800
E 1303400

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

CURVE NO.	DELTA	Dc	R	T	L	E	CENTER OF CURVE	
							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

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			

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____
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NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

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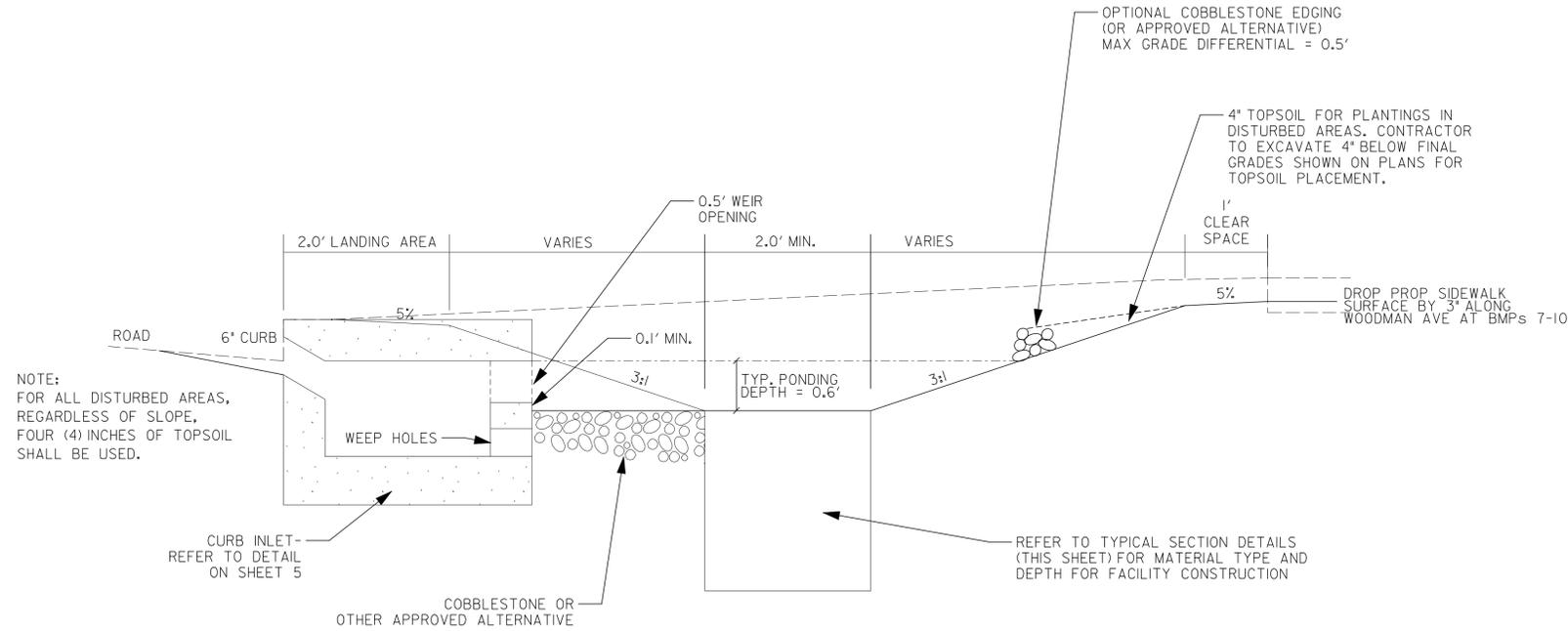
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GEOMETRIC LAYOUT
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

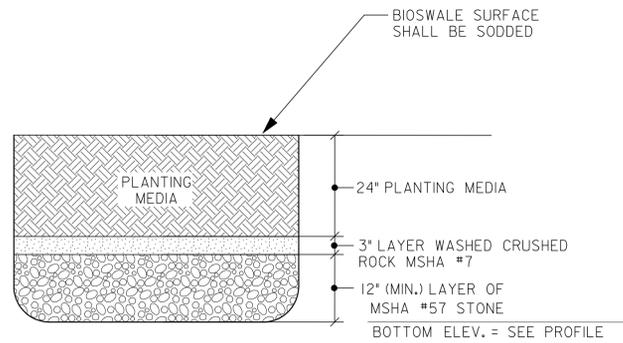
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DESIGN
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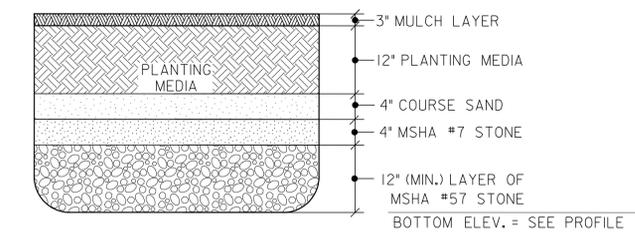
FILE: I:\15182\13 - roadway\13 - Forest Estates and the four corners area\design\geom\plan\GS-PROT_Forest.dgn
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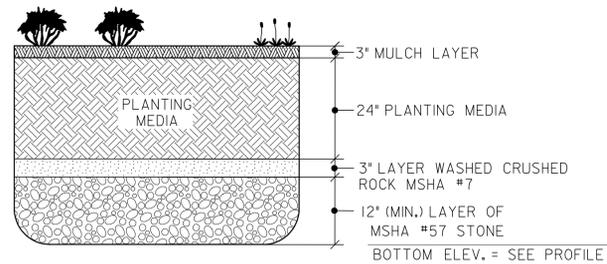
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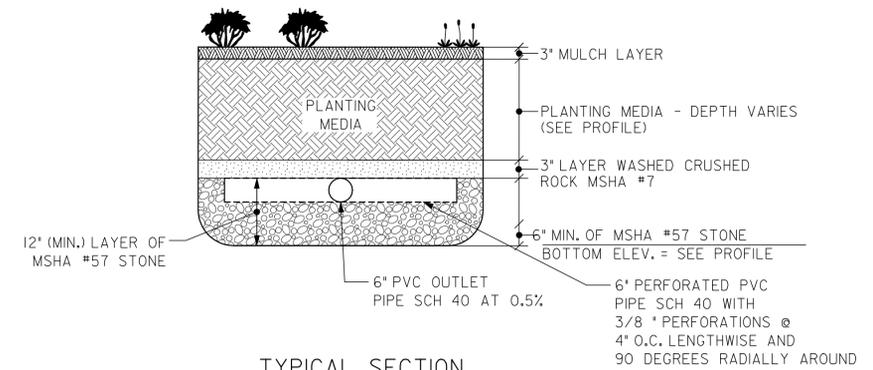
TYPICAL SECTION BIOSWALE DETAIL
NOT TO SCALE



TYPICAL SECTION MODIFIED BIOFILTER DETAIL
NOT TO SCALE



TYPICAL SECTION RAINGARDEN DETAIL
NOT TO SCALE



TYPICAL SECTION BIORETENTION DETAIL
NOT TO SCALE

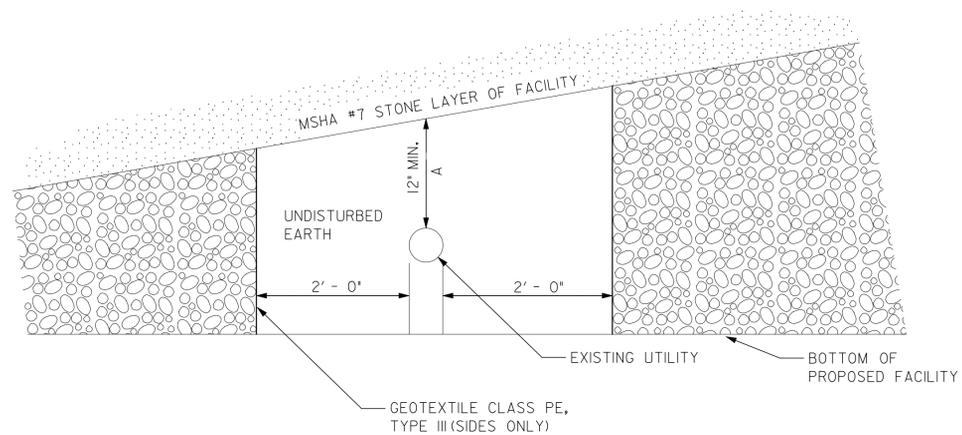
MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____
S.M. FILE NO. _____		

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
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 ROCKVILLE, MD 20850-4166
 (240) 777-7709

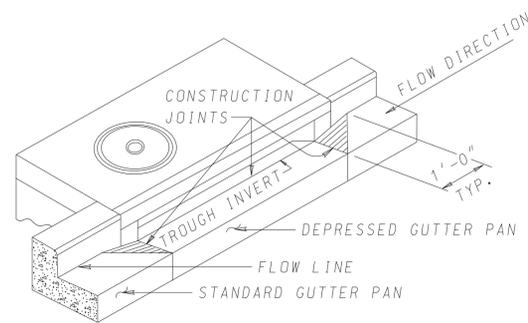
DESIGN	KCS	W/W	H/D	MAY '11	NOT TO SCALE
DRAFT				SCALE	36
SHEET	4				
OF					

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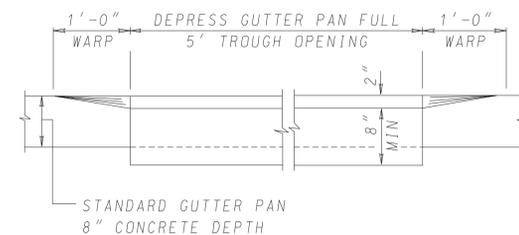


- NOTES:**
1. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES AND SHALL HAND DIG AROUND UTILITIES LOCATED IN THE VICINITY OF THE PROPOSED EXCAVATION. CONTACT MISS UTILITY 48 HOURS PRIOR TO DIGGING TO HAVE UTILITIES LOCATED.
 2. WHEN THE CONTRACTOR ENCOUNTERS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

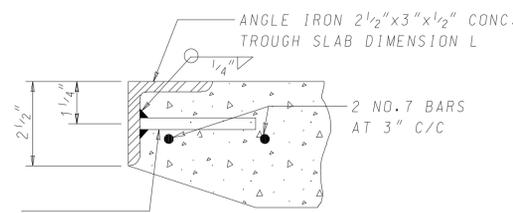
TYPICAL UTILITY CROSSING DETAIL
NOT TO SCALE



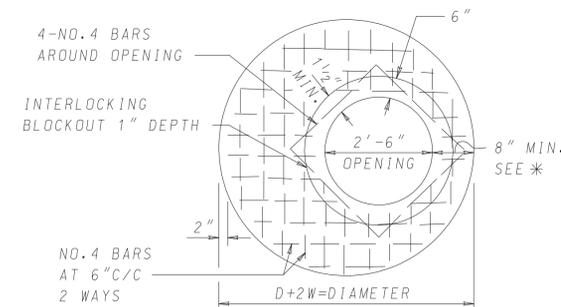
ISOMETRIC



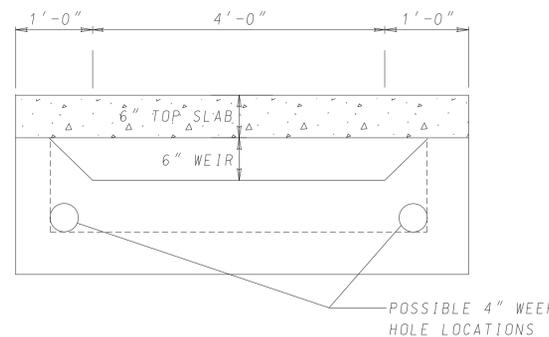
SECTION A-A
(SHOWN LOOKING TOWARD ROADWAY)



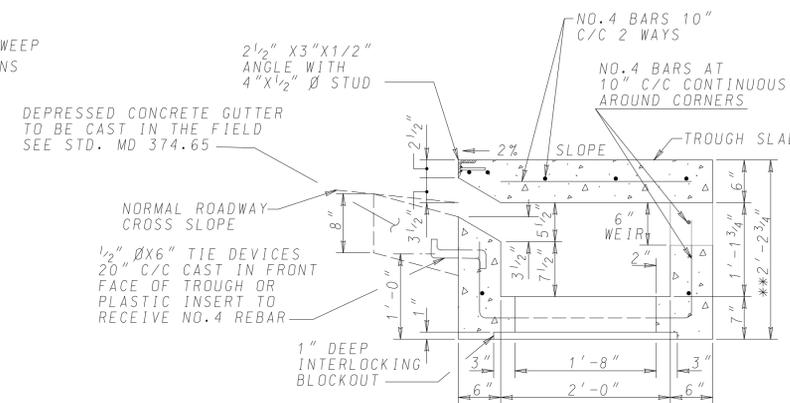
SECTION D-D



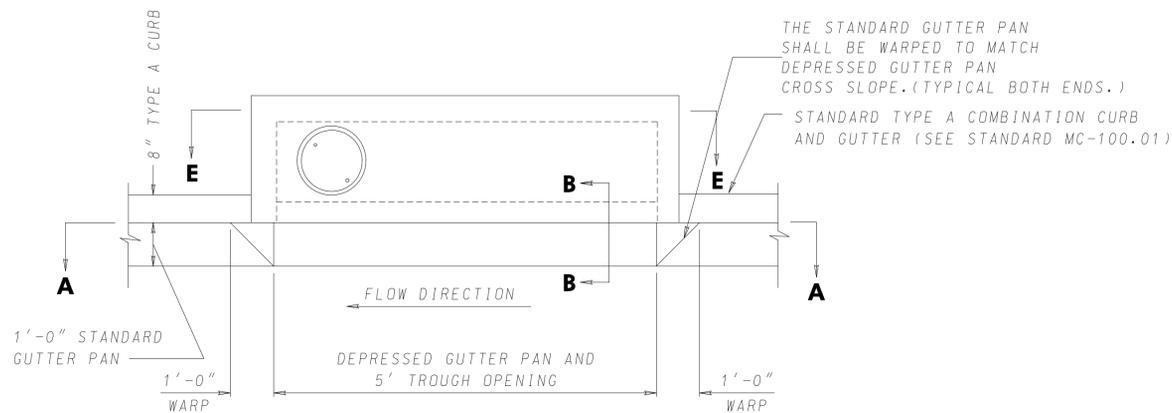
PRECAST CONCRETE INLET SLAB



SECTION E-E
(SHOWN LOOKING TOWARD ROADWAY)



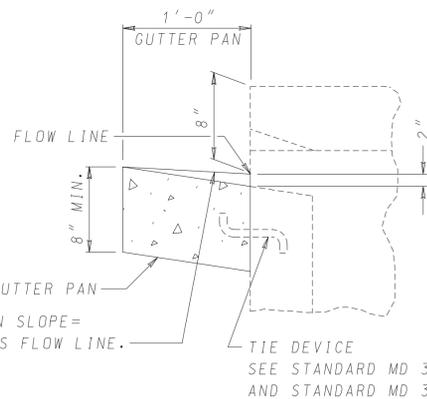
SECTION C-C



PLAN

WHENEVER STANDARD MC-101.01 CURB IS USED IN CONJUNCTION 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 B-B

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
DESIGN	KCS	ADMINISTRATIVE REQUIREMENTS:
DRAFT	WJW	REVIEWED _____ DATE _____
APPROVED	HJD	APPROVED _____ DATE _____
DATE	MAY 11	SCALE
SCALE	NOT TO SCALE	
SHEET	5	36
OF		

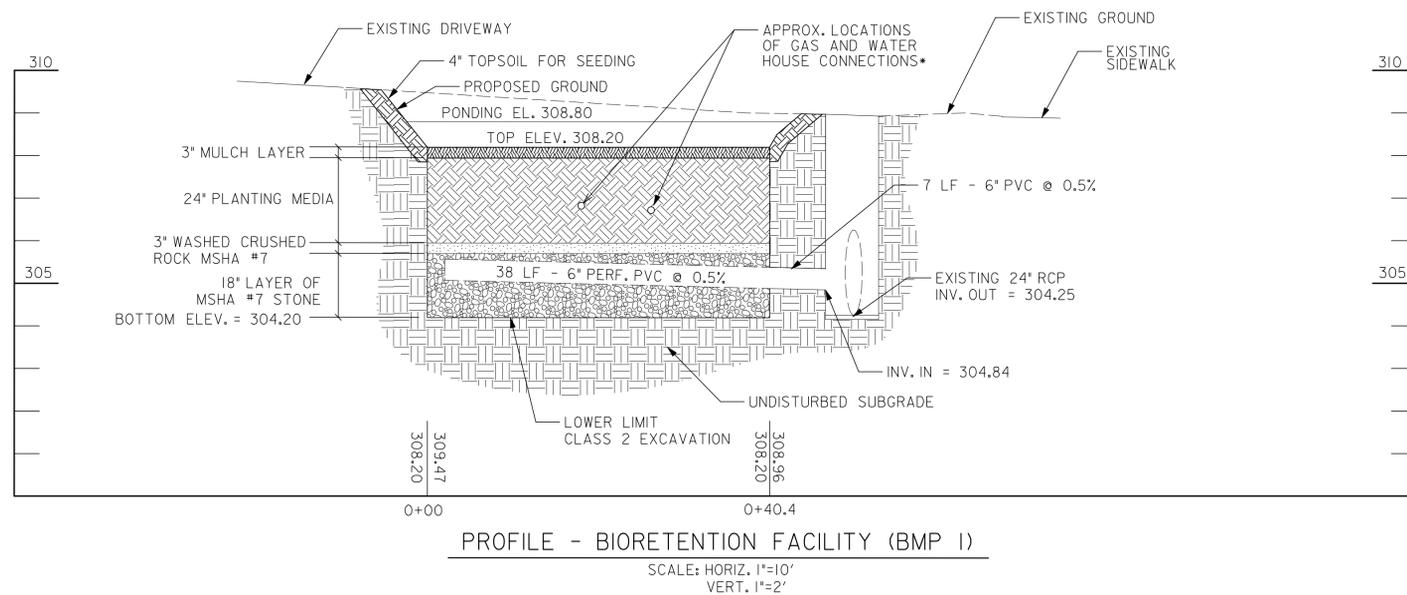
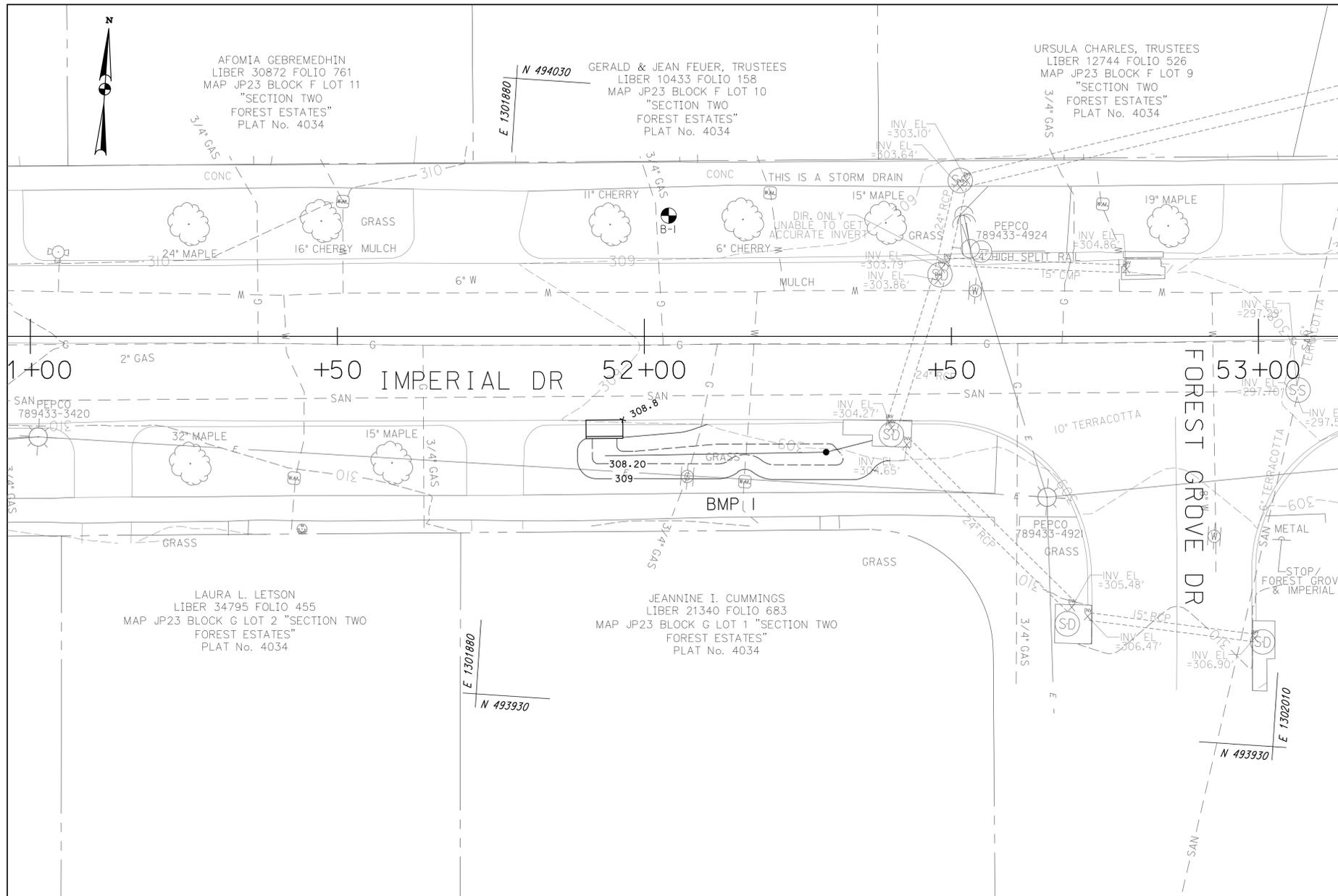
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STORMWATER MANAGEMENT DETAILS
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

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FILE: 1518213 - roadway 14 - Forest Estates and the four corners area (design/management)/DE-0002_Forest.dgn
PLOTTED: Tuesday, August 30, 2014, AT 12:25 PM



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)	210	
TARGET WQV TREATMENT VOLUME (CF)	933	
FILTER BED AREA (SF)	116	
FILTER BED SURFACE ELEVATION	308.20	
INLET CURB CUT ELEVATION	308.80	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" / 304.84	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	WJW	HJD
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	MAY 11
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	SHEET	6	36
S.M. FILE NO. _____			OF		

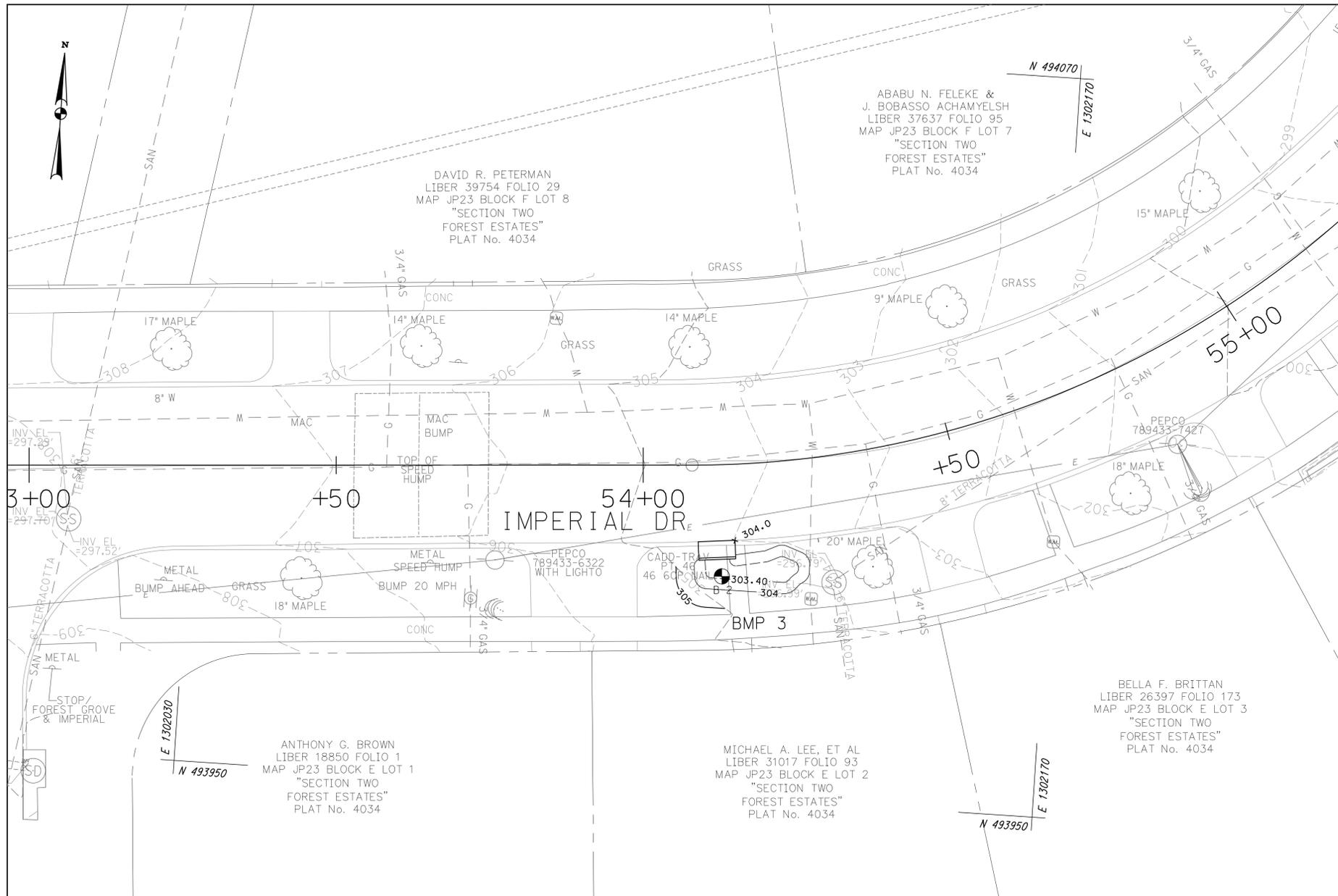
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PLAN AND PROFILE - BMP 1
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

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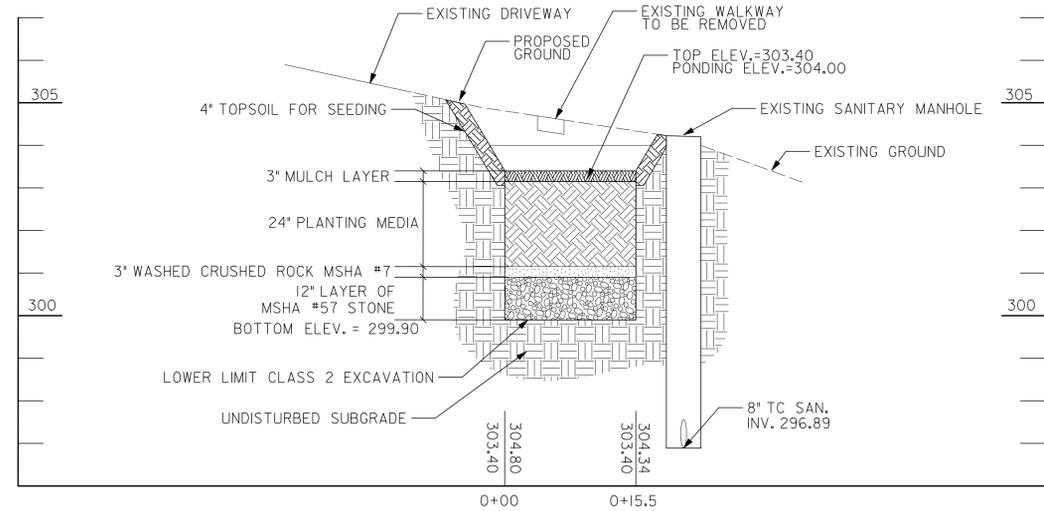
DESIGN: KCS
DRAFT: WJW
APPROVED: HJD
DATE: MAY 11
SCALE: 1"=10'
SHEET: 6 OF 36

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.
FILE: I:\15182\13 - roadway\13 - Forest Estates and the four corners area\design\engineering\plans\PHD-PROJ_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:28 PM



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)	84	
TARGET WQV TREATMENT VOLUME (CF)	579	
FILTER BED AREA (SF)	46	
FILTER BED SURFACE ELEVATION	303.40	
INLET CURB CUT 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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - RAIN GARDEN FACILITY (BMP 3)
SCALE: HORIZ. 1"=10'
VERT. 1"=2'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	DESIGN	KCS	W/W
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	W/W	H/D
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	DESIGN	W/W	H/D
S.M. FILE NO. _____					

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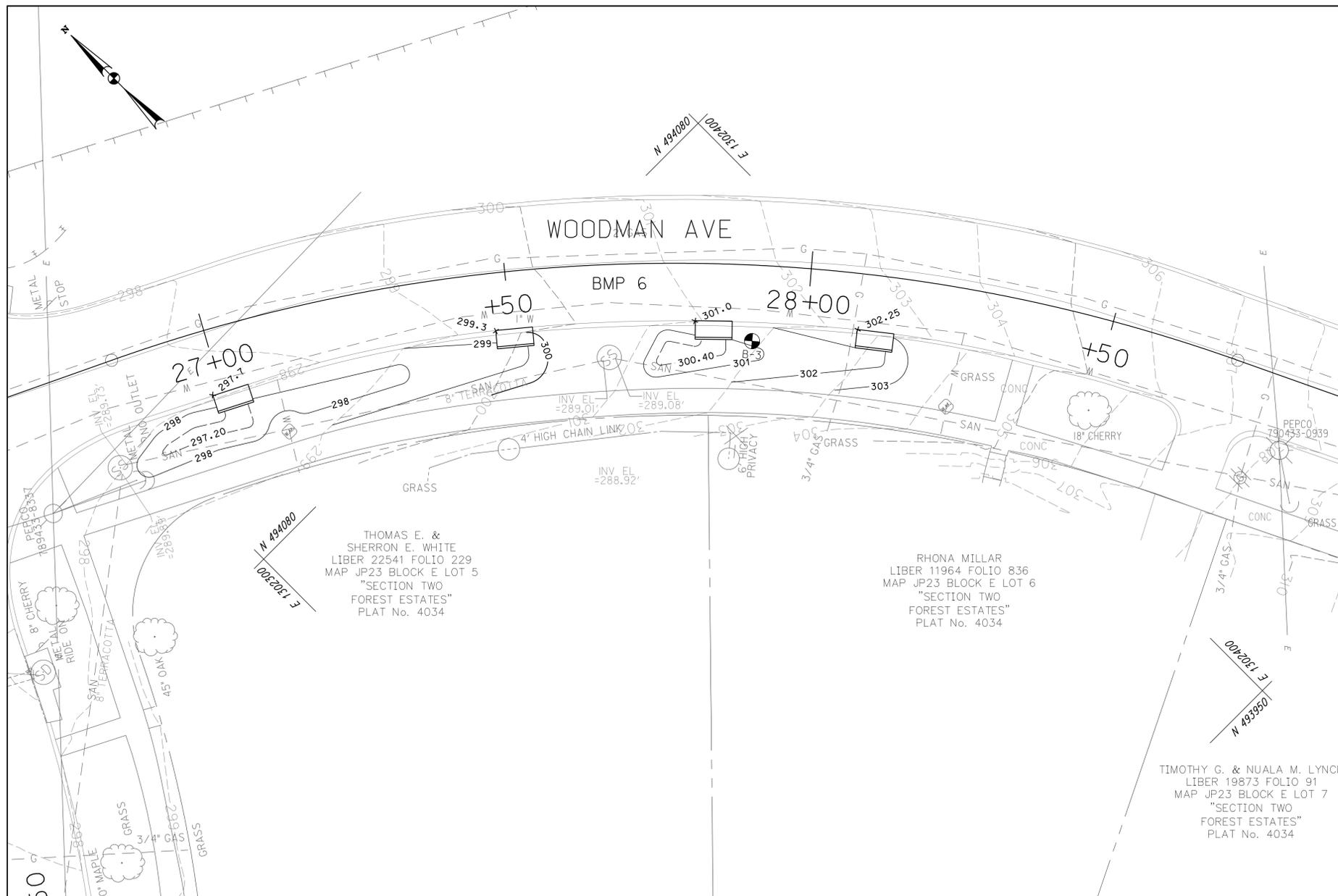
McCormick & Planners Taylor
Engineers & Planners
Since 1946

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
(240) 777-7709

DESIGN SHEET 7 OF 36
DATE MAY 11
SCALE 1"=10'

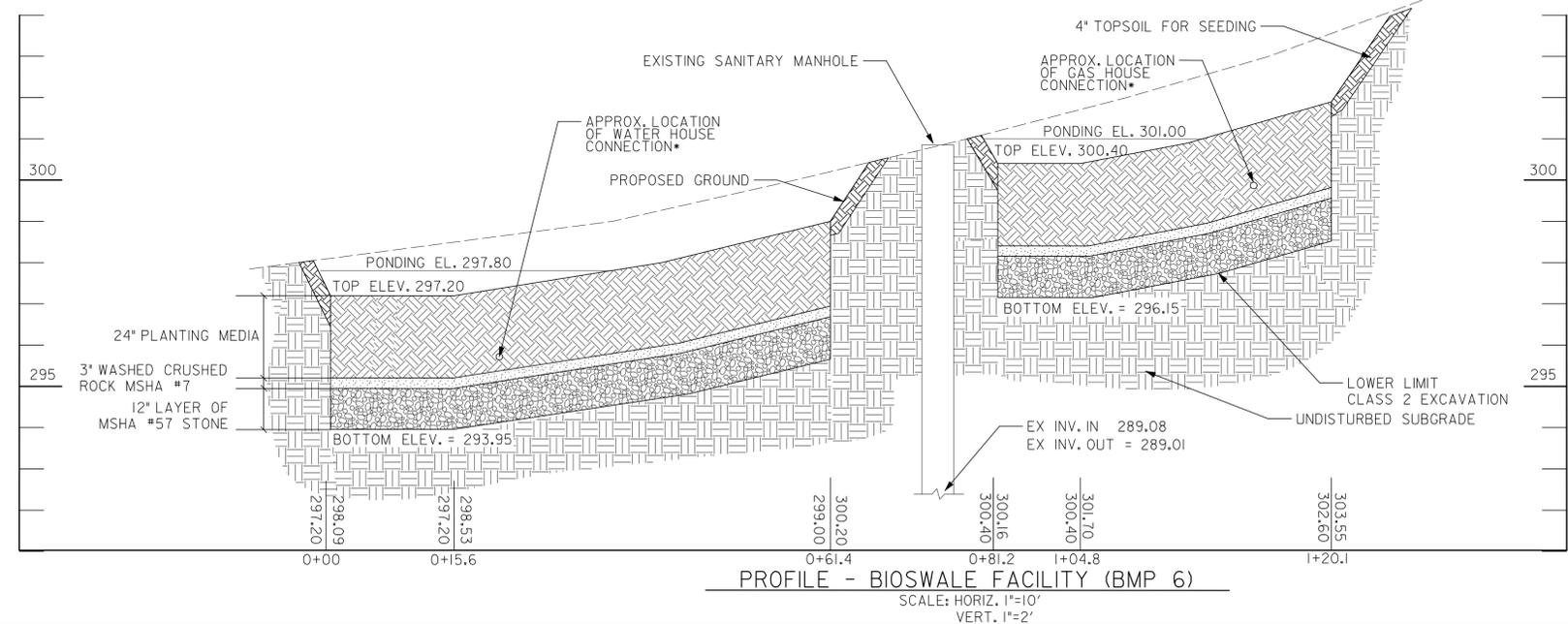
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PLOTTED: Tuesday, August 30, 2011, AT 12:28 PM



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)	172	
TARGET WQv TREATMENT VOLUME (CF)	576	
FILTER BED AREA (SF)	31	
FILTER BED SURFACE ELEVATION	300.40	
INLET CURB CUT ELEVATION	301.00 / 302.25	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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: BIOSWALE		BMP ID: 6B
FEATURE	DESIGN	*AS-BUILT
DRAINAGE AREA (AC)	REFER TO DATA FOR 6A	
TREATMENT VOLUME (CF)	227	
TARGET WQv TREATMENT VOLUME (CF)	REFER TO DATA FOR 6A	
FILTER BED AREA (SF)	37	
FILTER BED SURFACE ELEVATION	297.20	
INLET CURB CUT ELEVATION	297.70 / 299.30	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS SPECIFICATIONS	



MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	WVW	HJD
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	DATE
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	SHEET	8	36
S.M.FILE NO. _____			OF		

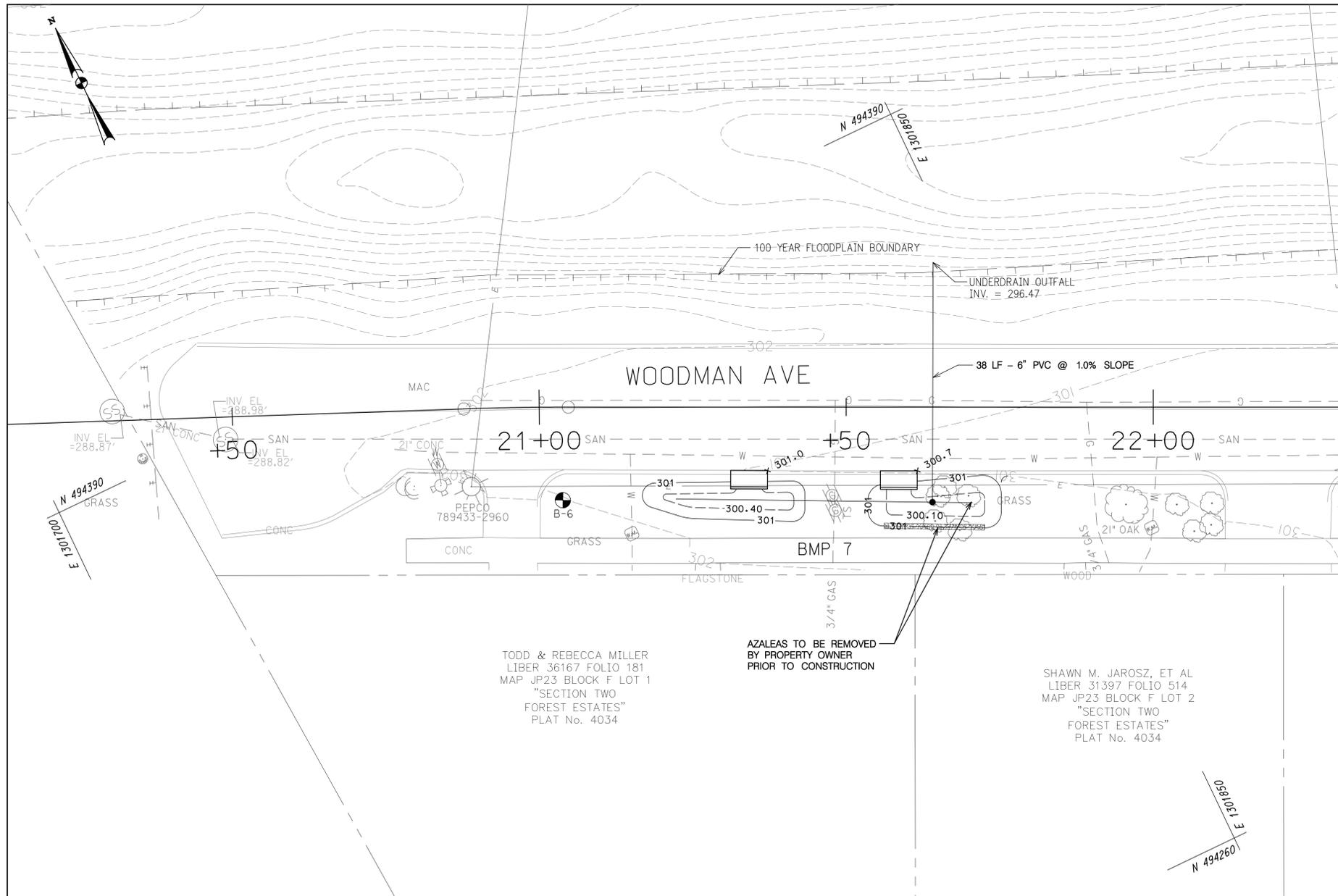
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PLAN AND PROFILE - BMP 6
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

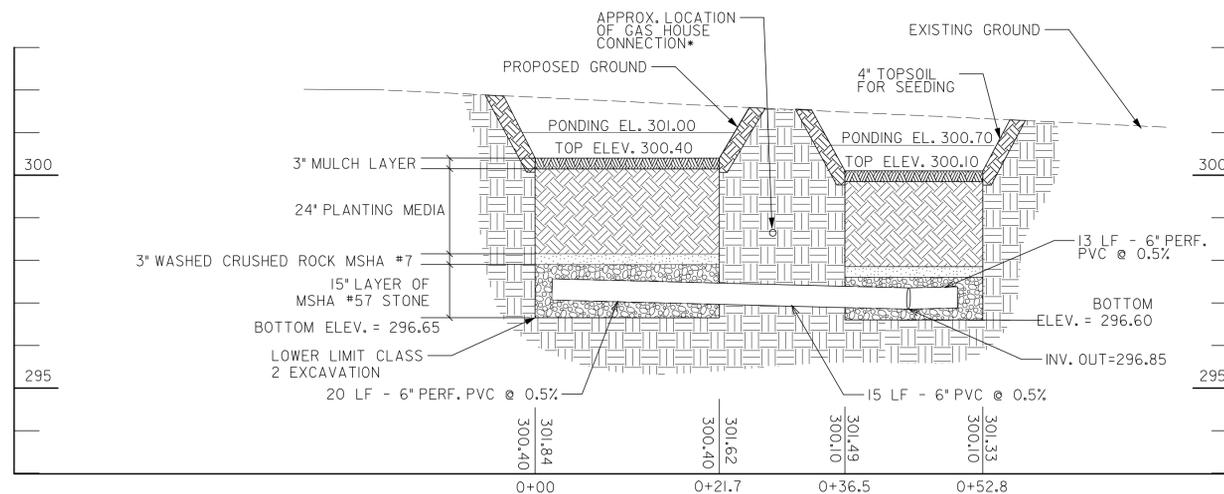
DESIGN: KCS
DRAFT: WVW
APPROVED: HJD
DATE: MAY 11
SCALE: 1"=10'
SHEET 8 OF 36

FILE: I:\5182\13 - roadway\13 - Forest Estates and the four corners area\design\engineering\plans\13-05_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:28 PM



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)	204	
TARGET WQV TREATMENT VOLUME (CF)	433	
FILTER BED AREA (SF)	110	
FILTER BED SURFACE ELEVATION	300.40 (UPPER) 300.10 (LOWER)	
INLET CURB CUT 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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - BIORETENTION FACILITY (BMP 7)

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

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	W/W	H/D
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	MAY '11
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	SHEET	SCALE	1"=10'
S.M. FILE NO. _____			9	36	

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.

PLAN AND PROFILE - BMP 7

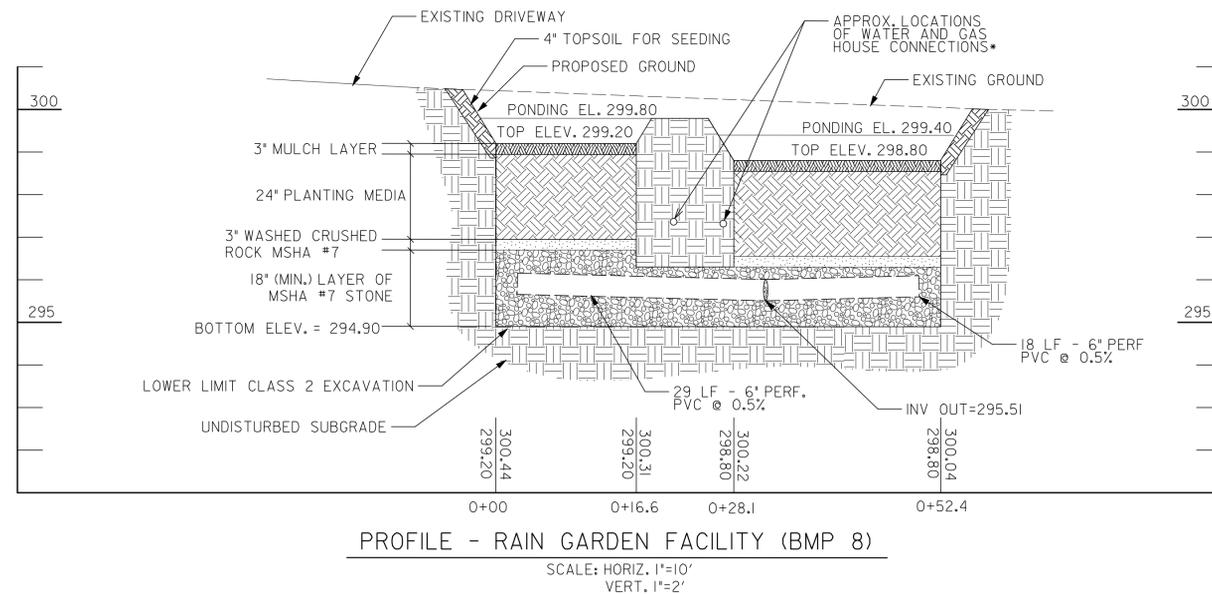
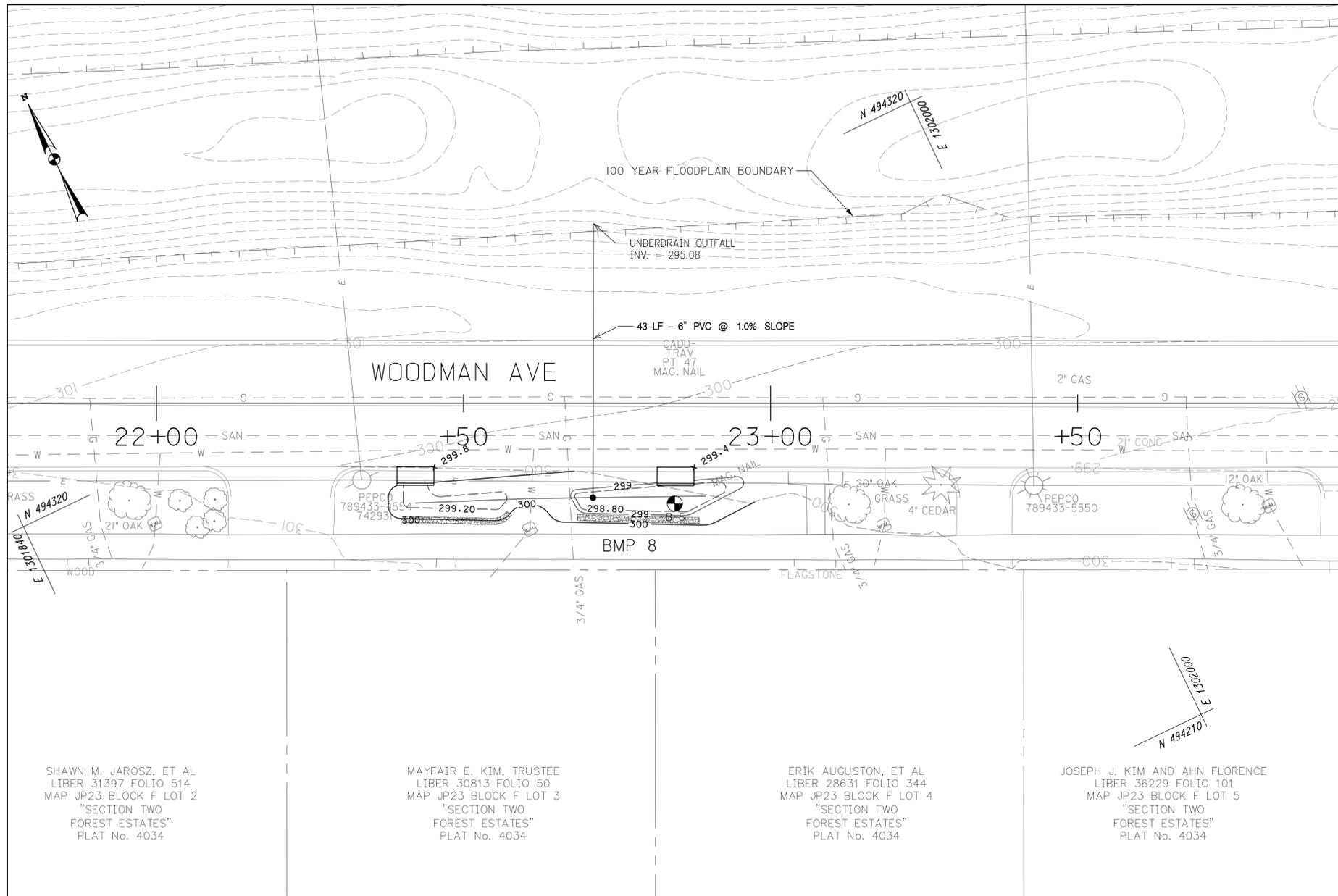
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
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DESIGN OF 9 SHEETS

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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)	226	
TARGET WQV TREATMENT VOLUME (CF)	821	
FILTER BED AREA (SF)	128	
FILTER BED SURFACE ELEVATION	299.20 / 289.80	
INLET CURB CUT 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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCPDS 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.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCPDS APPROVAL DOES NOT NEGATE THE NEED OF A MCPDS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	WJW	HJD
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	MAY '11
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	SHEET	SCALE	1"=10'
S.M. FILE NO. _____			10	36	

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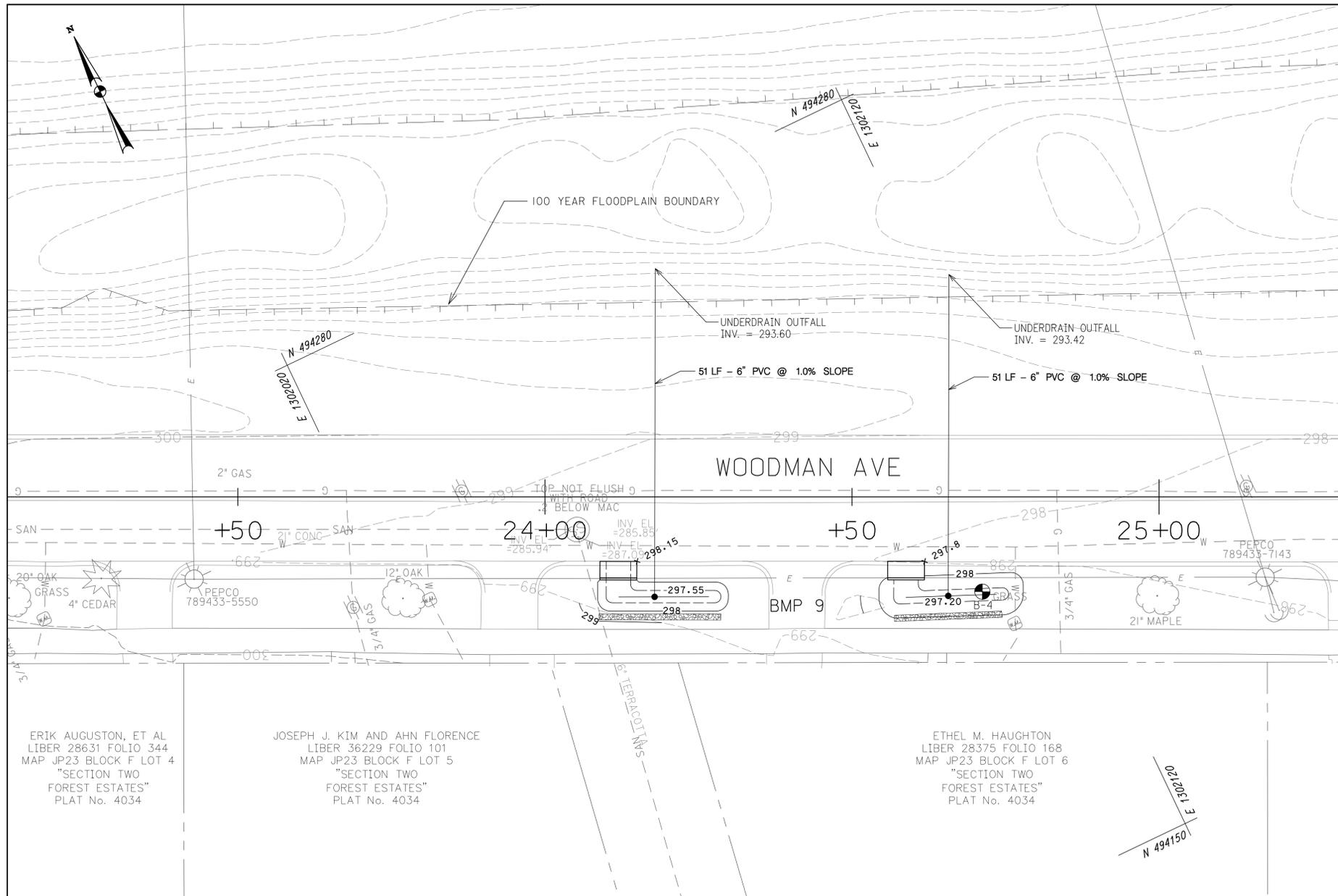
PLAN AND PROFILE - BMP 8

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
(240) 777-7709

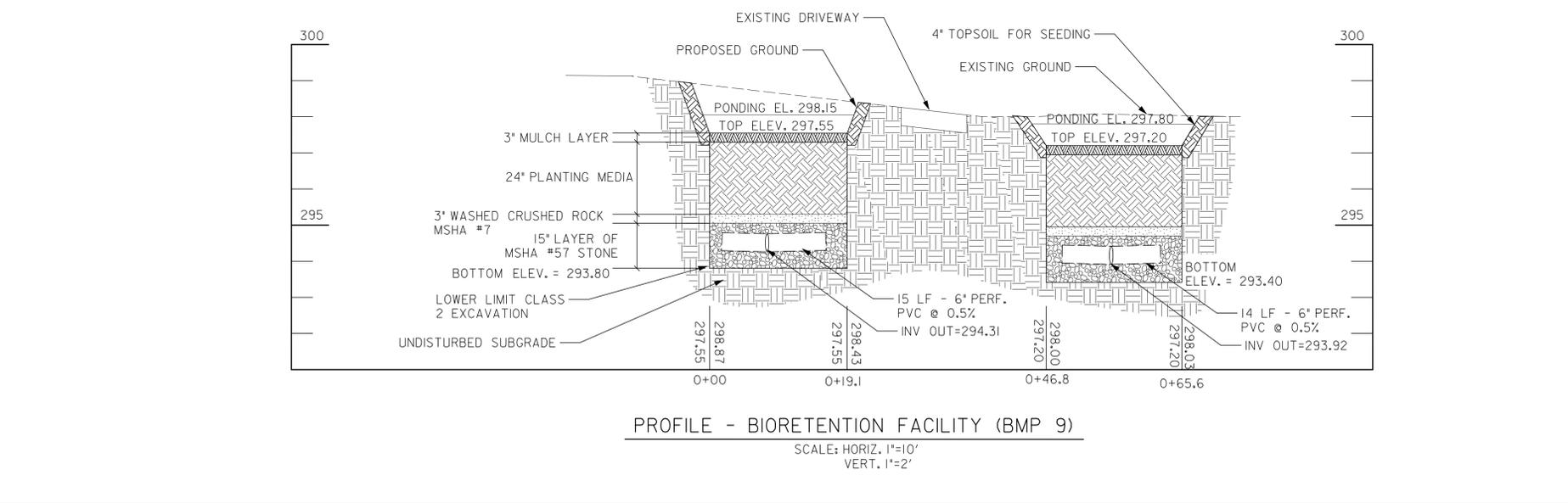
DESIGN KCS
DRAFT WJW
APPROVED HJD
DATE MAY '11
SCALE 1"=10'

SHEET 10 OF 36



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)	169	
TARGET WQV TREATMENT VOLUME (CF)	920	
FILTER BED AREA (SF)	88	
FILTER BED SURFACE ELEVATION	297.55 (UPPER) 297.20 (LOWER)	
INLET CURB CUT 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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	
S.M. FILE NO. _____			

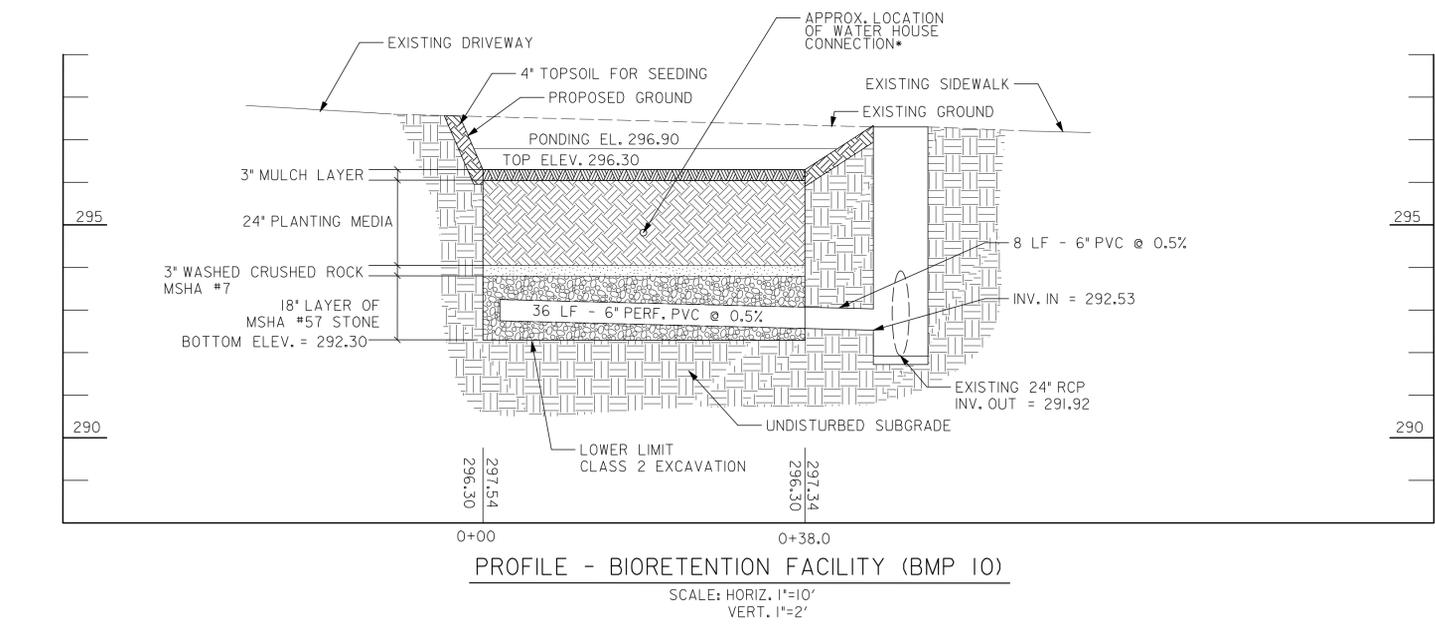
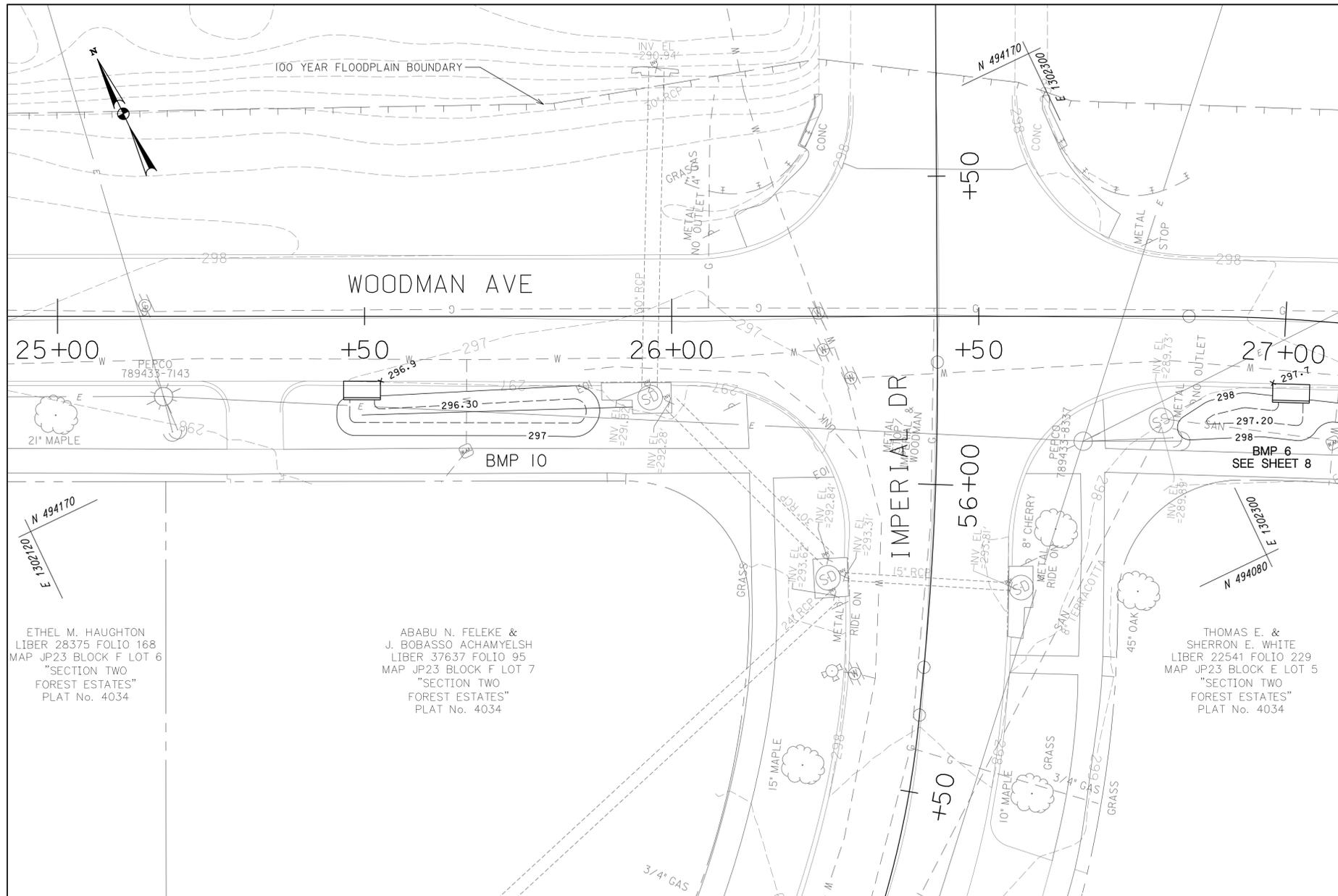
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PLAN AND PROFILE - BMP 9
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

DESIGN KCS
DRAFT WJW
APPROVED HD
DATE MAY '11
SCALE 1"=10'
SHEET 11 OF 36

FILE: I:\1518213 - roadway 14 - Forest Estates and the four corners area\design\engineering\plans\PHD-PR08_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:28 PM



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)	213	
TARGET WQV TREATMENT VOLUME (CF)	517	
FILTER BED AREA (SF)	120	
FILTER BED SURFACE ELEVATION	296.30	
INLET CURB CUT ELEVATION	296.90	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" / 292.24	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.

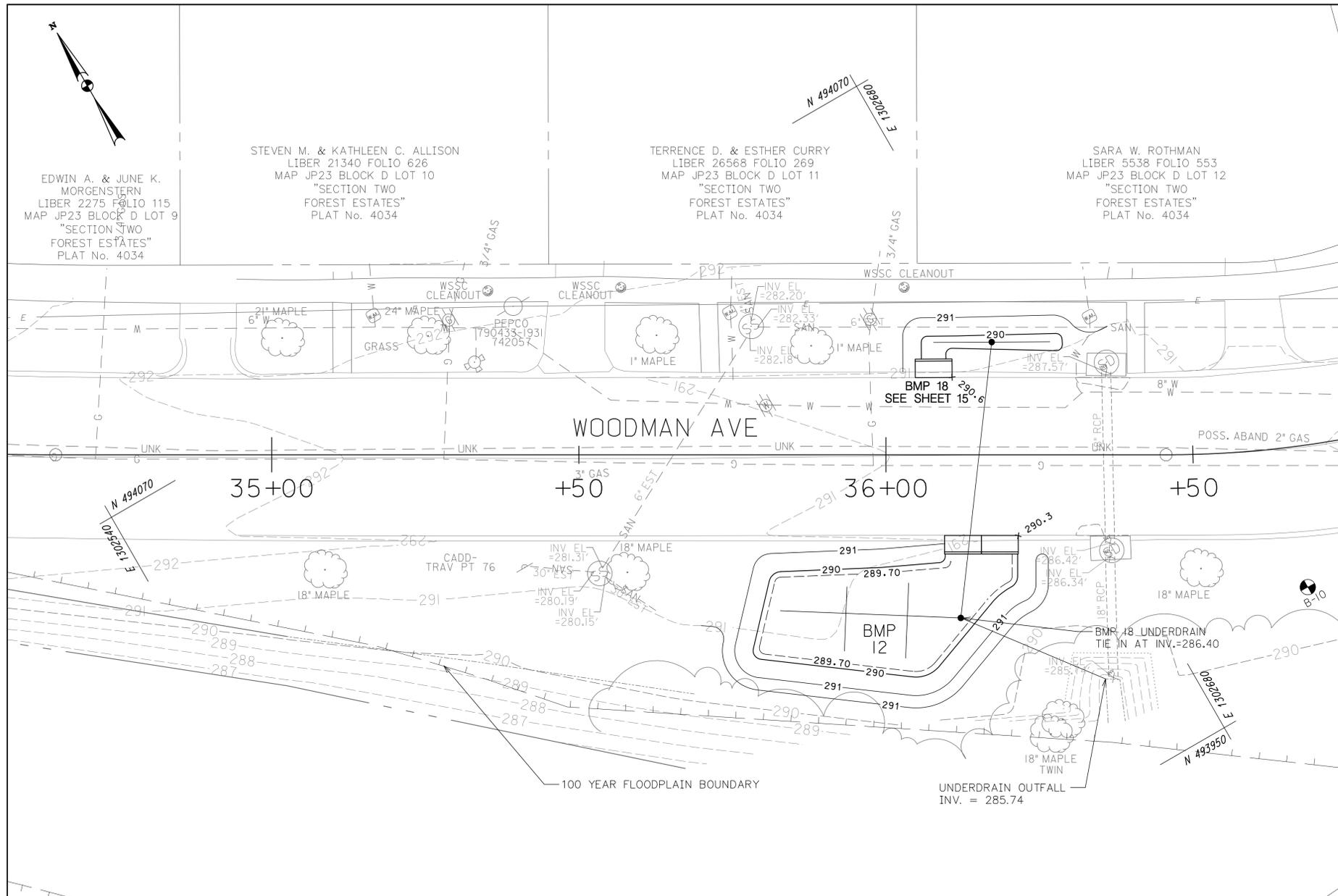
MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	WJW	HJD
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	MAY 11
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	SHEET	12	36
S.M. FILE NO. _____			OF		

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PLAN AND PROFILE - BMP 10
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

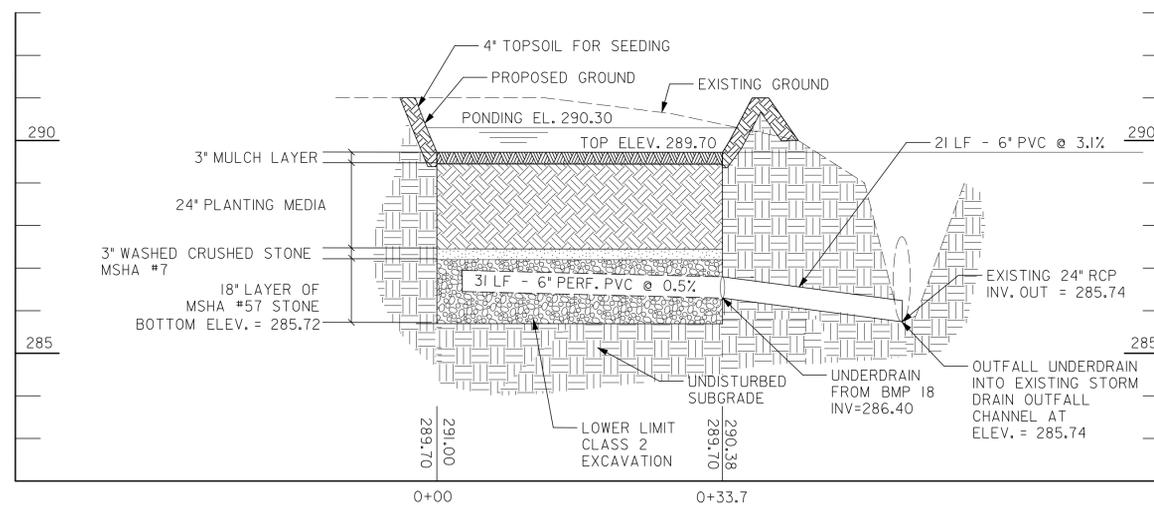
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.



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)	781	
TARGET WQV TREATMENT VOLUME (CF)	453	
FILTER BED AREA (SF)	520	
FILTER BED SURFACE ELEVATION	289.70	
INLET CURB CUT ELEVATION	290.30	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" / 285.74	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - BIORETENTION FACILITY (BMP 12)

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

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	WJW	HJD
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	MAY '11
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	SHEET	13	36
S.M. FILE NO. _____			OF		

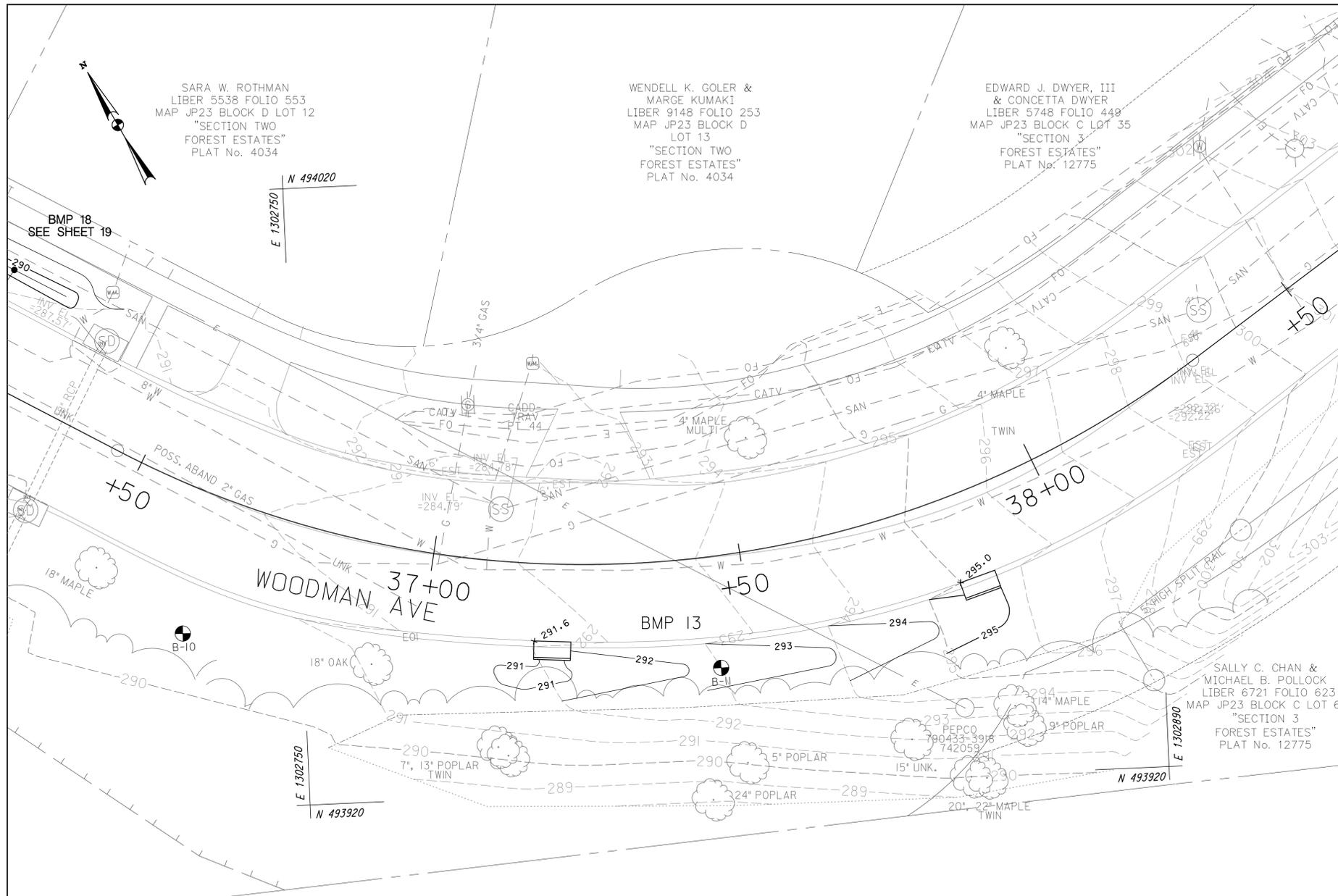
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PLAN AND PROFILE - BMP 12
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

DESIGN KCS
DRAFT WJW
APPROVED HJD
DATE MAY '11
SCALE 1"=10'
SHEET 13 OF 36

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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	
INLET CURB CUT ELEVATION	291.60 / 295.00	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS SPECIFICATIONS	

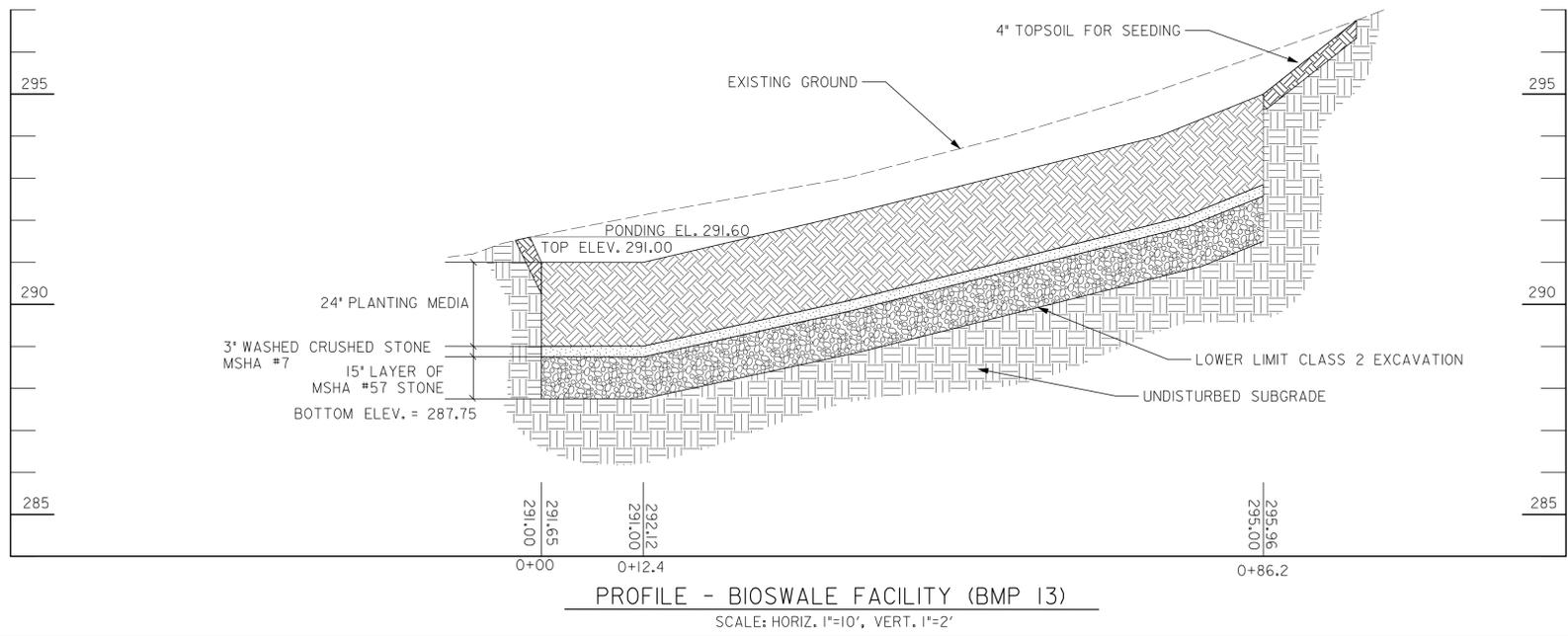
*NOTE: CONTRACTOR SHALL TEST PIT UTILITIES PRIOR TO CONSTRUCTION. IF UTILITY IS UNAVOIDABLE, CONTRACTOR SHALL REFER TO DETAIL ON SHEET 4 FOR UTILITY CROSSING TREATMENT WITHIN THE FACILITY.

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

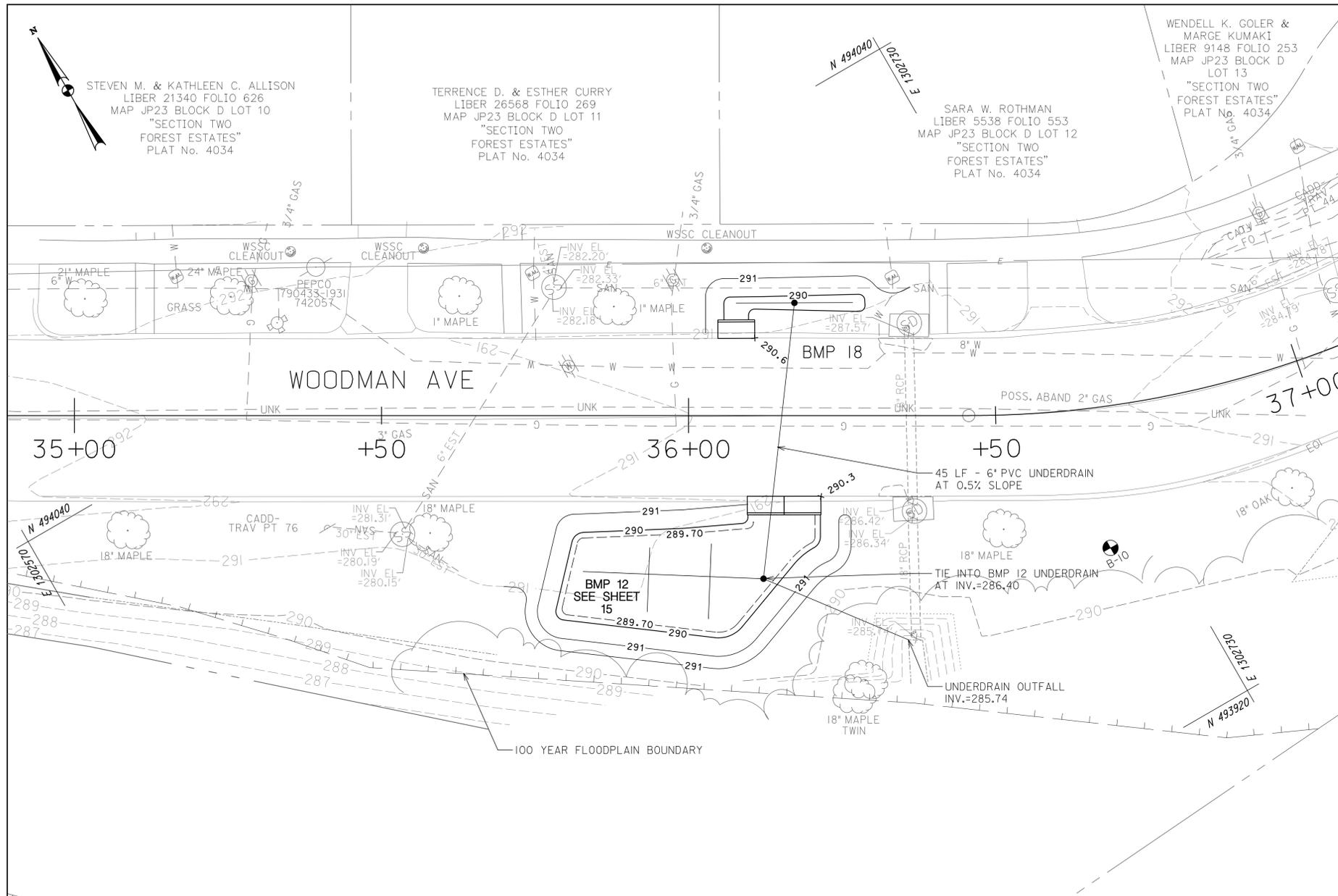
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
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(240) 777-7709

DESIGN KCS
DRAFT WJW
APPROVED HJD
DATE MAY 11
SCALE 1"=10'
SHEET 14 OF 36



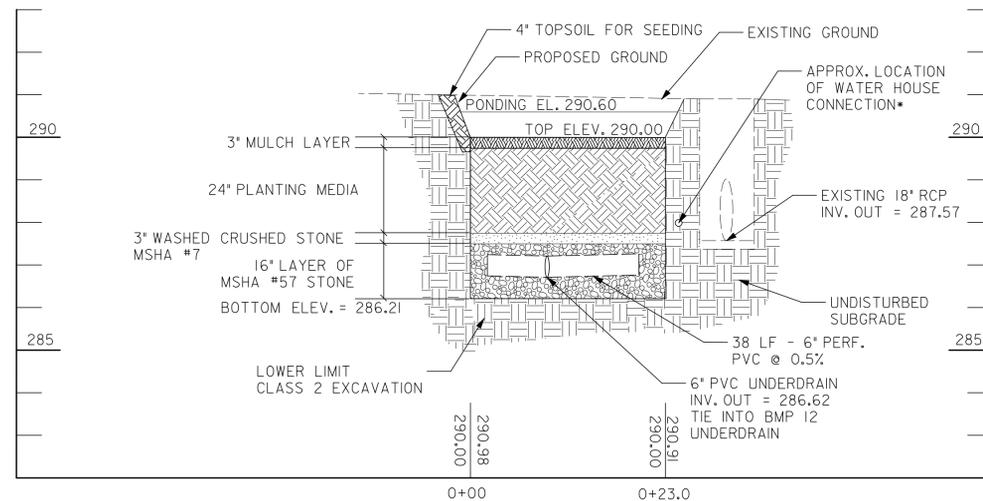
MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	
S.M. FILE NO. _____			

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.



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)	111	
TARGET WQV TREATMENT VOLUME (CF)	2,140	
FILTER BED AREA (SF)	59	
FILTER BED SURFACE ELEVATION	290.00	
INLET CURB CUT ELEVATION	290.60	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" PVC / 286.62	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - BIORETENTION FACILITY (BMP 18)
SCALE: HORIZ. 1"=10'
VERT. 1"=2'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
DESIGN	KCS	WAW	ADMINISTRATIVE REQUIREMENTS:	REVIEWED	DATE
DRAFT	WAW	HJD	APPROVED	DATE	
APPROVED	HJD	MAY 11	REVIEWED	DATE	
DATE	MAY 11	SCALE	APPROVED	DATE	
SHEET	15	OF	36		
S.M. FILE NO.			MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.		

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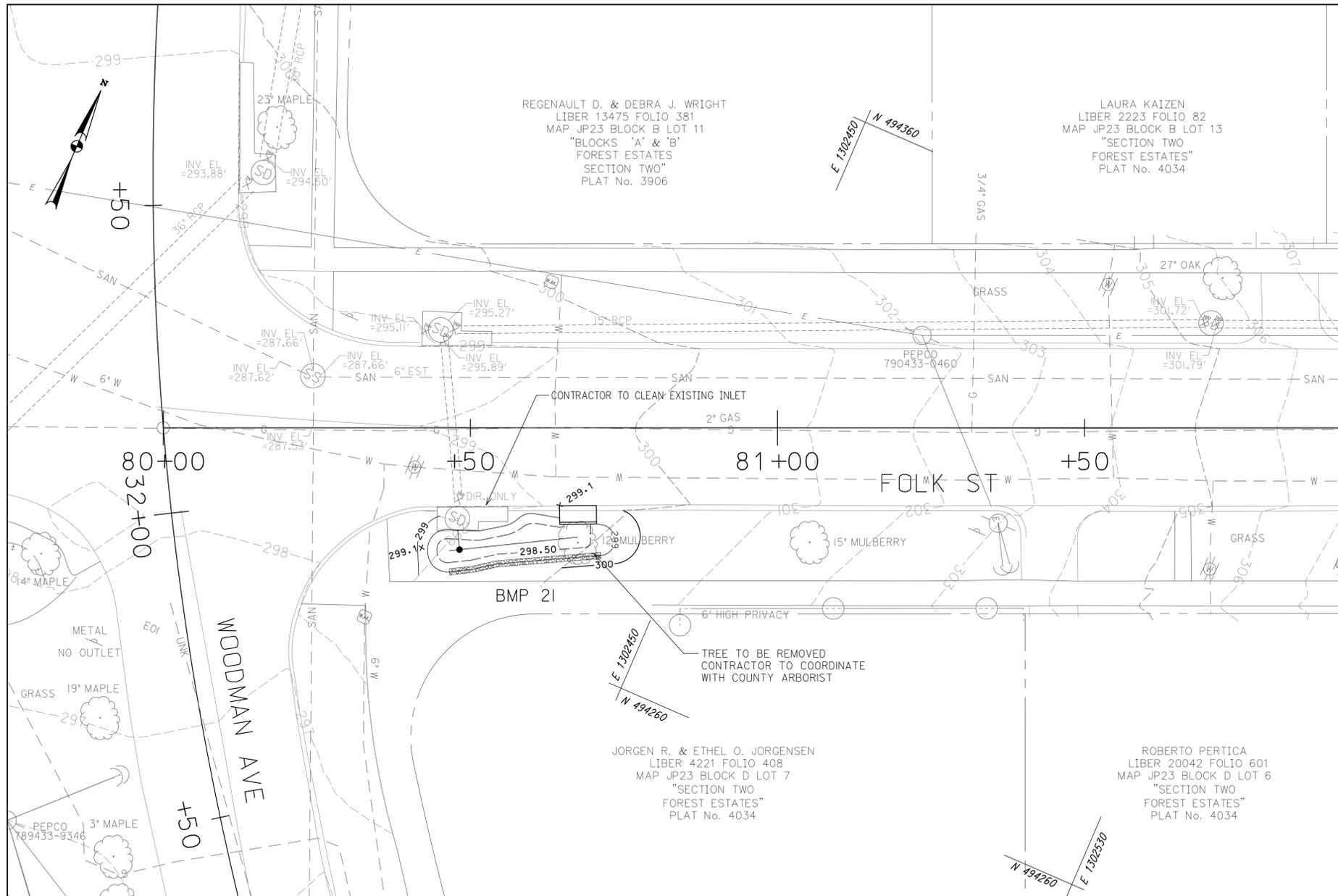
McCormick & Planners Taylor
Engineers & Planners Since 1946

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
(240) 777-7709

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

FILE: I:\18213 - roadway 18 - Forest Estates and the four corners area\design\engineering\plan\18_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:28 PM



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)	155	
TARGET WQV TREATMENT VOLUME (CF)	583	
FILTER BED AREA (SF)	90	
FILTER BED SURFACE ELEVATION	298.50	
INLET CURB CUT 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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.

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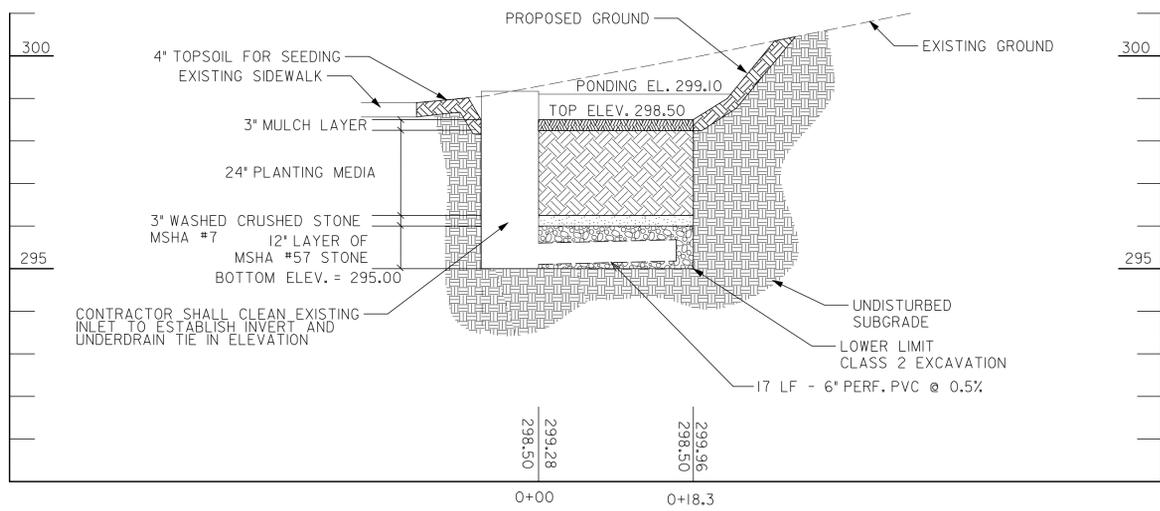
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PLAN AND PROFILE - BMP 21

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
(240) 777-7709

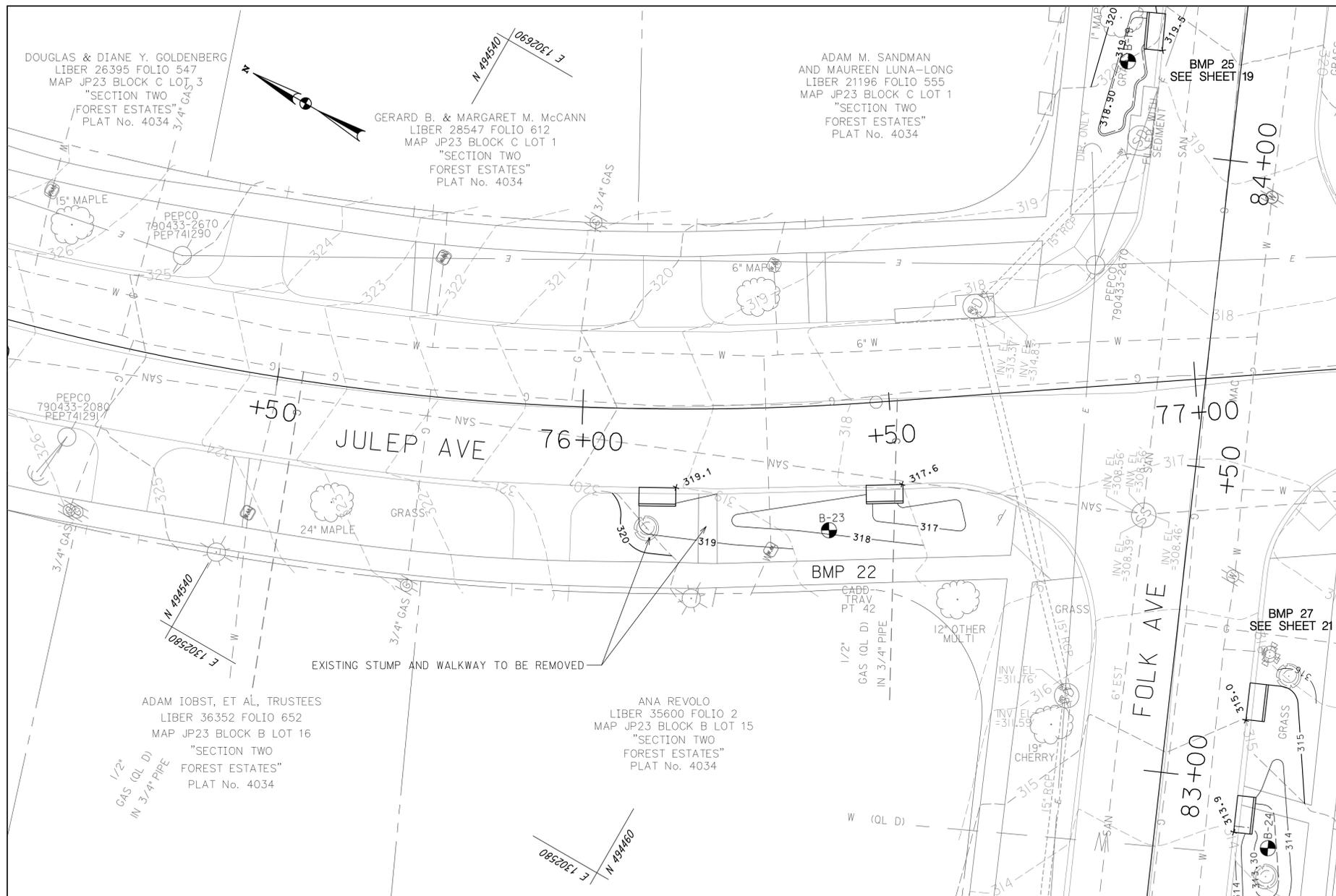
DESIGN KCS
DRAFT WJW
APPROVED HJD
DATE MAY 11
SCALE 1"=10'
SHEET 16 OF 36



PROFILE - BIORETENTION FACILITY (BMP 21)
SCALE: HORIZ. 1"=10'
VERT. 1"=2'

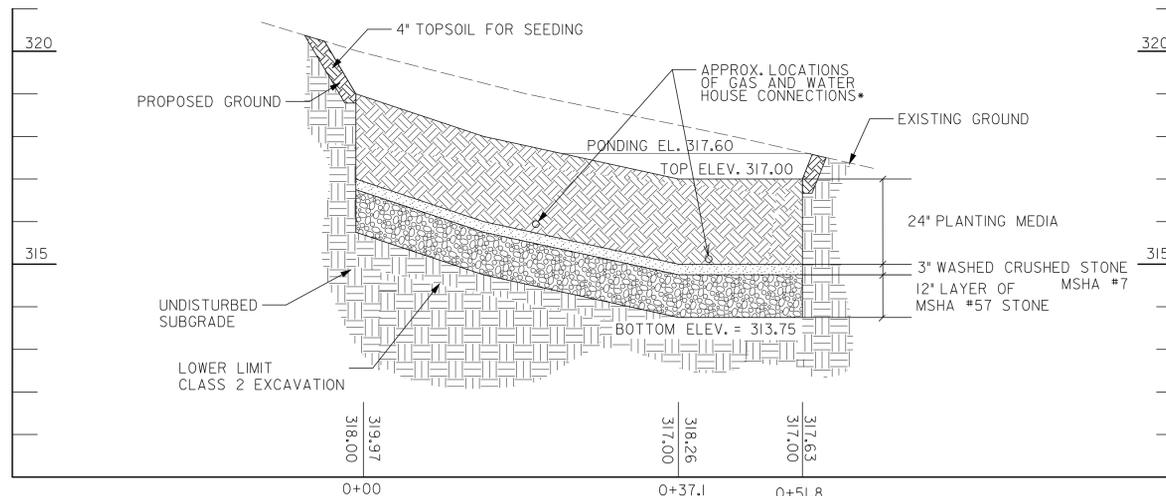
MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	
S.M. FILE NO. _____			

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.



AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)		
**TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: BIOSWALE		BMP ID: 22
FEATURE	DESIGN	**AS-BUILT
DRAINAGE AREA (AC)	0.56	
TREATMENT VOLUME (CF)	263	
TARGET WQV TREATMENT VOLUME (CF)	1,005	
FILTER BED AREA (SF)	54	
FILTER BED SURFACE ELEVATION	317.00	
INLET CURB CUT ELEVATION	317.60 / 319.10	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



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

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	W/W	H/D
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	DATE
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____		DATE	SCALE
S.M. FILE NO. _____					

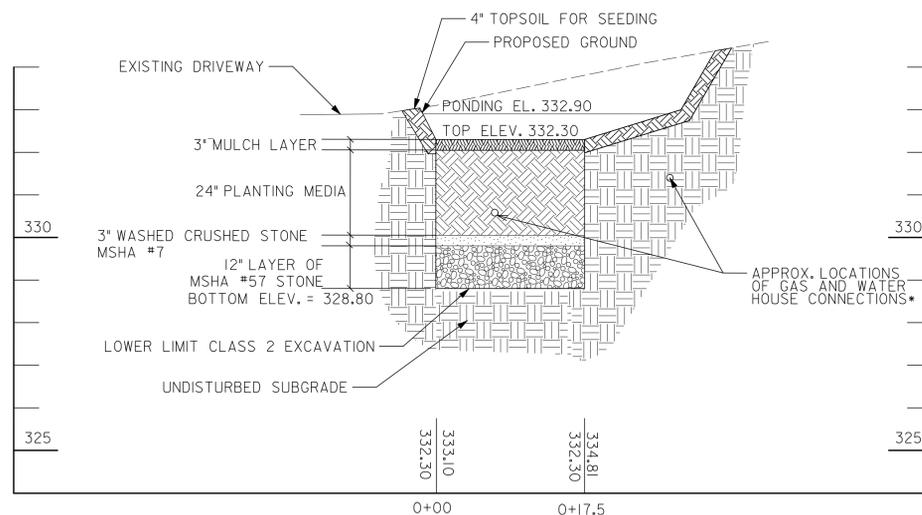
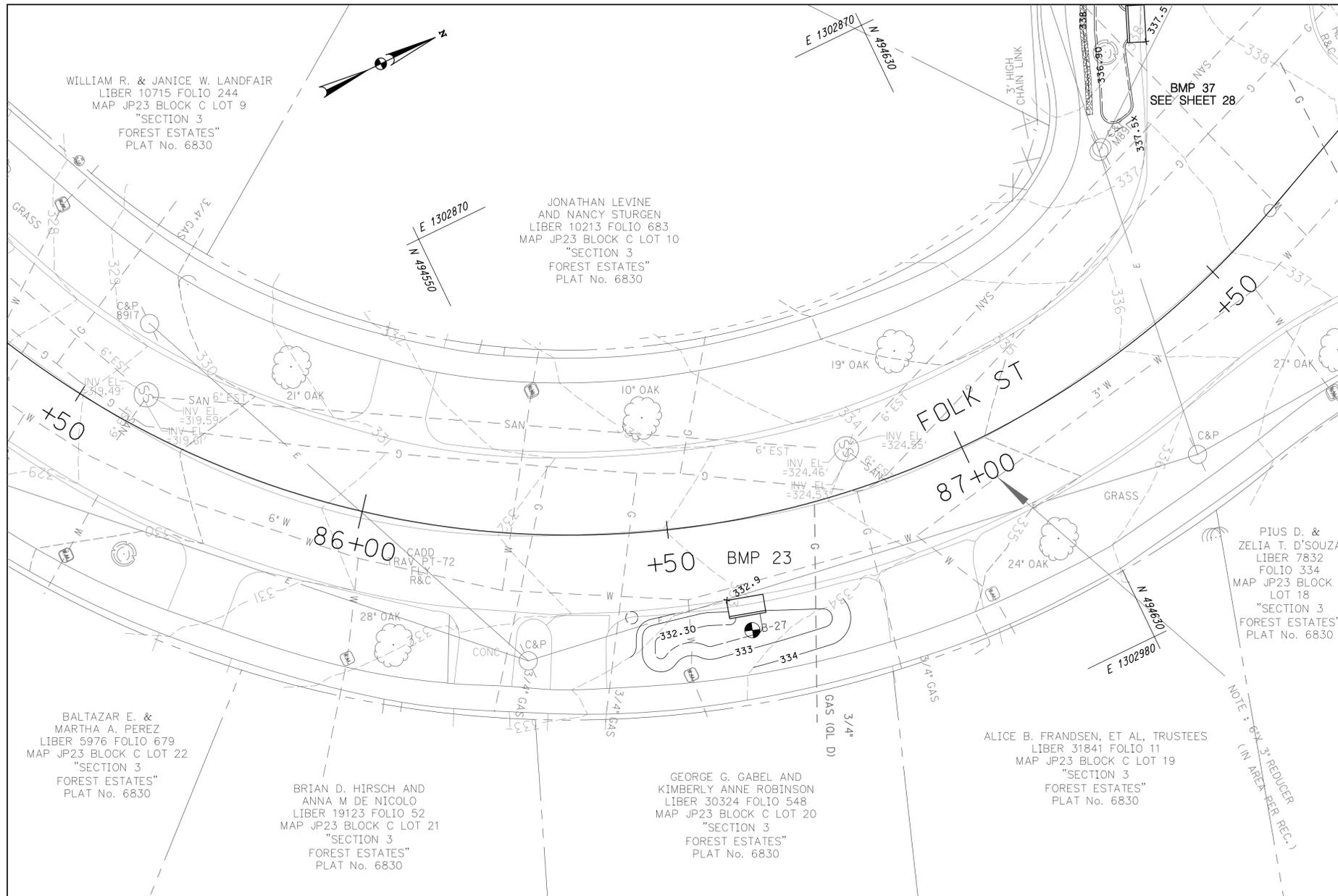
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Engineers & Planners Since 1946
(410) 662-7400

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
(240) 777-7709

DESIGN SHEET 17 OF 36
DATE MAY 11
SCALE 1"=10'

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.



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)	103	
TARGET WQV TREATMENT VOLUME (CF)	861	
FILTER BED AREA (SF)	50	
FILTER BED SURFACE ELEVATION	332.30	
INLET CURB CUT 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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	W/W	H/D
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	MAY '11
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	SHEET	SCALE	1"=10'
S.M.FILE NO. _____			18	36	

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.

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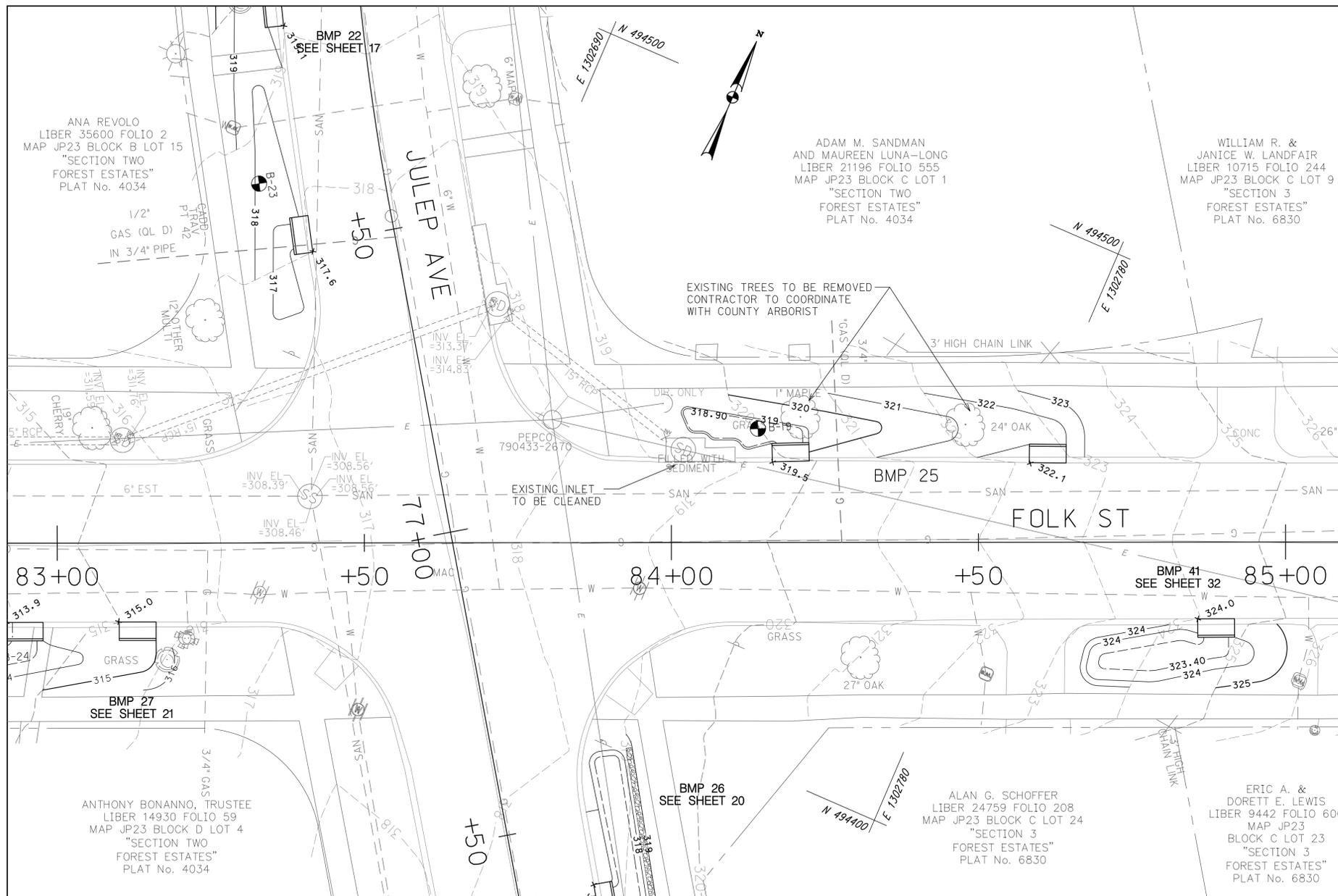
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PLAN AND PROFILE - BMP 23
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

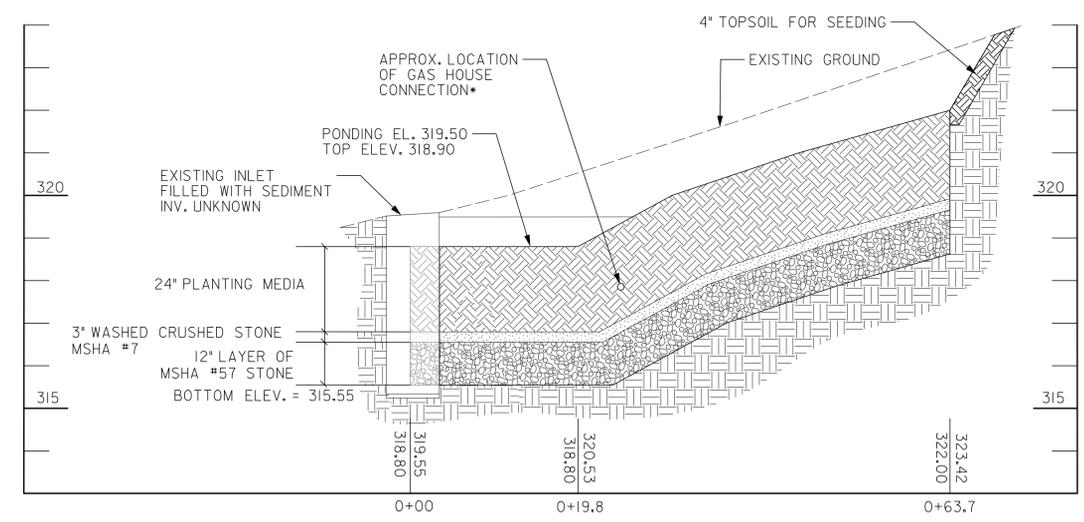
DESIGN KCS
DRAFT W/W
APPROVED H/D
DATE MAY '11
SCALE 1"=10'

SHEET 18 OF 36



AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)		
**TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: BIOSWALE		BMP ID: 25
FEATURE	DESIGN	**AS-BUILT
DRAINAGE AREA (AC)	2.33	
TREATMENT VOLUME (CF)	318	
TARGET WQV TREATMENT VOLUME (CF)	1,981	
FILTER BED AREA (SF)	68	
FILTER BED SURFACE ELEVATION	318.90	
INLET CURB CUT ELEVATION	319.50 / 322.10	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



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

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____
S.M.FILE NO. _____		

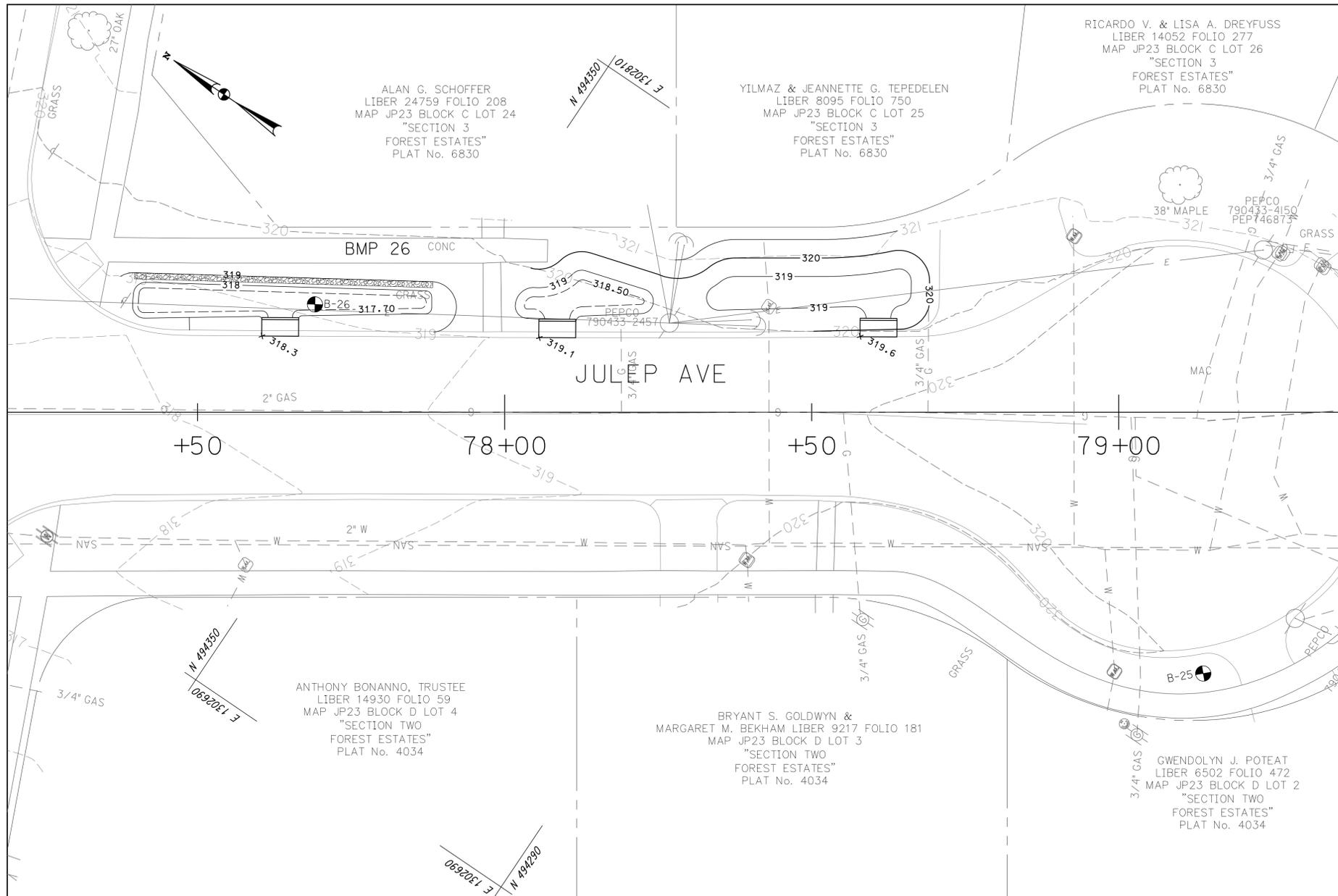
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PLAN AND PROFILE - BMP 25
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

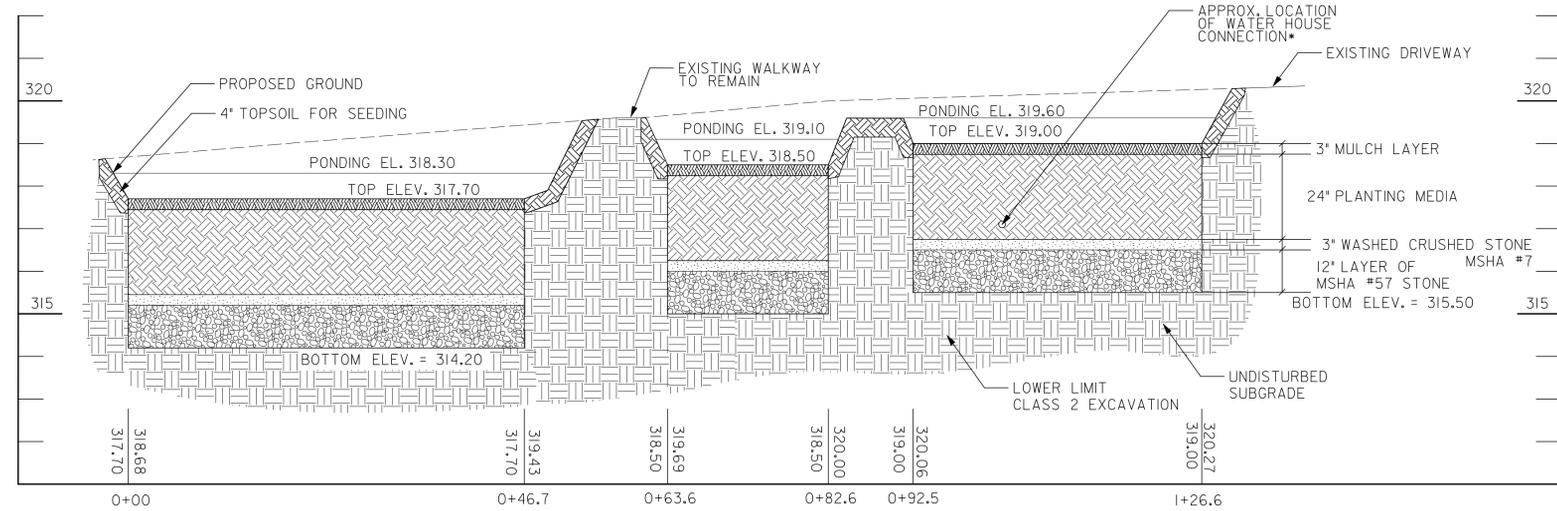
DESIGN KCS
DRAFT WJW
APPROVED HJD
DATE MAY 11
SCALE 1"=10'
SHEET 19 OF 36

FILE: I:\518213 - roadway 18 - Forest Estates and the four corners area\design\engineering\plans\PHD-FO18_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:27 PM



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)	661	
TARGET WQV TREATMENT VOLUME (CF)	957	
FILTER BED AREA (SF)	383	
FILTER BED SURFACE ELEVATION	317.70 / 318.50 / 319.00	
INLET CURB CUT 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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



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

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	WAV	HJD
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	MAY '11
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	SHEET	20	36
S.M. FILE NO. _____			OF		

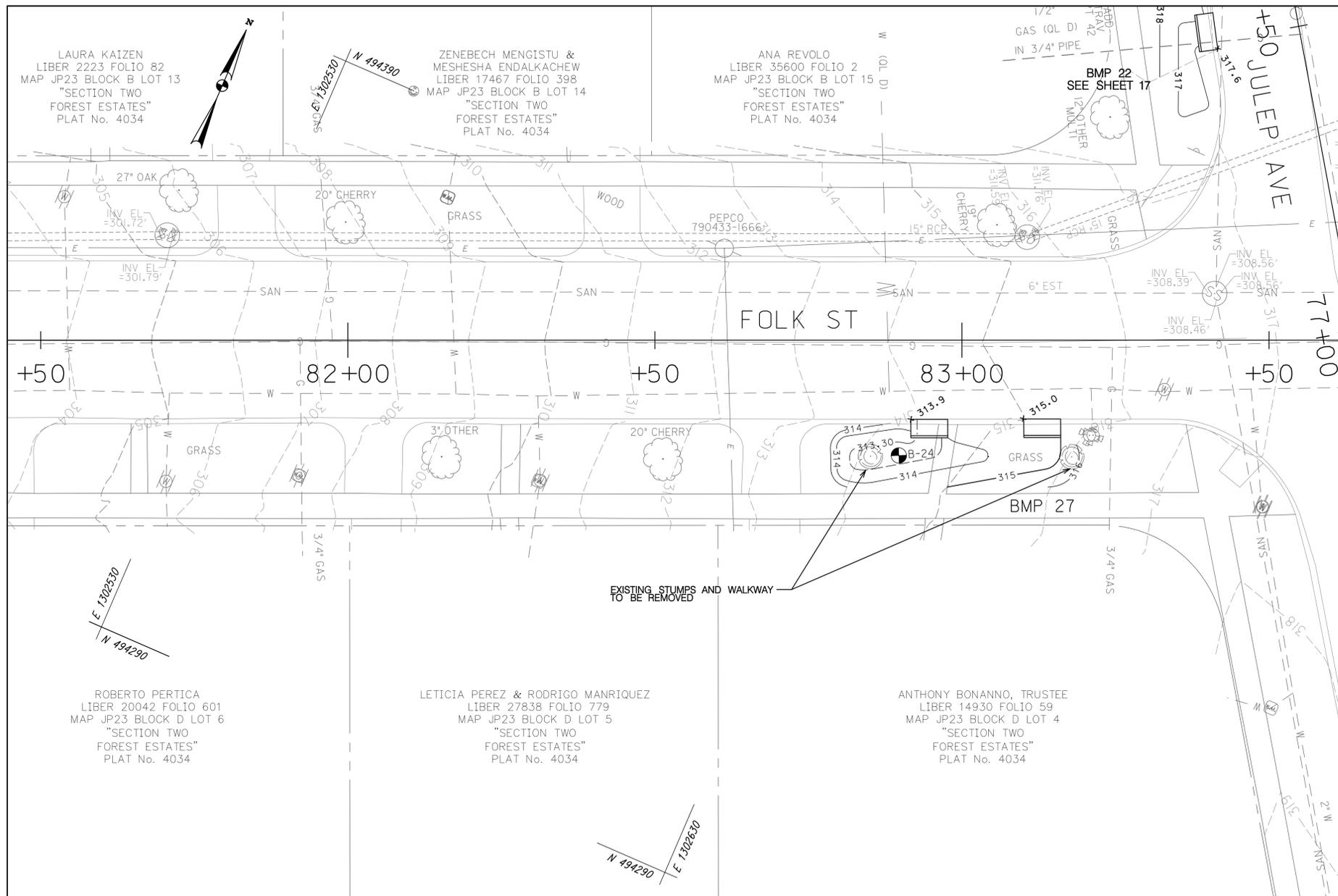
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Baltimore, Maryland 21202
McCormick & Planners Taylor
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PLAN AND PROFILE - BMP 26
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

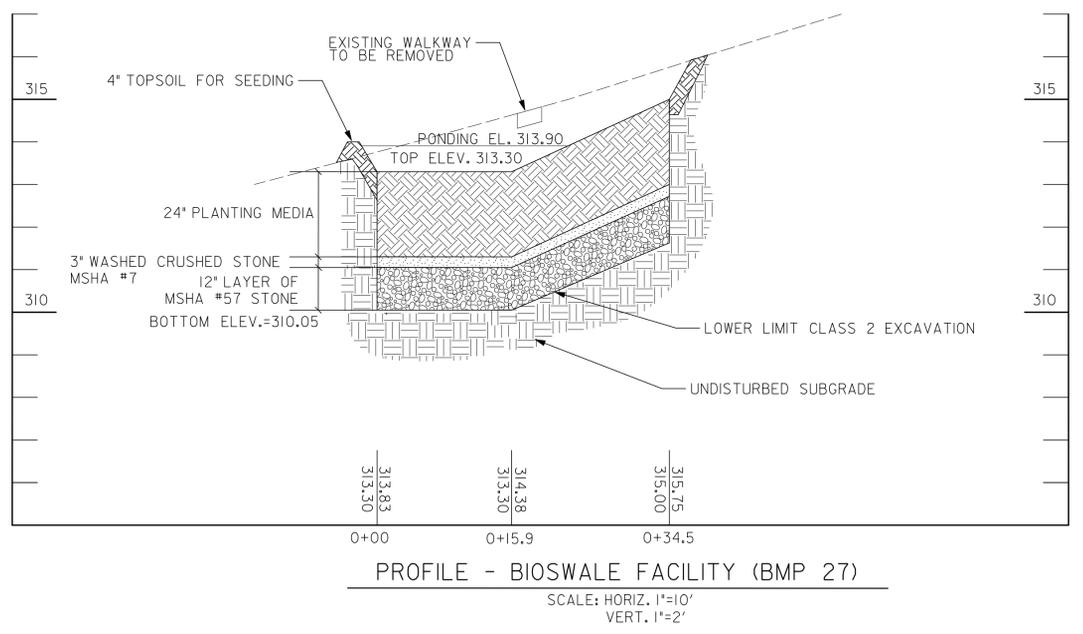
DESIGN: KCS
DRAFT: WAV
APPROVED: HJD
DATE: MAY '11
SCALE: 1"=10'

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.
FILE: I:\5182\13 - roadway\13 - Forest Estates and the four corners area\design\engineering\plan\PHD-2019_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:27 PM



AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)		
**TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: BIOSWALE		BMP ID: 27
FEATURE	DESIGN	**AS-BUILT
DRAINAGE AREA (AC)	0.37	
TREATMENT VOLUME (CF)	212	
TARGET WQV TREATMENT VOLUME (CF)	806	
FILTER BED AREA (SF)	51	
FILTER BED SURFACE ELEVATION	313.30	
INLET CURB CUT ELEVATION	313.90 / 315.00	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____
S.M.FILE NO. _____		

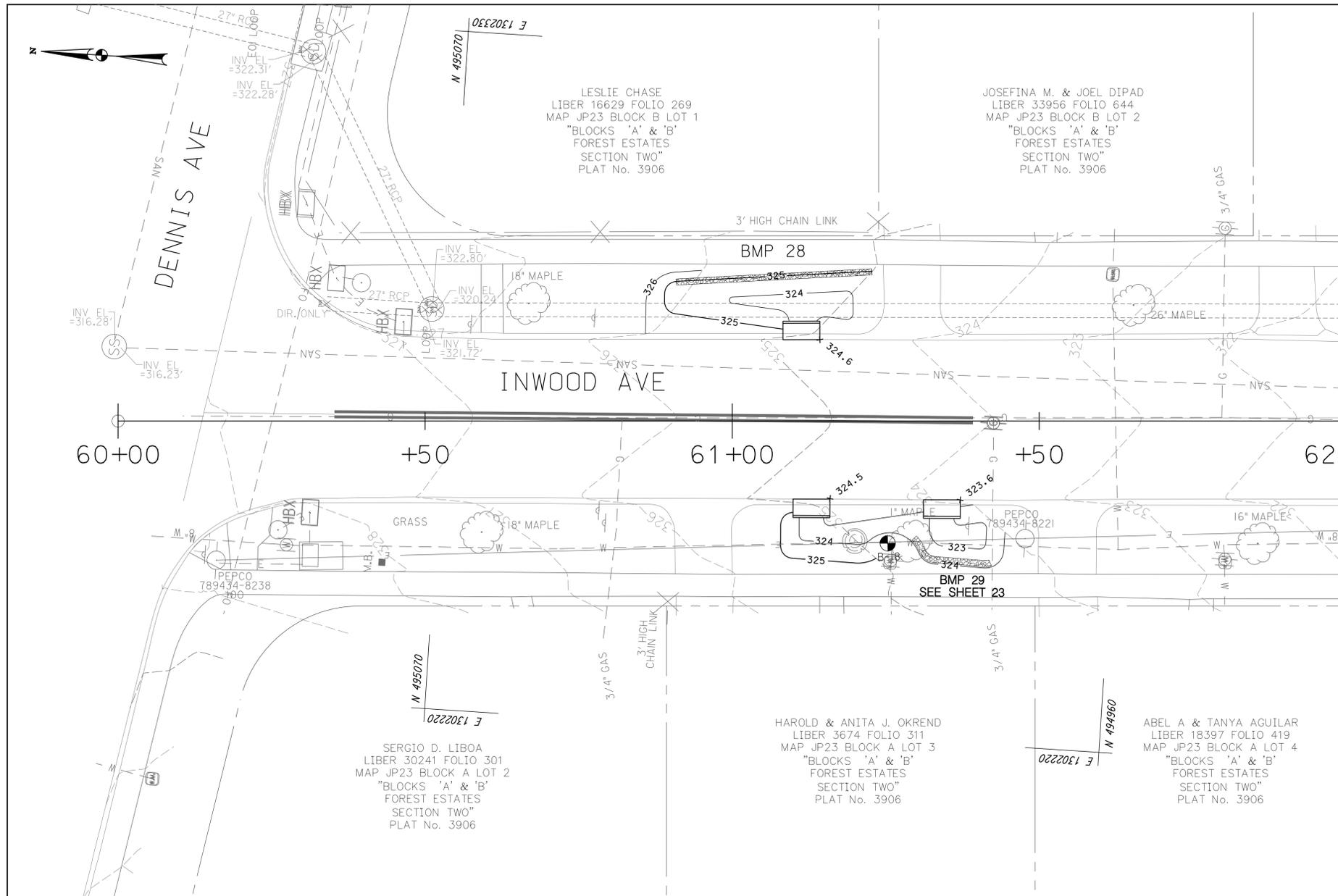
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PLAN AND PROFILE - BMP 27
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20860-4166
(240) 777-7709

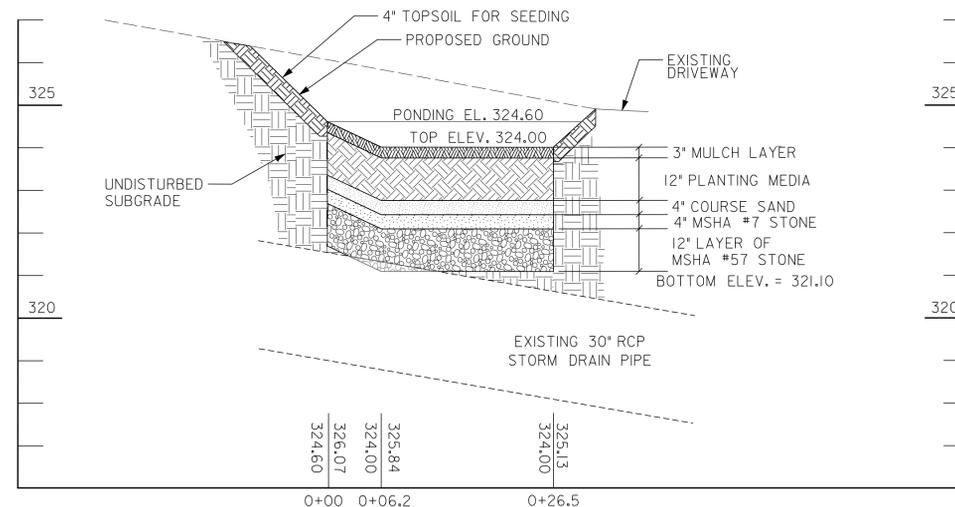
DESIGN KCS
DRAFT WJW
APPROVED HJD
DATE MAY 11
SCALE 1"=10'
SHEET 21 OF 36

FILE: I:\5182\13 - roadway\18 - forest estates and the four corners area\design\engineering\plan\PHD-PR00_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:27 PM



AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)		
**TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: MODIFIED BIOFILTER		BMP ID: 28
FEATURE	DESIGN	**AS-BUILT
DRAINAGE AREA (AC)	0.15	
TREATMENT VOLUME (CF)	135	
TARGET WQV TREATMENT VOLUME (CF)	255	
FILTER BED AREA (SF)	64	
FILTER BED SURFACE ELEVATION	324.00	
INLET CURB CUT ELEVATION	324.60	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - MODIFIED BIOFILTER FACILITY (BMP 28)
SCALE: HORIZ. 1"=10'
VERT. 1"=2'

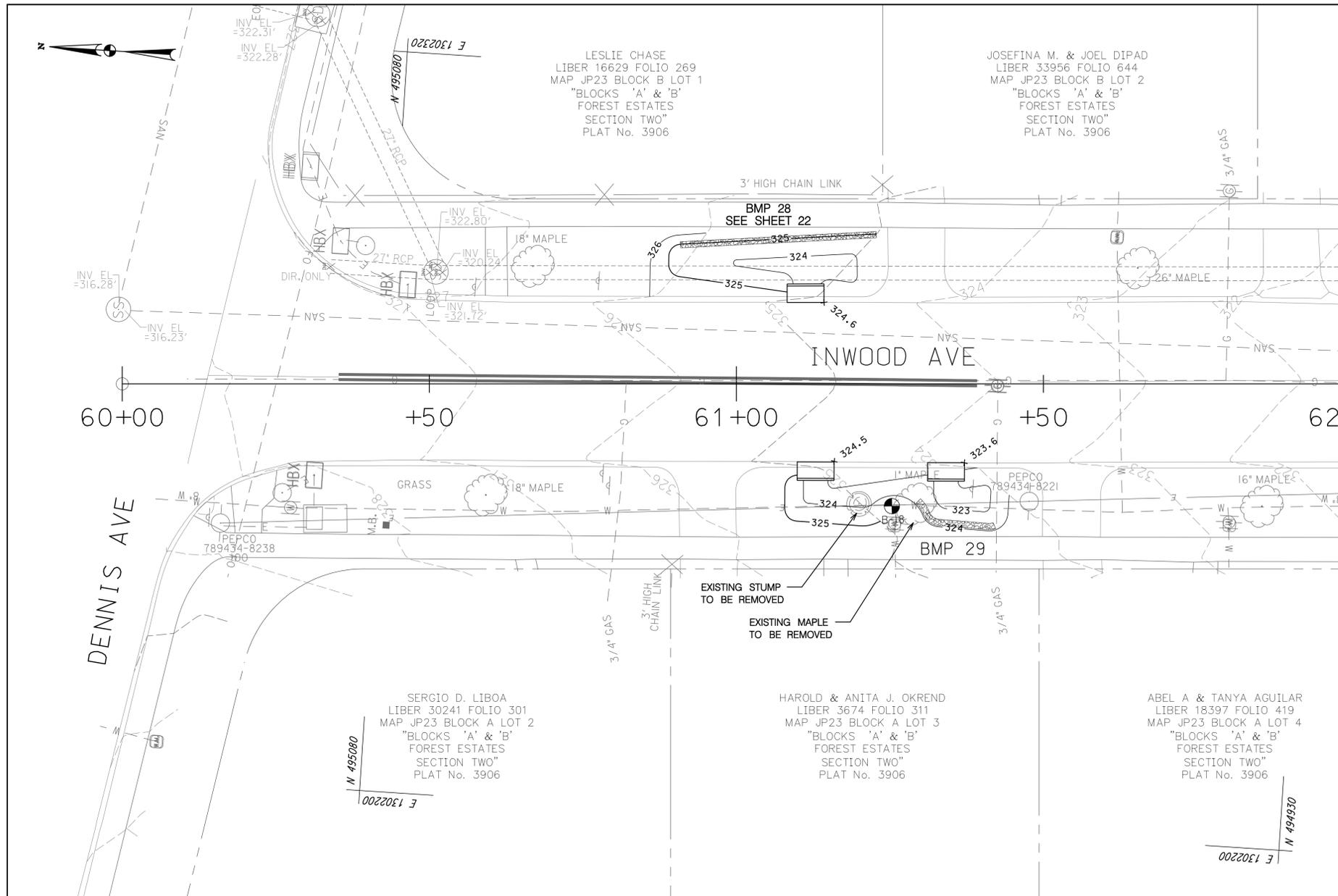
MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
DESIGN	KCS	W/W	ADMINISTRATIVE REQUIREMENTS:	REVIEWED	DATE
DRAFT	W/W	H/D	REVIEWED	DATE	
APPROVED	H/D	MAY '11	APPROVED	DATE	
DATE	MAY '11	SCALE			
		1"=10'			
SHEET	22	OF	36		
S.M. FILE NO.			MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.		

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
(240) 777-7709

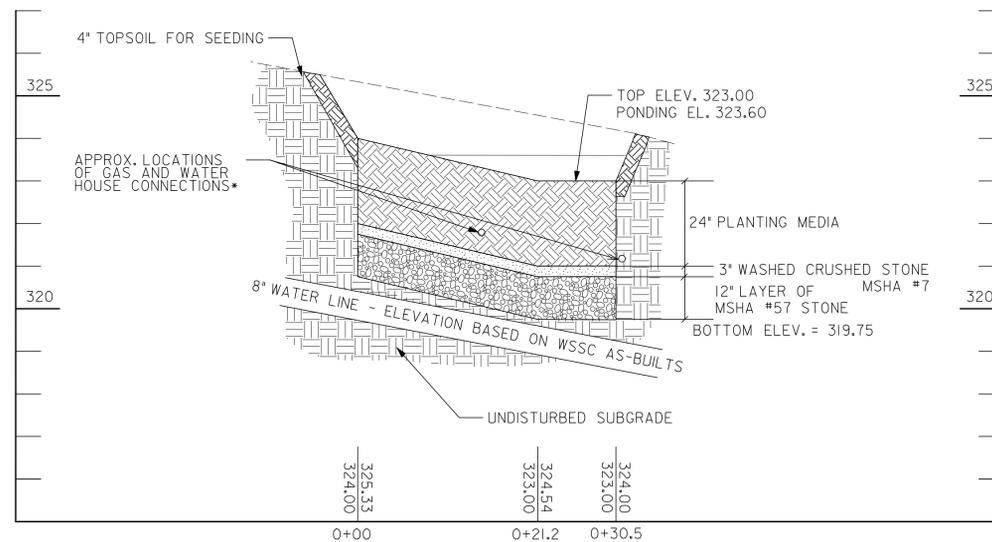
DESIGN: KCS
DRAFT: W/W
APPROVED: H/D
DATE: MAY '11
SCALE: 1"=10'

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Baltimore, Maryland 21202
McCormick & Planners
Engineers & Planners
Since 1946
Taylor
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AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)		
**TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: BIOSWALE		BMP ID: 29
FEATURE	DESIGN	**AS-BUILT
DRAINAGE AREA (AC)	0.65	
TREATMENT VOLUME (CF)	241	
TARGET WQV TREATMENT VOLUME (CF)	1,498	
FILTER BED AREA (SF)	37	
FILTER BED SURFACE ELEVATION	323.00	
INLET CURB CUT ELEVATION	324.50 / 323.60	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - BIOSWALE FACILITY (BMP 29)

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

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	DESIGN	KCS	WJW
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	WJW	HJD
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED	HJD	MAY 11
S.M. FILE NO. _____			SHEET	23	36
			OF		

PLAN AND PROFILE - BMP 29

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

(240) 777-7709

DESIGN

DRAFT

APPROVED

DATE

SCALE

SHEET

23

OF

36

509 South Exeter Street

4th Floor

Baltimore, Maryland 21202

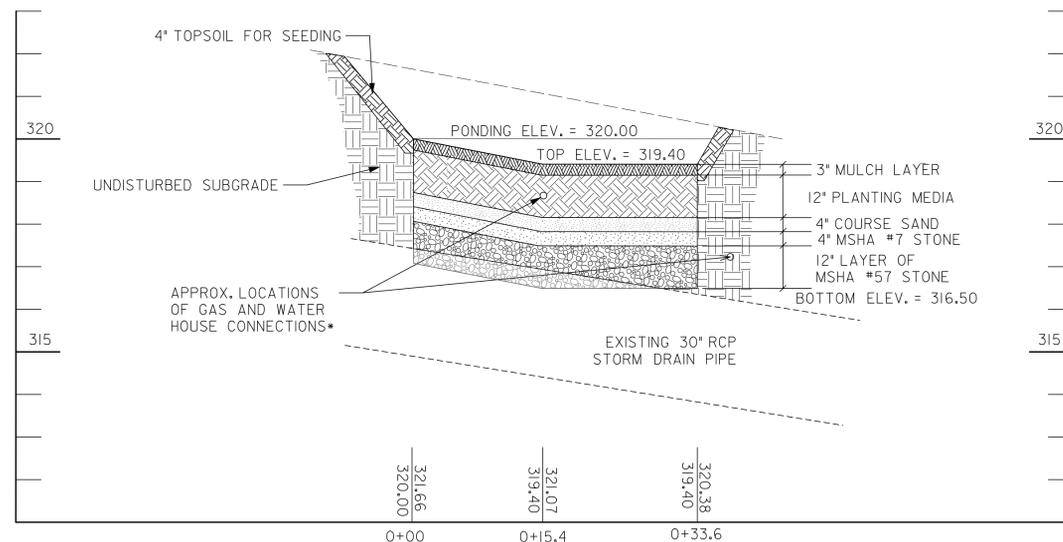
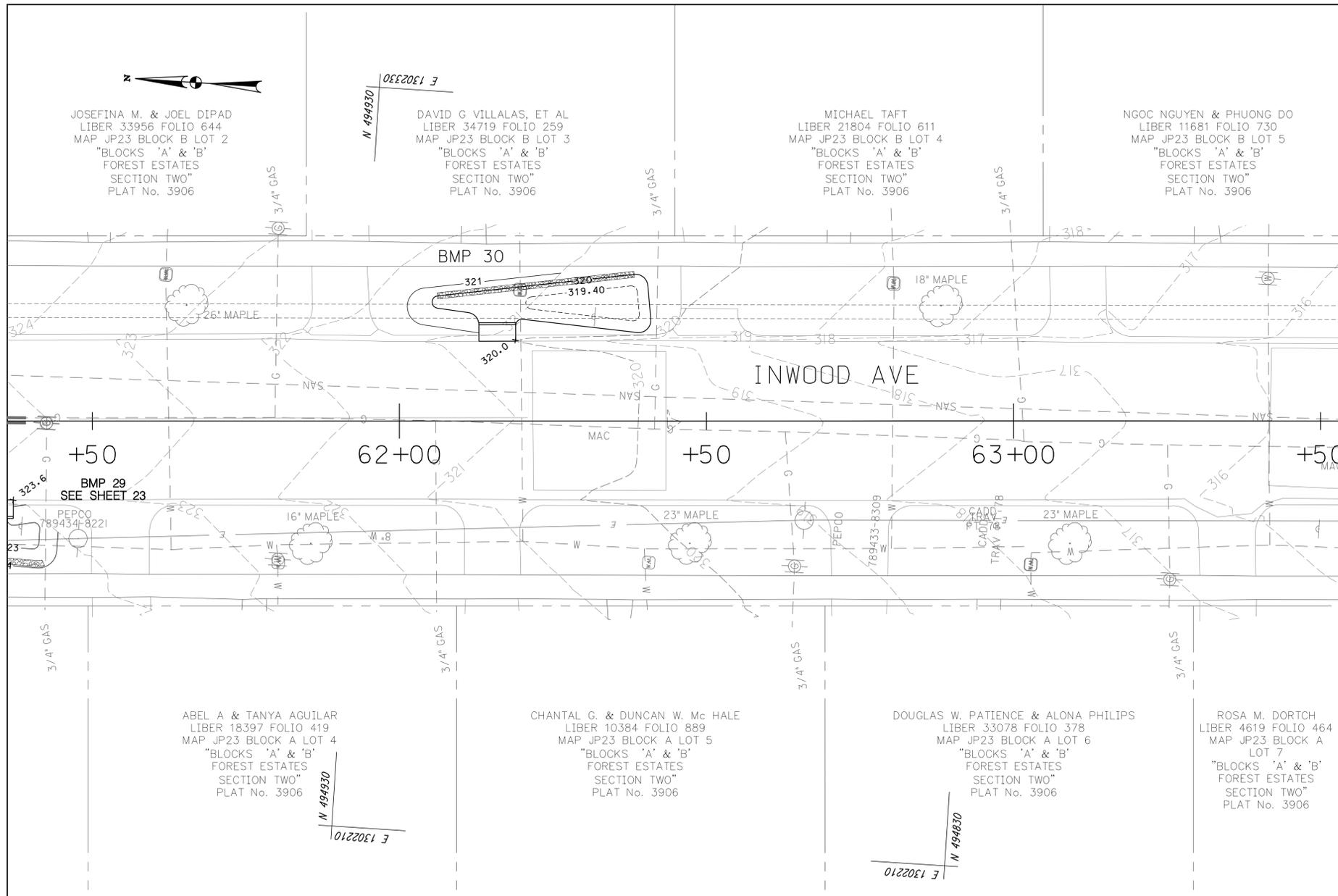
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PROFILE - MODIFIED BIOFILTER FACILITY (BMP 30)

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:	BMP ID: 30	
FEATURE	DESIGN	**AS-BUILT
DRAINAGE AREA (AC)	0.20	
TREATMENT VOLUME (CF)	163	
TARGET WQV TREATMENT VOLUME (CF)	388	
FILTER BED AREA (SF)	69	
FILTER BED SURFACE ELEVATION	319.40	
INLET CURB CUT ELEVATION	320.00	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	WJW	HJD
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	MAY 11
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____			SCALE
S.M.FILE NO. _____					1"=10'

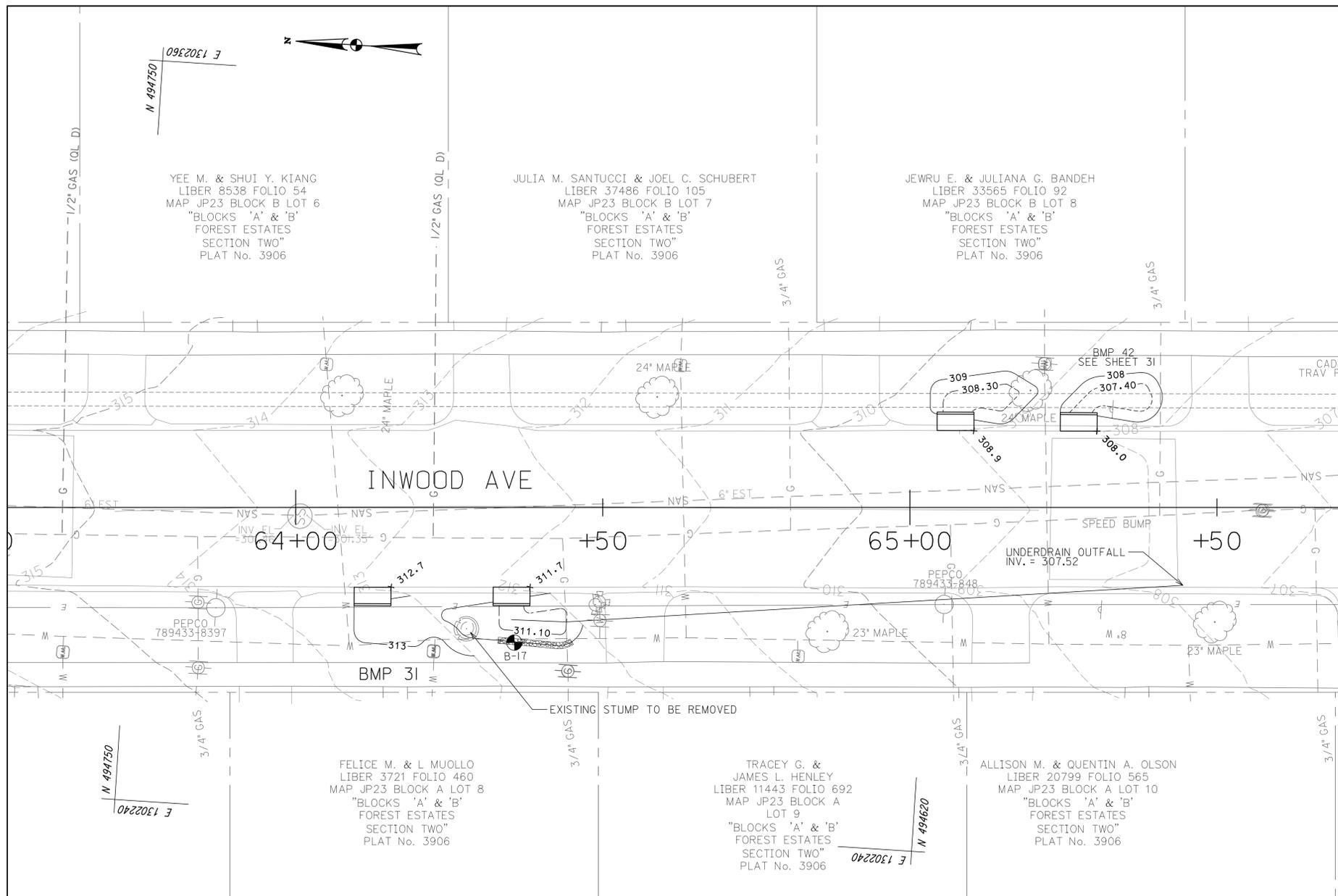
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
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PLAN AND PROFILE - BMP 30
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

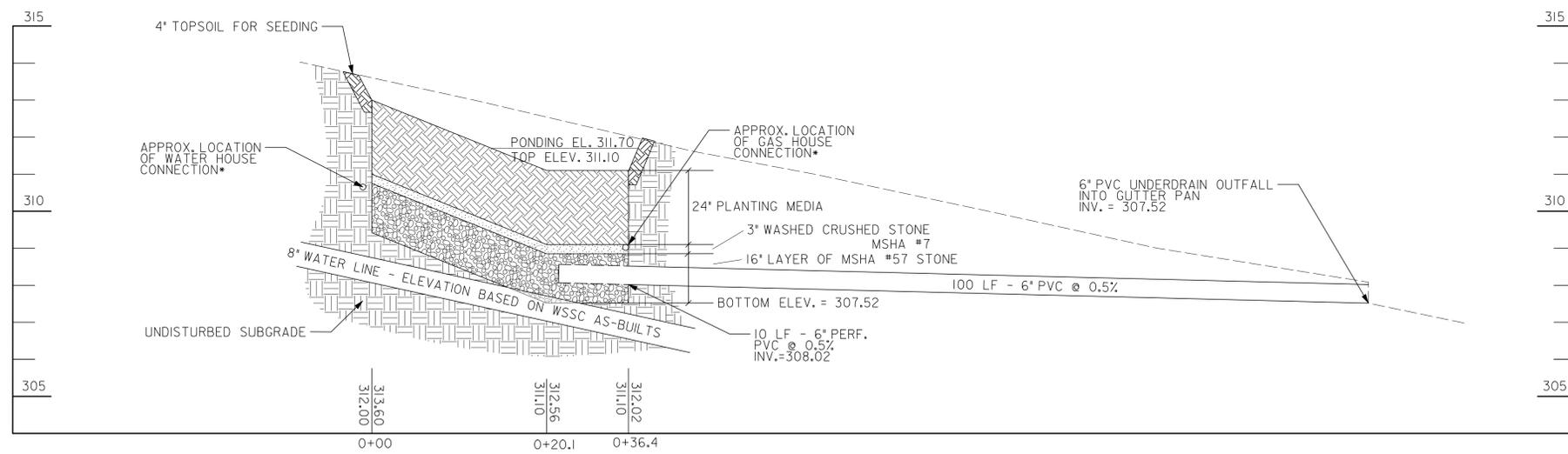
DESIGN SHEET OF
24 36

FILE: I:\18213 - roadway\18 - Forest Estates and the four corners area\design\engineering\plan\PHD-PR03_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:27 PM



AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)		
**TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY:	BIOSWALE	BMP ID: 31
FEATURE	DESIGN	**AS-BUILT
DRAINAGE AREA (AC)	0.51	
TREATMENT VOLUME (CF)	217	
TARGET WQV TREATMENT VOLUME (CF)	922	
FILTER BED AREA (SF)	41	
FILTER BED SURFACE ELEVATION	311.10	
INLET CURB CUT ELEVATION	311.70 / 312.70	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCPDS 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.



PROFILE - BIOSWALE FACILITY (BMP 31)
SCALE: HORIZ. 1"=10'
VERT. 1"=2'

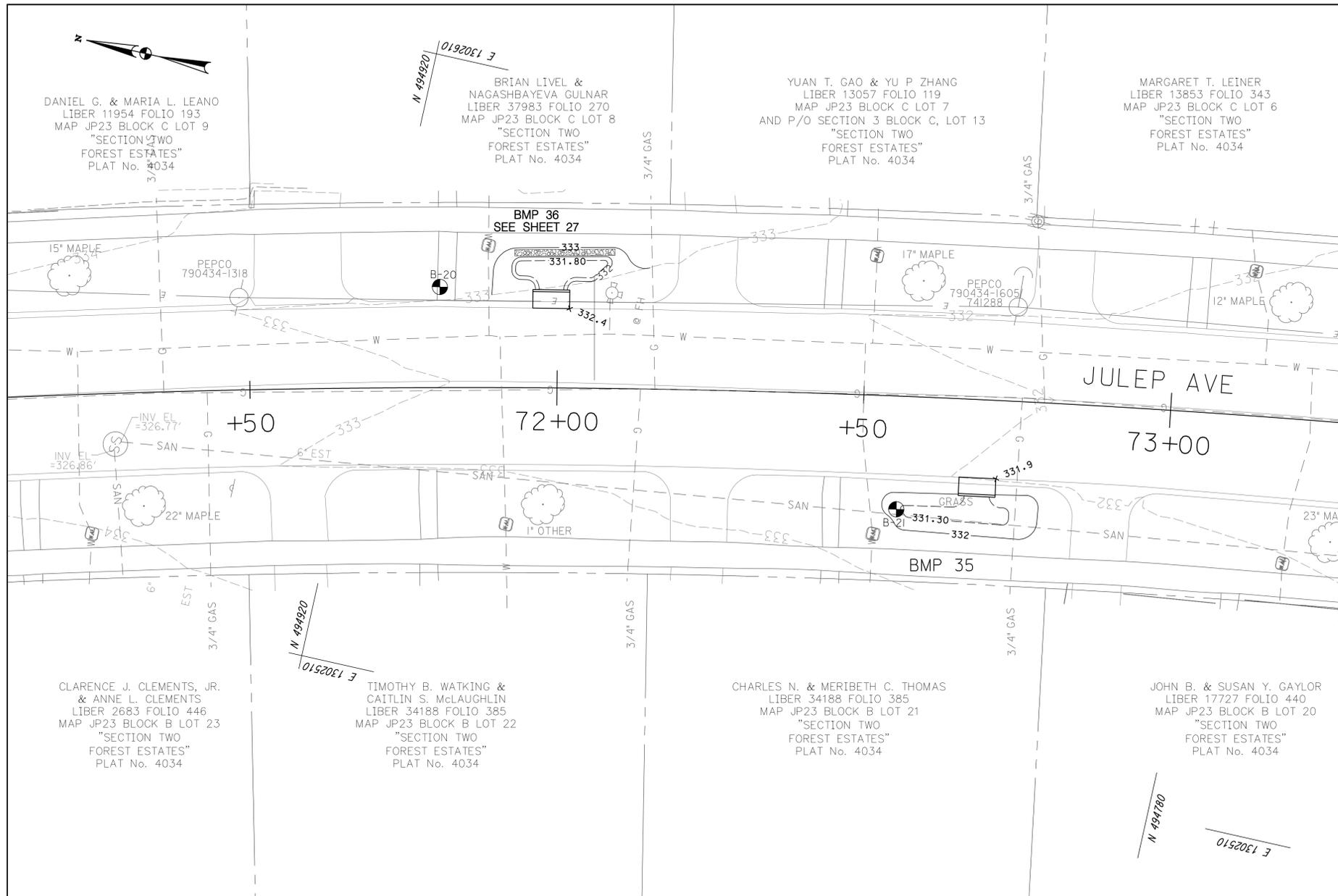
MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCPDS APPROVAL DOES NOT NEGATE THE NEED OF A MCPDS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	DESIGN	KCS	1"=10'
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	WJW	
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED	HJD	
S.M. FILE NO. _____			DATE	MAY '11	
			SCALE		
			SHEET	25	36
			OF		

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PLAN AND PROFILE - BMP 31
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

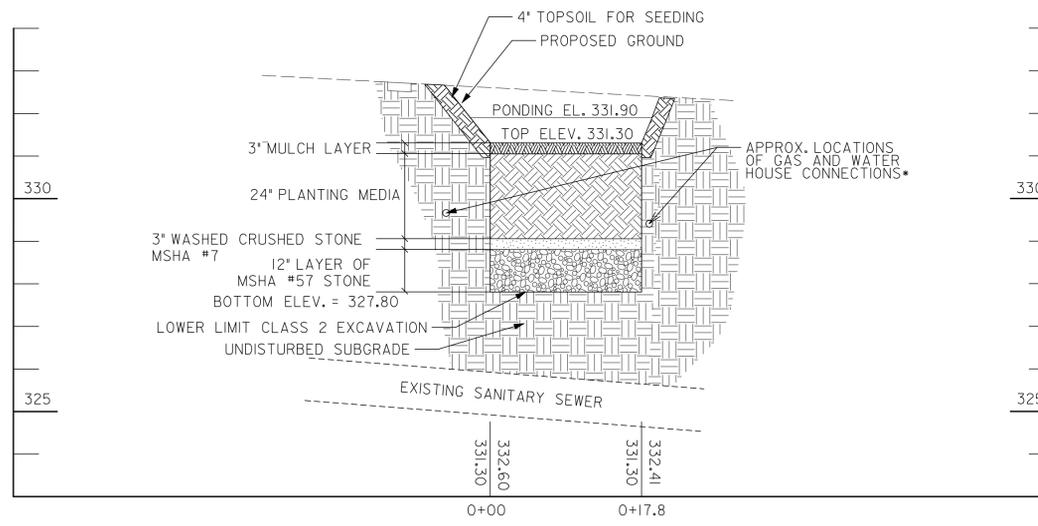
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

FILE: I:\18213 - roadway\18 - forest estates and the four corners area\design\engineering\plan\PHD-PROJ_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:27 PM



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)	90	
TARGET WQV TREATMENT VOLUME (CF)	723	
FILTER BED AREA (SF)	49	
FILTER BED SURFACE ELEVATION	331.30	
INLET CURB CUT 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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - RAIN GARDEN FACILITY (BMP 35)
SCALE: HORIZ. 1"=10'
VERT. 1"=2'

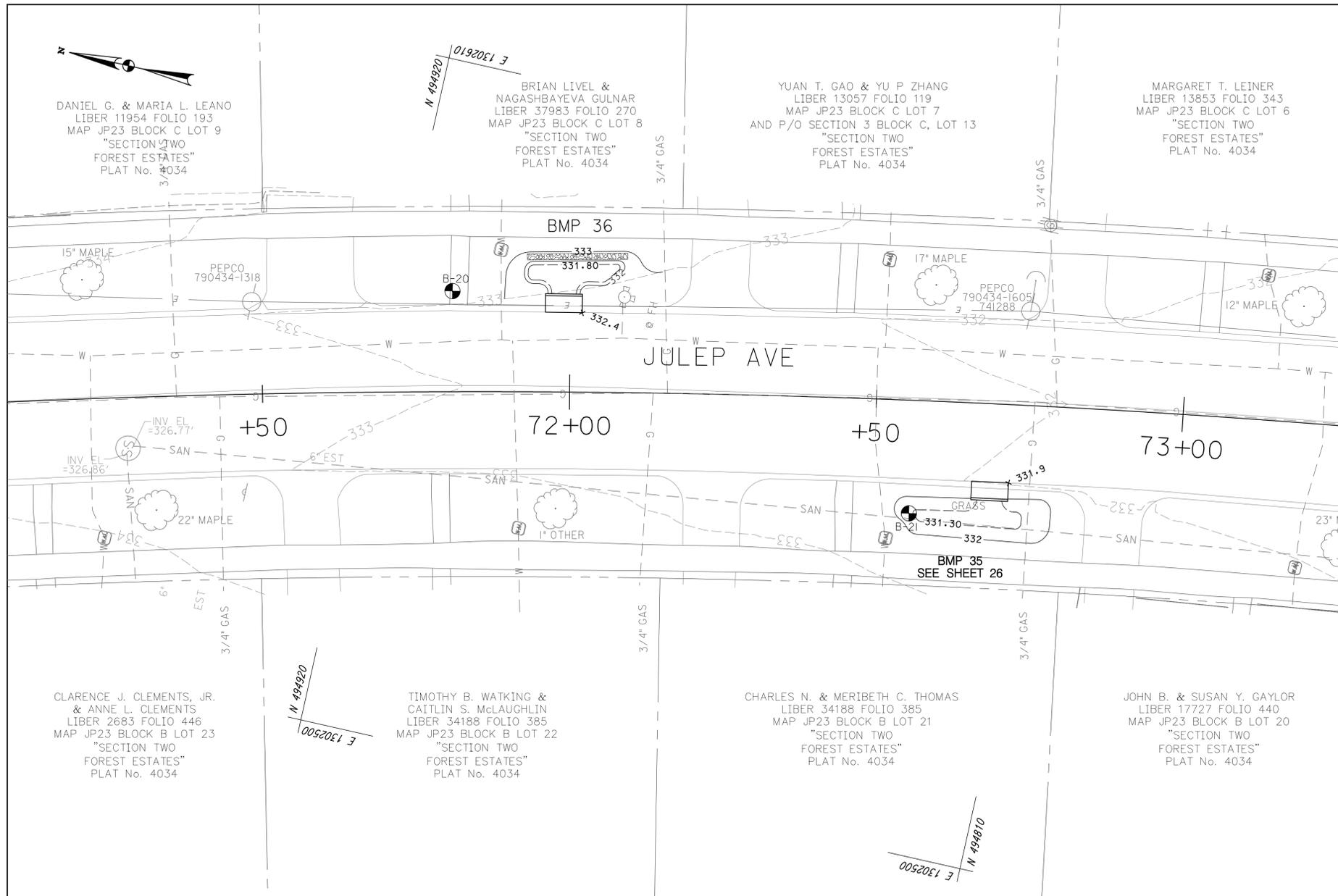
MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	DESIGN	KCS	W/W
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	W/W	H/D
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED	H/D	MAY '11
S.M. FILE NO. _____			SHEET	26	36
			OF		

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PLAN AND PROFILE - BMP 35
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

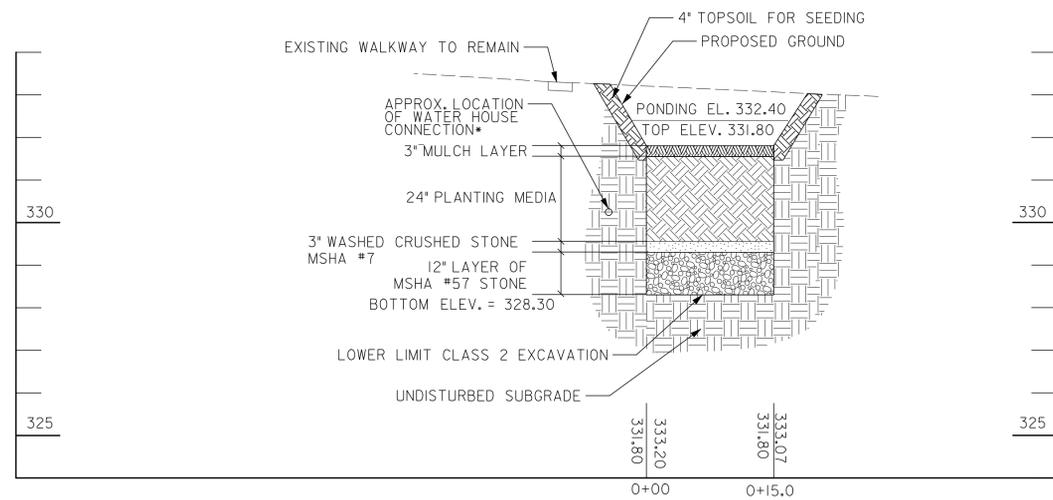
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.



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)	85	
TARGET WQV TREATMENT VOLUME (CF)	1,148	
FILTER BED AREA (SF)	47	
FILTER BED SURFACE ELEVATION	331.80	
INLET CURB CUT 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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - RAIN GARDEN FACILITY (BMP 36)
SCALE: HORIZ. 1"=10'
VERT. 1"=2'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.	
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	APPROVED _____ DATE _____
APPROVED _____ DATE _____	APPROVED _____ DATE _____	MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.	
S.M. FILE NO. _____			

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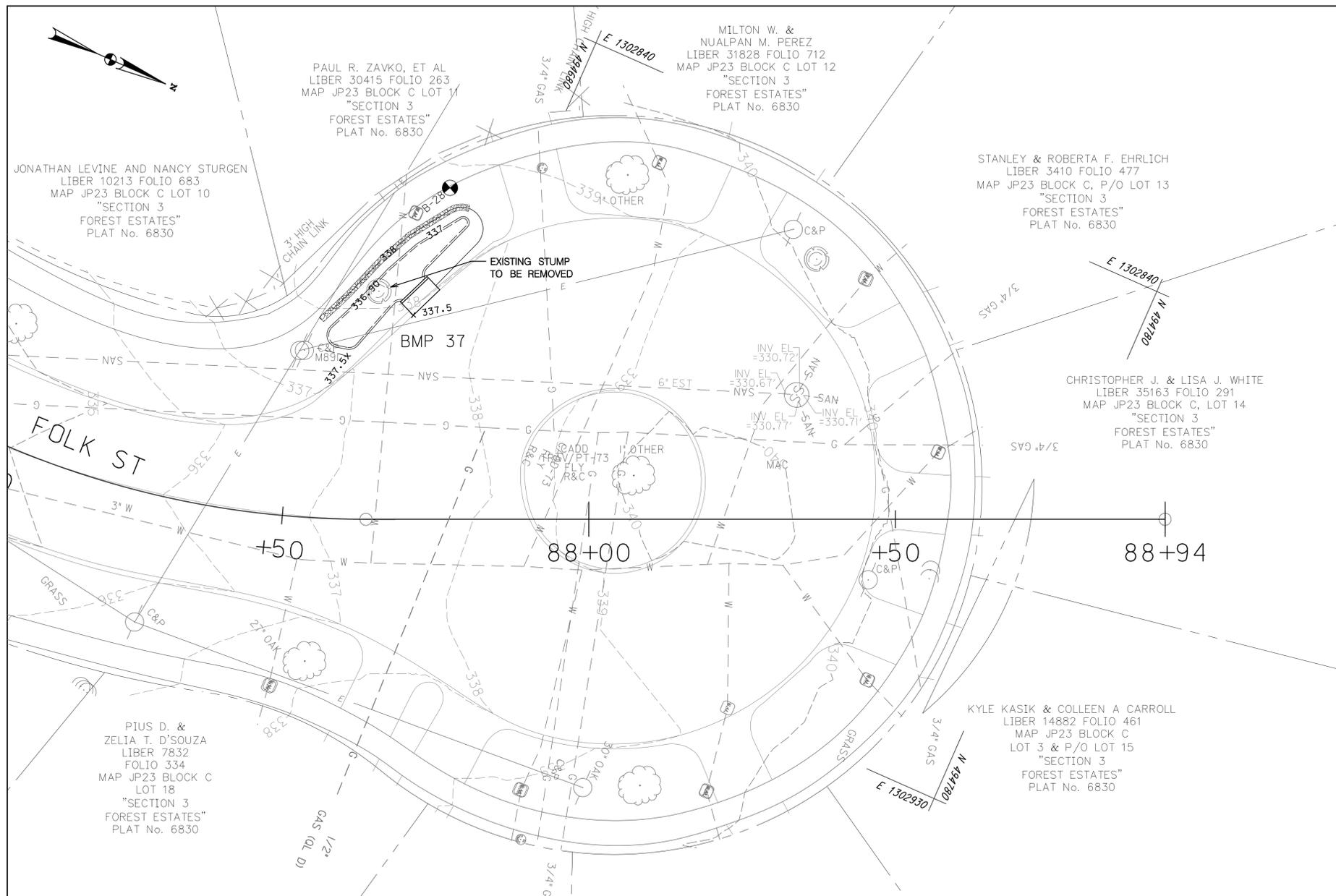
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PLAN AND PROFILE - BMP 36
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

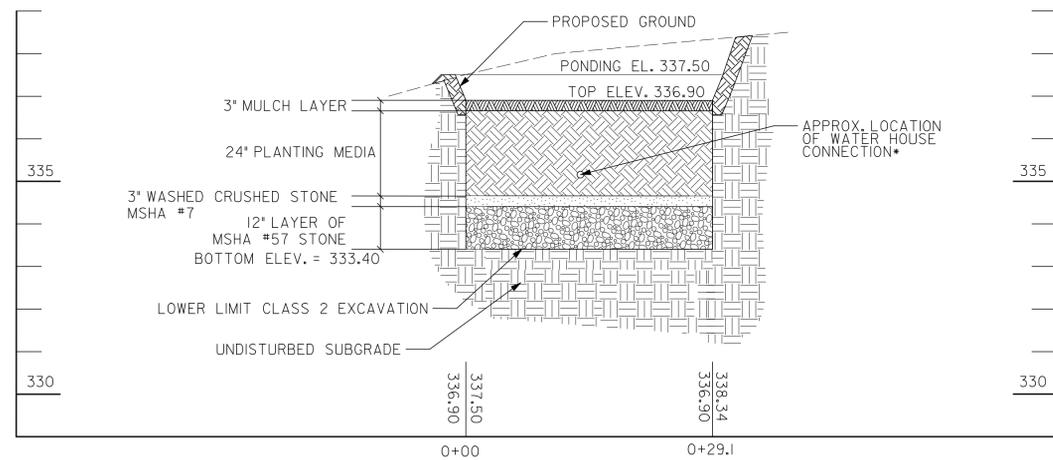
DESIGN KCS
DRAFT WJW
APPROVED HJD
DATE MAY 11
SCALE 1"=10'

SHEET 27 OF 36



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)	231	
TARGET WQV TREATMENT VOLUME (CF)	580	
FILTER BED AREA (SF)	110	
FILTER BED SURFACE ELEVATION	336.90	
INLET CURB CUT ELEVATION	337.50	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - RAIN GARDEN FACILITY (BMP 37)
SCALE: HORIZ. 1"=10'
VERT. 1"=2'

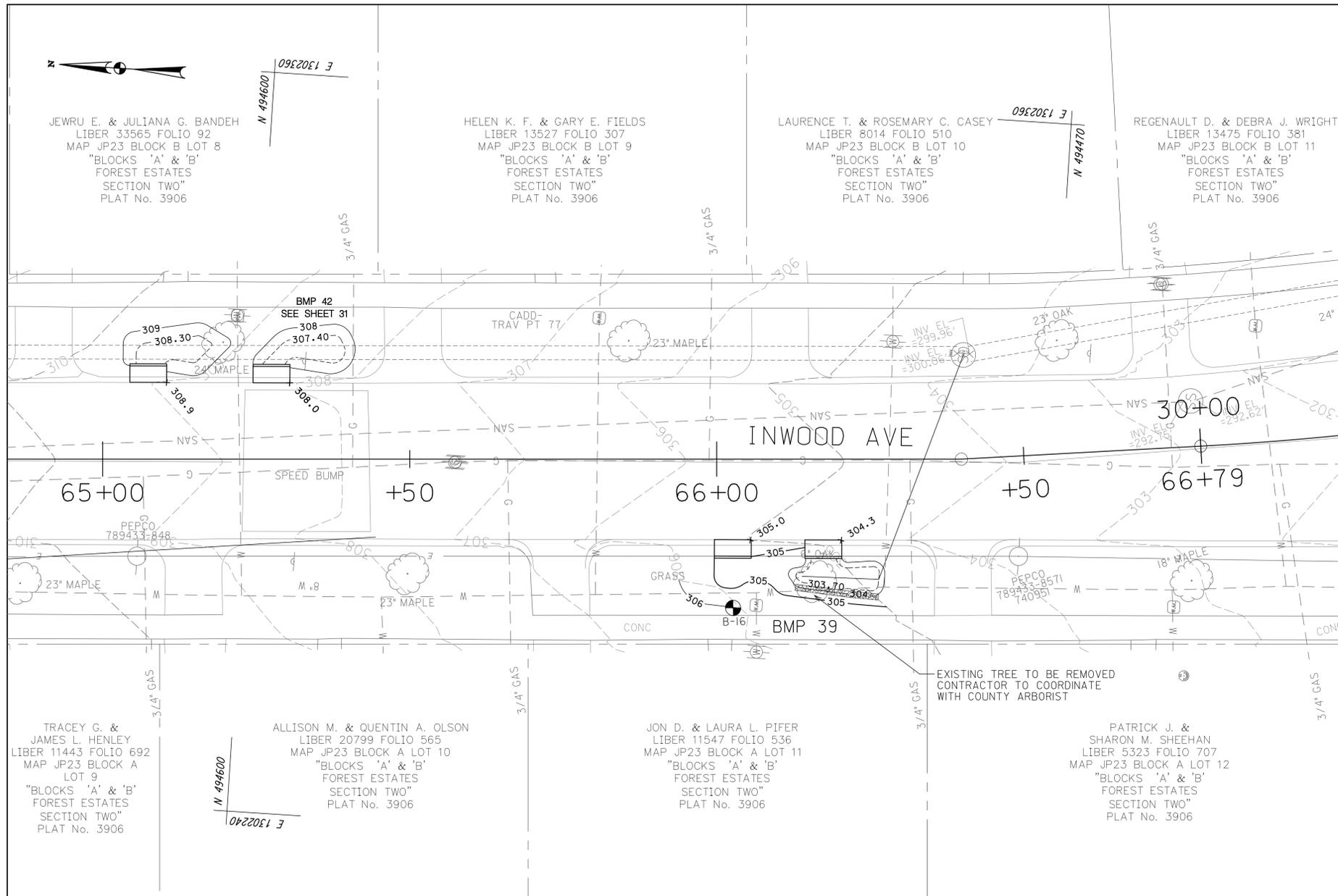
MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	WJW	HJD
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	MAY 11
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	SHEET	28	36
S.M. FILE NO. _____			OF		

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PLAN AND PROFILE - BMP 37
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

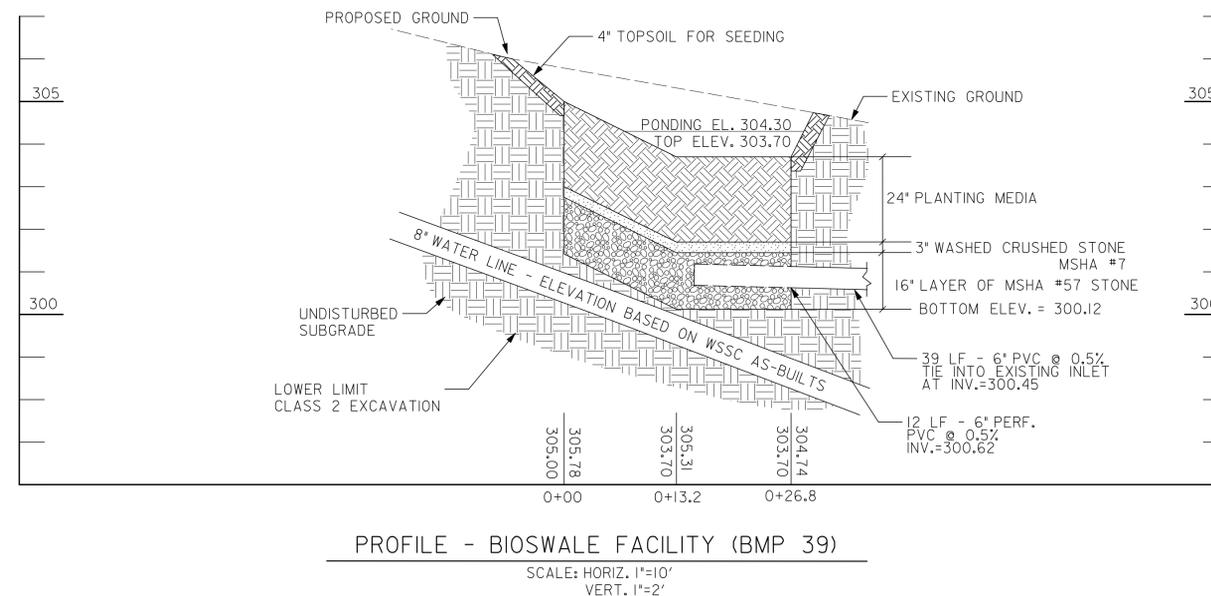
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

DESIGN: KCS, WJW, HJD
SCALE: 1"=10'
SHEET 28 OF 36



AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)		
**TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY:	BIOSWALE	BMP ID: 39
FEATURE	DESIGN	**AS-BUILT
DRAINAGE AREA (AC)	0.32	
TREATMENT VOLUME (CF)	174	
TARGET WQV TREATMENT VOLUME (CF)	575	
FILTER BED AREA (SF)	47	
FILTER BED SURFACE ELEVATION	303.70	
INLET CURB CUT ELEVATION	304.30 / 305.00	
OUTLET PIPE (UNDERDRAIN) SIZE / INVERT ELEV.	6" / 300.45	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCPDS 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.



PROFILE - BIOSWALE FACILITY (BMP 39)

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

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCPDS APPROVAL DOES NOT NEGATE THE NEED OF A MCPDS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	DESIGN	KCS	1"=10'
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	WJW	
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED	HJD	
S.M. FILE NO. _____			DATE	MAY 11	
			SCALE		
			SHEET	29	36
			OF		

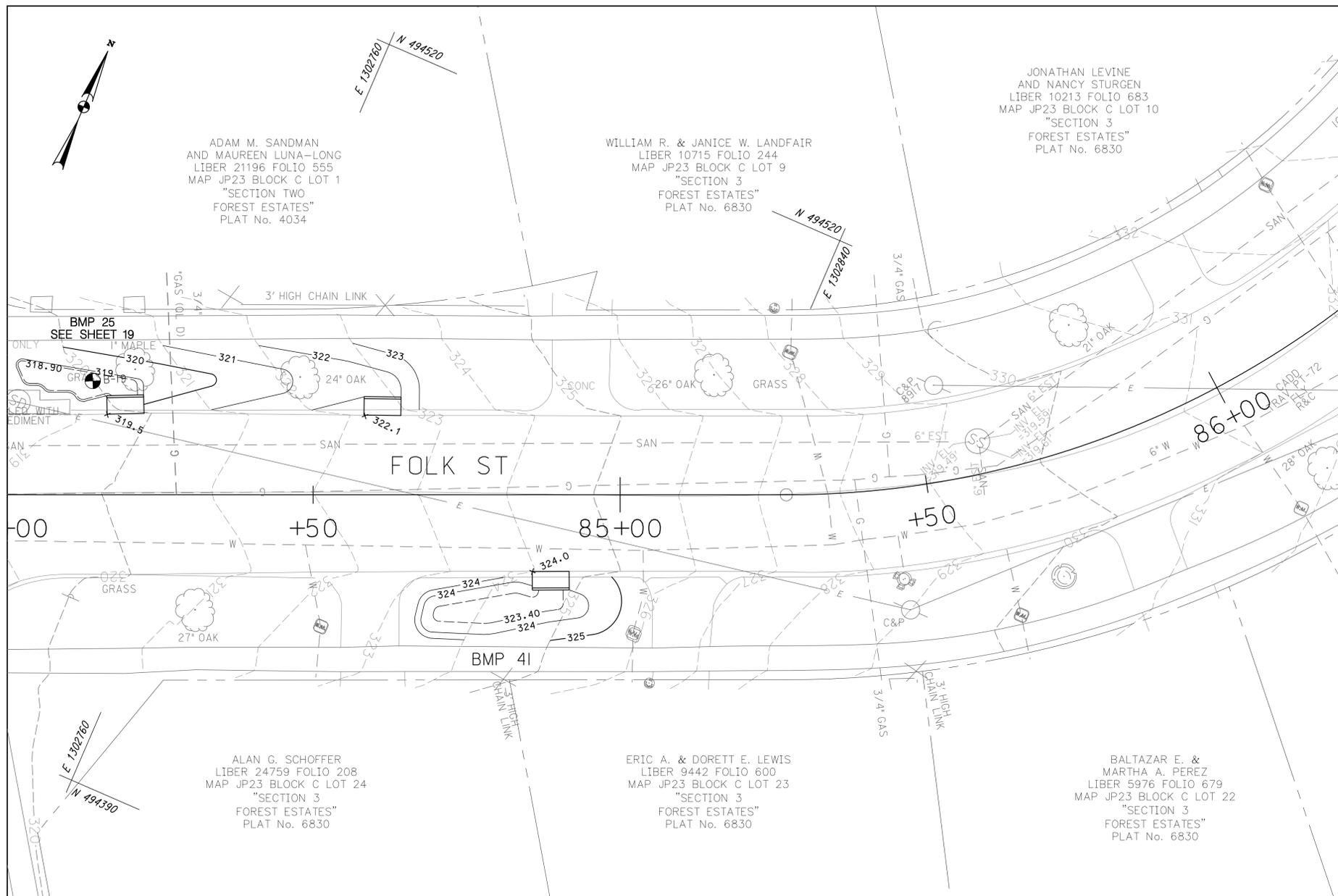
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PLAN AND PROFILE - BMP 39
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

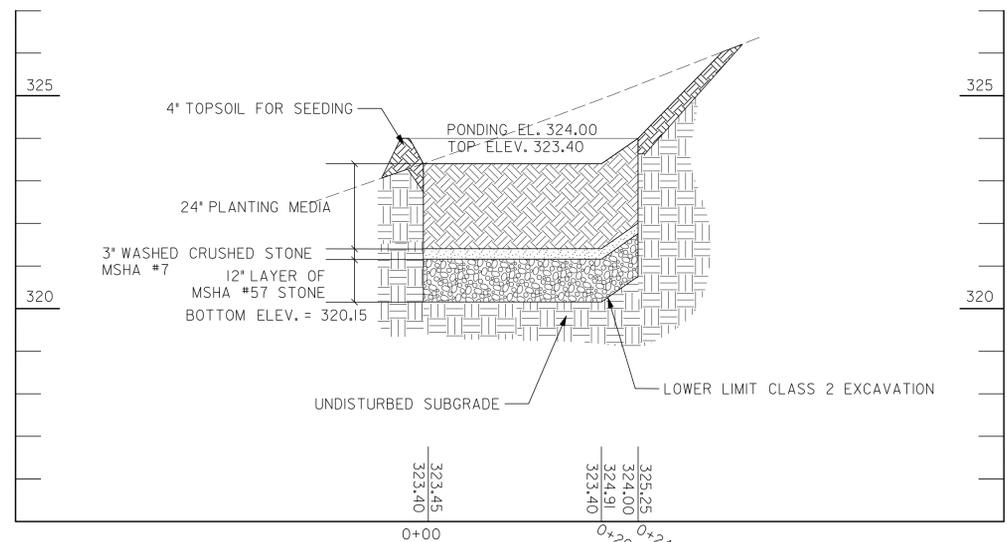
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

FILE: I:\18213 - roadway 18 - forest estates and the four corners area\design\engineering\plans\PHD-PR00_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:28 PM



AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)		
**TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: BIOSWALE		BMP ID: 41
FEATURE	DESIGN	**AS-BUILT
DRAINAGE AREA (AC)	0.44	
TREATMENT VOLUME (CF)	195	
TARGET WQV TREATMENT VOLUME (CF)	705	
FILTER BED AREA (SF)	72	
FILTER BED SURFACE ELEVATION	323.40	
INLET CURB CUT 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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - BIOSWALE FACILITY (BMP 41)
SCALE: HORIZ. 1"=10'
VERT. 1"=2'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	DESIGN	KCS	WJW
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	WJW	HJD
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED	HJD	MAY 11
S.M. FILE NO. _____			SHEET	30	36
			OF		

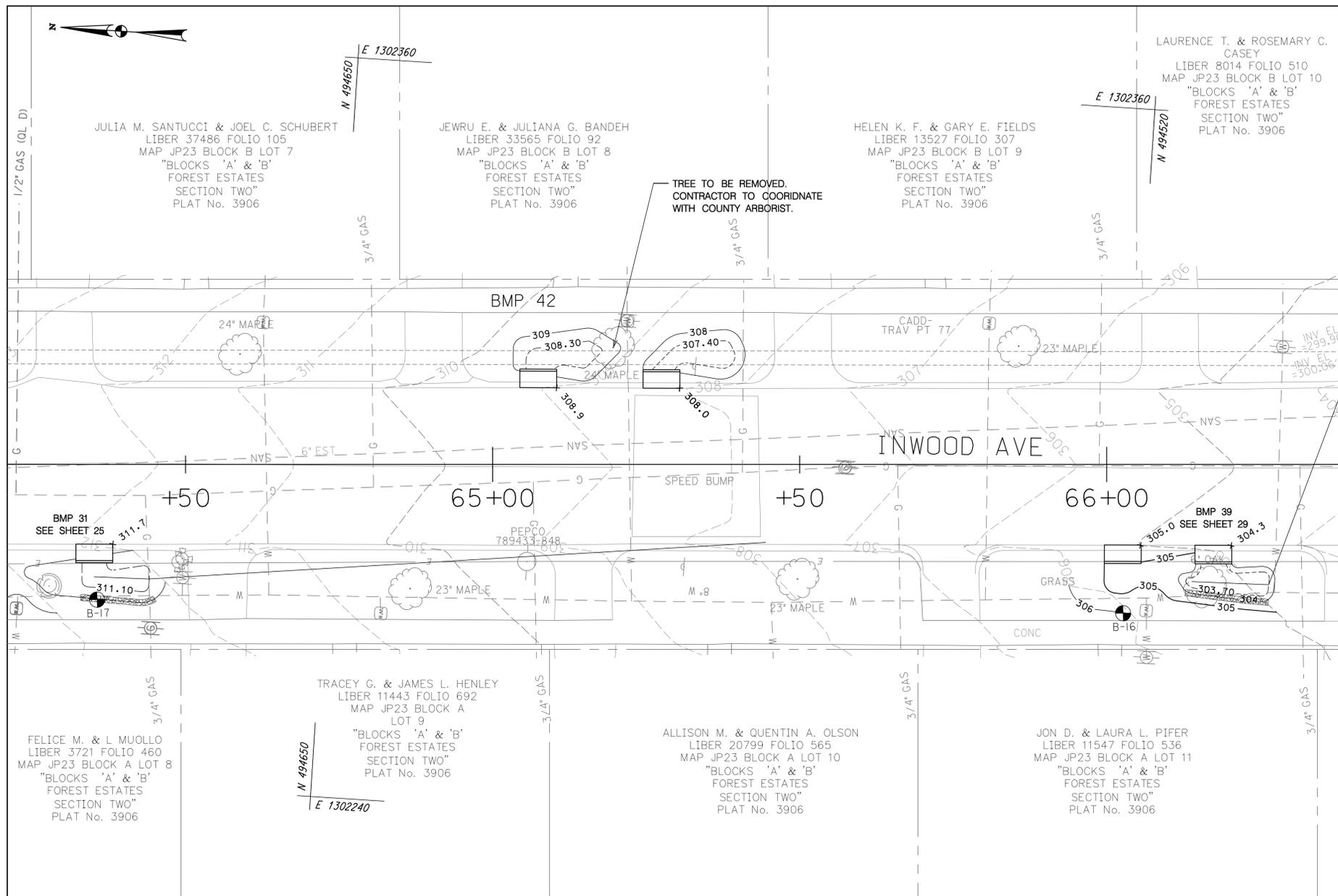
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PLAN AND PROFILE - BMP 41
FOREST ESTATES
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

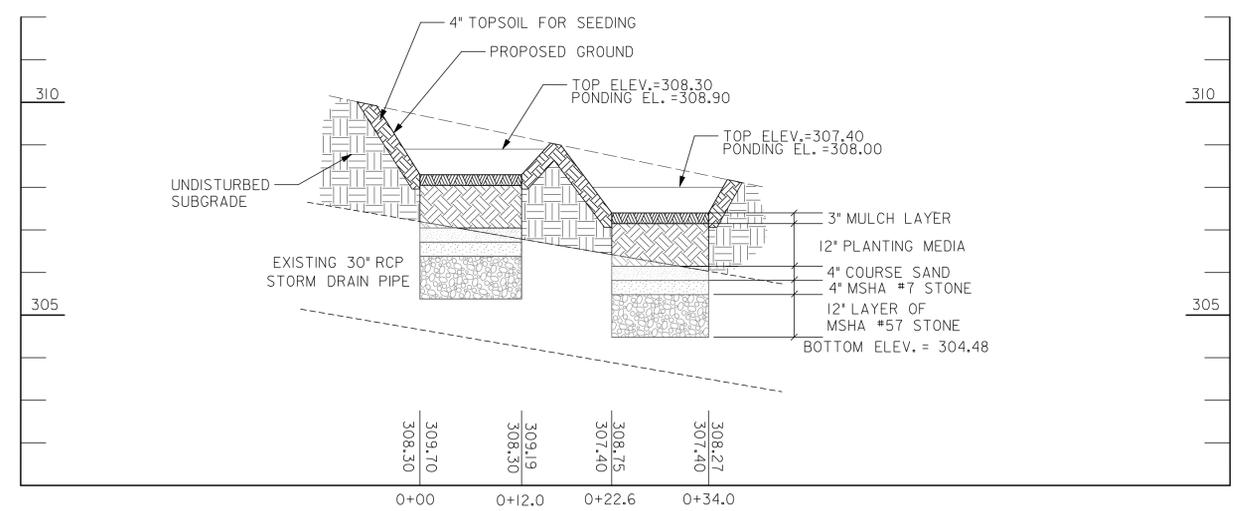
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.



AS-BUILT DATA FOR FILTERS (BIORETENTION/RAIN GARDENS)		
**TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: MODIFIED BIOFILTER		BMP ID: 42
FEATURE	DESIGN	**AS-BUILT
DRAINAGE AREA (AC)	0.49	
TREATMENT VOLUME (CF)	158	
TARGET WQV TREATMENT VOLUME (CF)	938	
FILTER BED AREA (SF)	83	
FILTER BED SURFACE ELEVATION	308.30 / 307.40	
INLET CURB CUT ELEVATION	308.90 / 308.00	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - MODIFIED BIOFILTER FACILITY (BMP 42)
SCALE: HORIZ. 1"=10'
VERT. 1"=2'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	
S.M.FILE NO. _____			

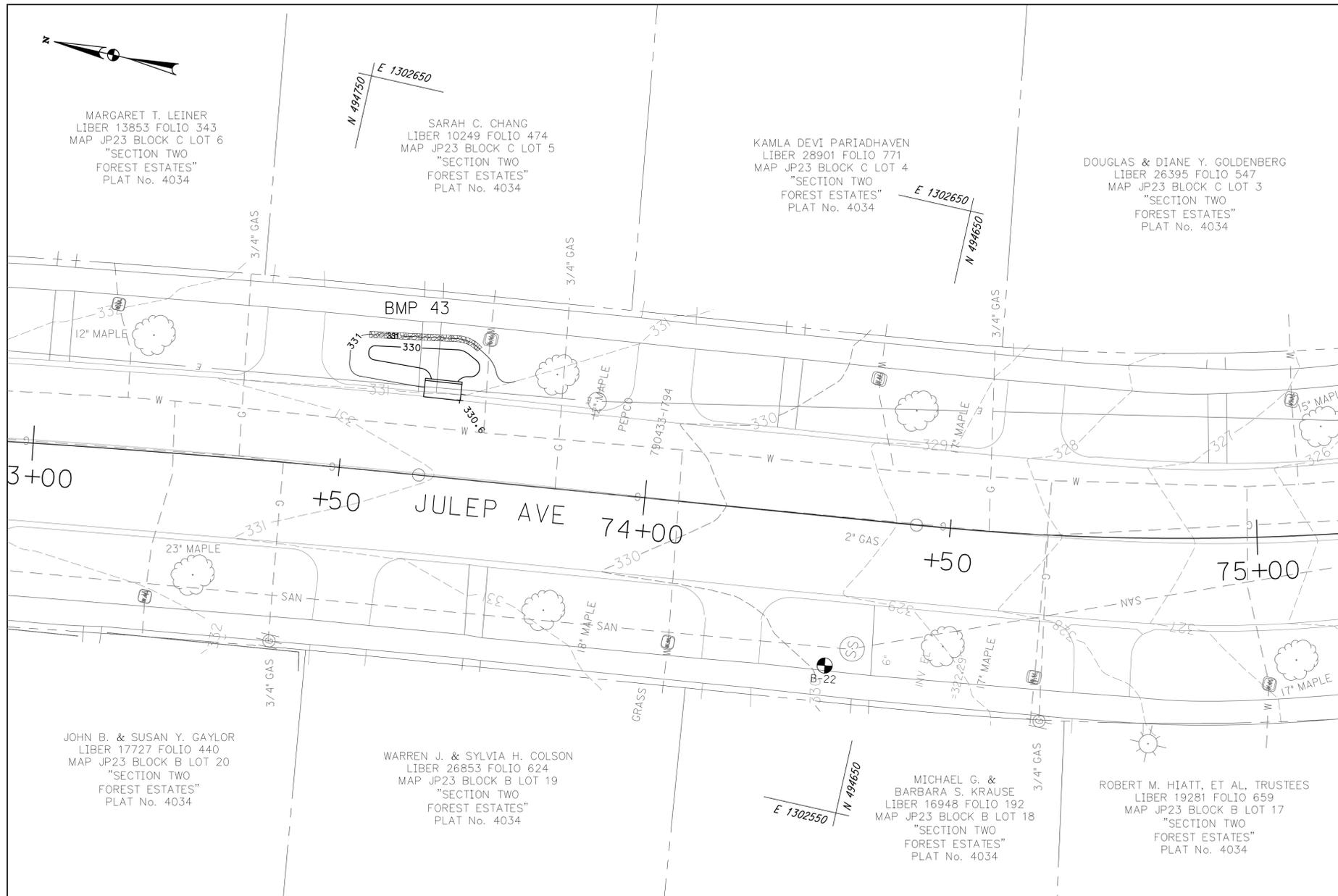
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
McCormick
Engineers & Planners
Since 1946
Taylor

PLAN AND PROFILE - BMP 42
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
(240) 777-7709

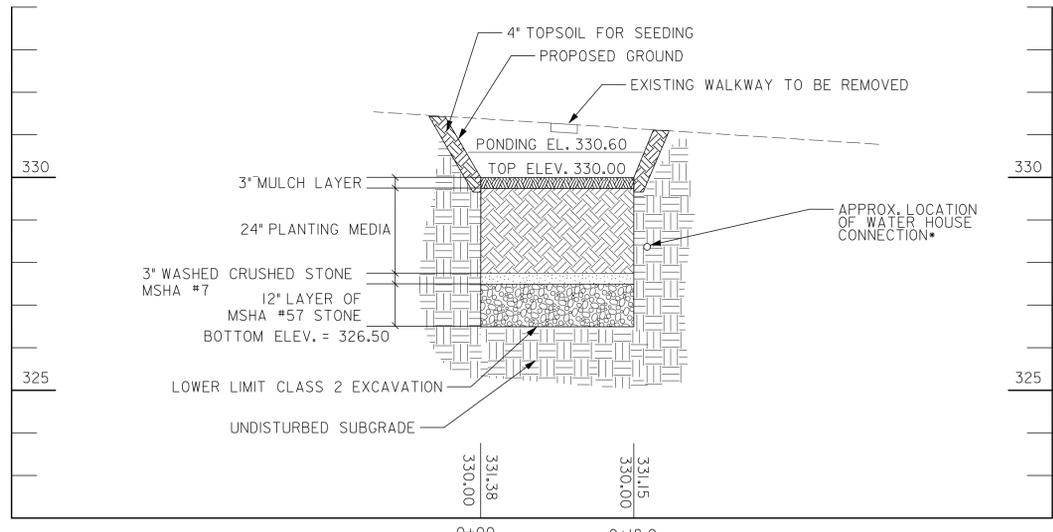
DESIGN KCS
DRAFT WJW
APPROVED HJD
DATE MAY 11
SCALE 1"=10'
SHEET 31 OF 36

FILE: I:\5182\13 - roadway\13 - Forest Estates and the four corners area\design\engineering\plan\BMP42_P032_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:28 PM



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)	110	
TARGET WQV TREATMENT VOLUME (CF)	541	
FILTER BED AREA (SF)	63	
FILTER BED SURFACE ELEVATION	330.00	
INLET CURB CUT ELEVATION	330.60	
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 36	
COMPOSITION OF FILTER MEDIA	REFER TO MCDPS 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.



PROFILE - RAIN GARDEN FACILITY (BMP 43)
SCALE: HORIZ. 1"=10'
VERT. 1"=2'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:	KCS	WJW	HJD
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	DRAFT	APPROVED	MAY 11
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____			SCALE
S.M. FILE NO. _____					1"=10'

509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
McCormick & Planners Taylor
Engineers & Planners Since 1946
(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
(240) 777-7709

DESIGN SHEET OF
32 36

FILE: I:\161213 - roadway\16 - Forest Estates and the four corners area\design\engineering\plan\BMP43_Forest.dgn
PLOTTED: Tuesday, August 30, 2011, AT 12:28 PM

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

1. THE PERMITTEE SHALL NOTIFY THE DEPARTMENT OF PERMITTING SERVICES (DPS) FORTY-EIGHT (48) HOURS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE DEPARTMENT, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN THEM OR THEIR REPRESENTATIVE AND AN AUTHORIZED REPRESENTATIVE OF THE DEPARTMENT.
2. THE PERMITTEE MUST OBTAIN INSPECTION AND APPROVAL BY DPS AT THE FOLLOWING POINTS:
 - A. AT THE REQUIRED PRE-CONSTRUCTION MEETING.
 - B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITY.
 - C. DURING THE INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN), NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION IS MANDATORY.
 - D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
 - E. PRIOR TO FINAL ACCEPTANCE.
3. THE PERMITTEE SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE, SHALL HAVE THEM INSPECTED AND APPROVED BY THE DEPARTMENT PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES, SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE DEPARTMENT.
4. THE PERMITTEE SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARE(S). ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.
5. THE PERMITTEE SHALL INSPECT PERIODICALLY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIMES AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DEPARTMENT. THE PERMITTEE IS RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ANY SEDIMENT CONTROL MEASURES WHICH HAVE BEEN DAMAGED OR REMOVED BY THE PERMITTEE OR ANY OTHER PERSON.
6. ALL SEDIMENT BASINS, TRAP EMBANKMENTS, PERIMETER DIKES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.
7. THE PERMITTEE SHALL APPLY SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN FOURTEEN (14) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED IN THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS, SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS, AND AREAS WITHIN FIFTY (50) FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPTED FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS.
8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS WITH REQUIRED SOIL AMENDMENTS AND TOPSOIL, USING SOD OR AN APPROVED PERMANENT SEED MIXTURE AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE AREAS BROUGHT TO FINISH GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN FOURTEEN (14) CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.
9. THE SITE PERMIT, WORK, MATERIALS, APPROVED SOSM PLANS AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MONTGOMERY COUNTY.
10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.
11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.
12. TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF THE DEPARTMENT, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.
13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS OR ON RESIDENTIAL LOTS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.
14. THE PERMITTEE SHALL INSTALL A SPLASHBACK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.
15. FOR FINISHED GRADING, THE PERMITTEE SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS WHICH MAY DRAIN AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL.
16. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING WHICH IS EXISTING OR UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.
17. ALL INLETS IN NON-SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING ESTABLISHMENT.
18. THE SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.
19. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.
20. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
21. TEMPORARY SEDIMENT TRAP(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO THE POINT ONE HALF (1/2) THE WET VOLUME OF THE TRAP, OR WHEN REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.
22. SEDIMENT REMOVED FROM TRAPS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN.
23. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FURTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN TWO INCHES IN WIDTH AND FOUR INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.
24. NO EXCAVATION IN THE AREA OF EXISTING UTILITIES IS PERMITTED UNLESS THEIR LOCATION HAS BEEN DETERMINED. CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO START OF WORK.
25. OFF-SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.

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

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

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

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

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

TEMPORARY SEEDING SPECIFICATIONS

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

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

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

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

**PERMANENT SEEDING AND
SODDING SPECIFICATIONS**

1. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED.

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

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

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

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

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

7. DISCING AND HARROWING SHALL BE DONE ON CONTOUR.

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

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

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

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

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

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

**STANDARDS AND SPECIFICATIONS
FOR TOPSOIL**

DEFINITION

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

PURPOSE

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

CONDITIONS WHERE PRACTICE APPLIES

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

FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

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

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

1. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY DPS. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS, AND SHALL CONTAIN LESS THAN 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

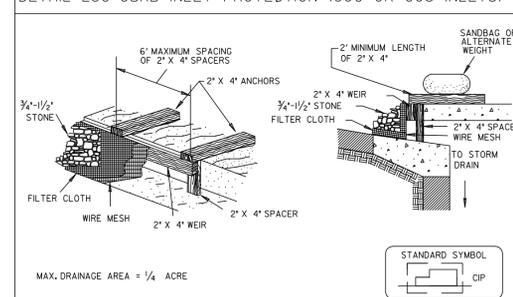
AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM EIGHT INCH HEIGHT (BEFORE COMPACTION) LAYERS, WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM 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 TIRE OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT SO WET THAT WATER CAN BE SQUEEZED OUT.

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

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



1. Attach a continuous piece of wire mesh (30\"/>
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\"/>
4. Place the assembly against the Inlet throat and nail (minimum 2\"/>
5. The assembly shall be placed so that the end spacers are a minimum 1\"/>
6. Form the 1/2\"/>
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

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:
_____	_____	REVIEWED _____ DATE _____
_____	_____	APPROVED _____ DATE _____
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	_____
APPROVED _____ DATE _____	APPROVED _____ DATE _____	_____
_____	_____	_____
S.M.FILE NO. _____	_____	_____
MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.		_____

EROSION AND SEDIMENT CONTROL NOTES

FOREST ESTATES

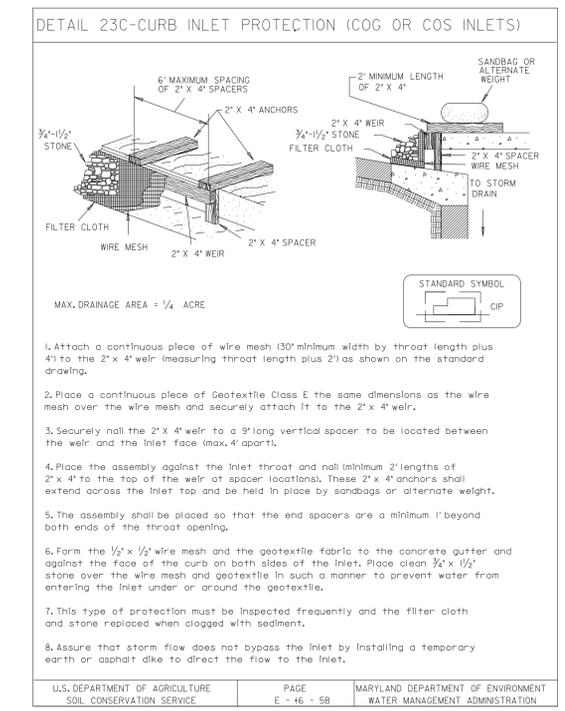
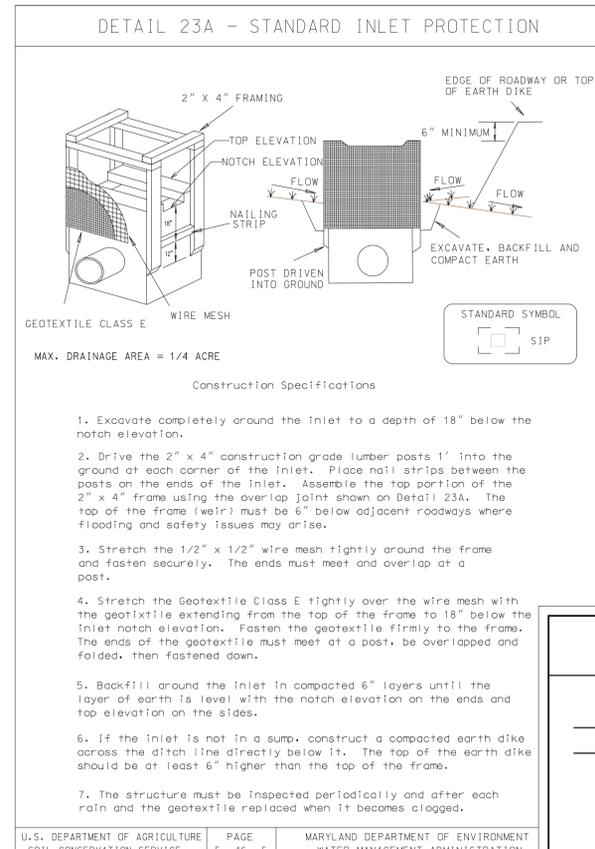
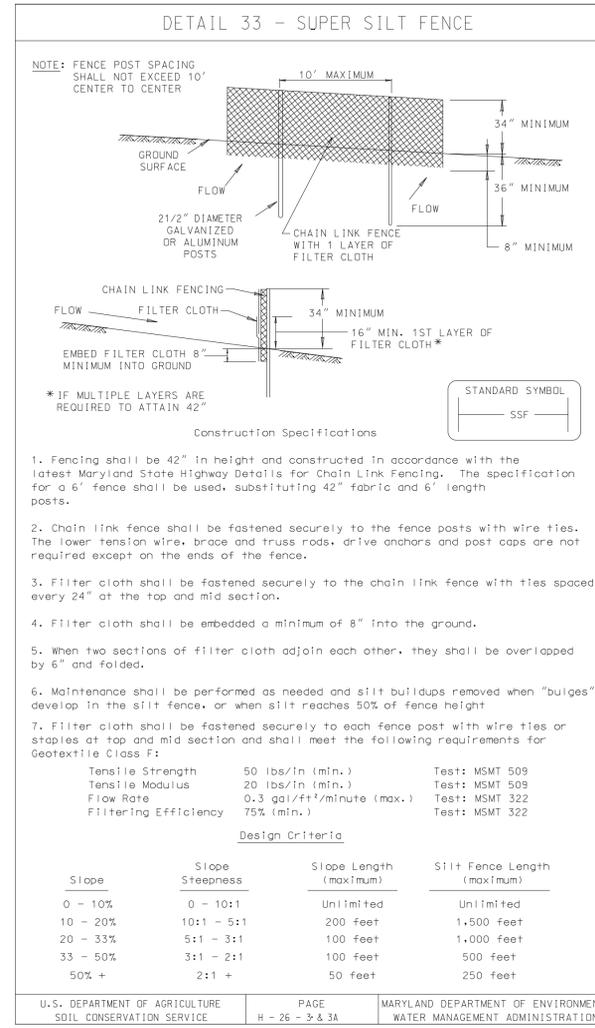
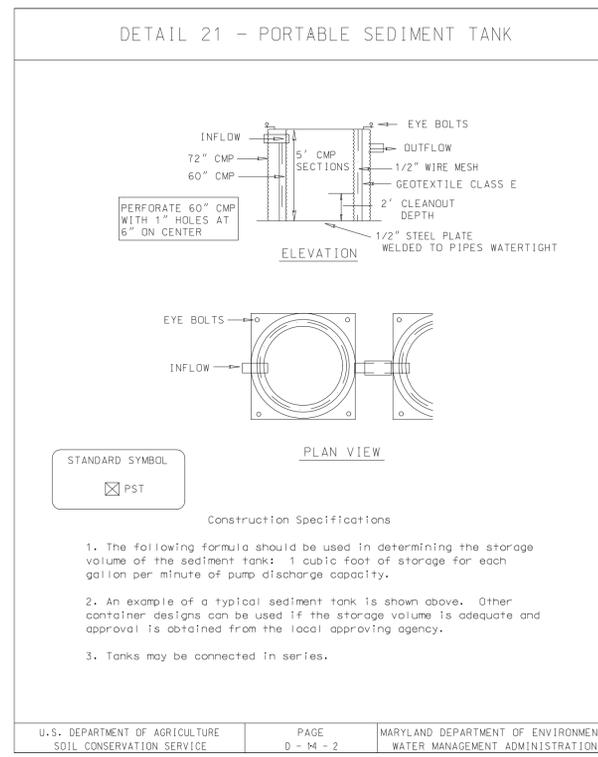
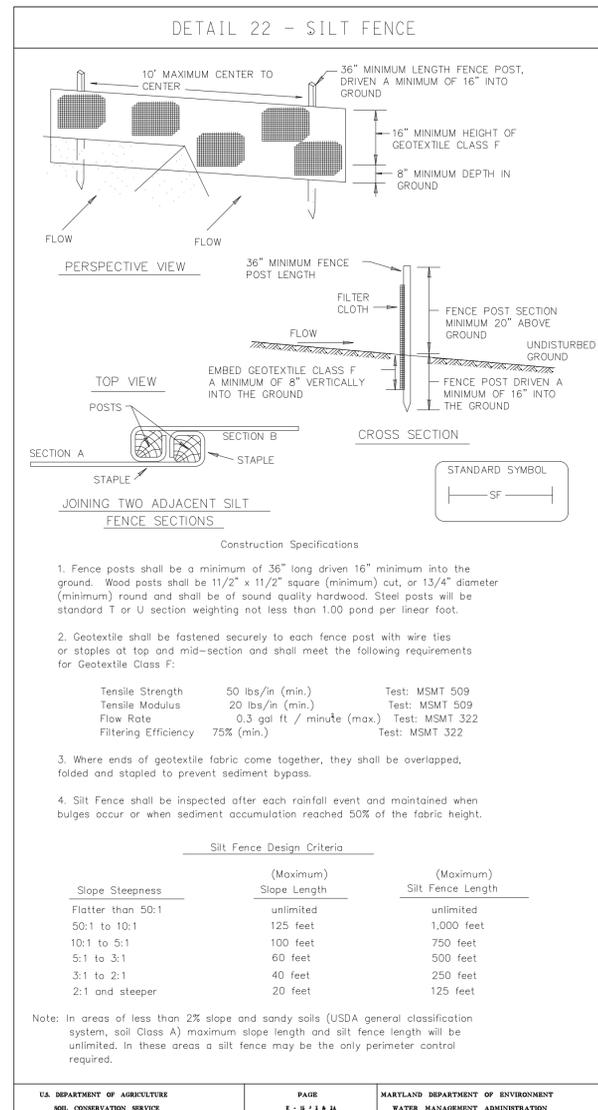
SLIGO (13th) ELECTION DISTRICT
PARCEL X, SUBDIVISION X, LIBER X FOLIO X
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION

255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
(240) 777-7709

DESIGN	KCS	WJW	HJD	MAY 11	SCALE	NOT TO SCALE
DRAFT						
APPROVED						
DATE						
SCALE						
SHEET	33		36			
OF						

FILE: I:\16213 - roadway 18 - forest estates and the four corners area\design\engineering\plans\DES-N001_Forest.dwg PLOTTED: Tuesday, August 30, 2011, AT 12:28 PM



MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT:	SEDIMENT CONTROL TECHNICAL REQUIREMENTS:	ADMINISTRATIVE REQUIREMENTS:
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	REVIEWED _____ DATE _____
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____

S.M. FILE NO. _____

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

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.

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EROSION AND SEDIMENT CONTROL NOTES

FOREST ESTATES

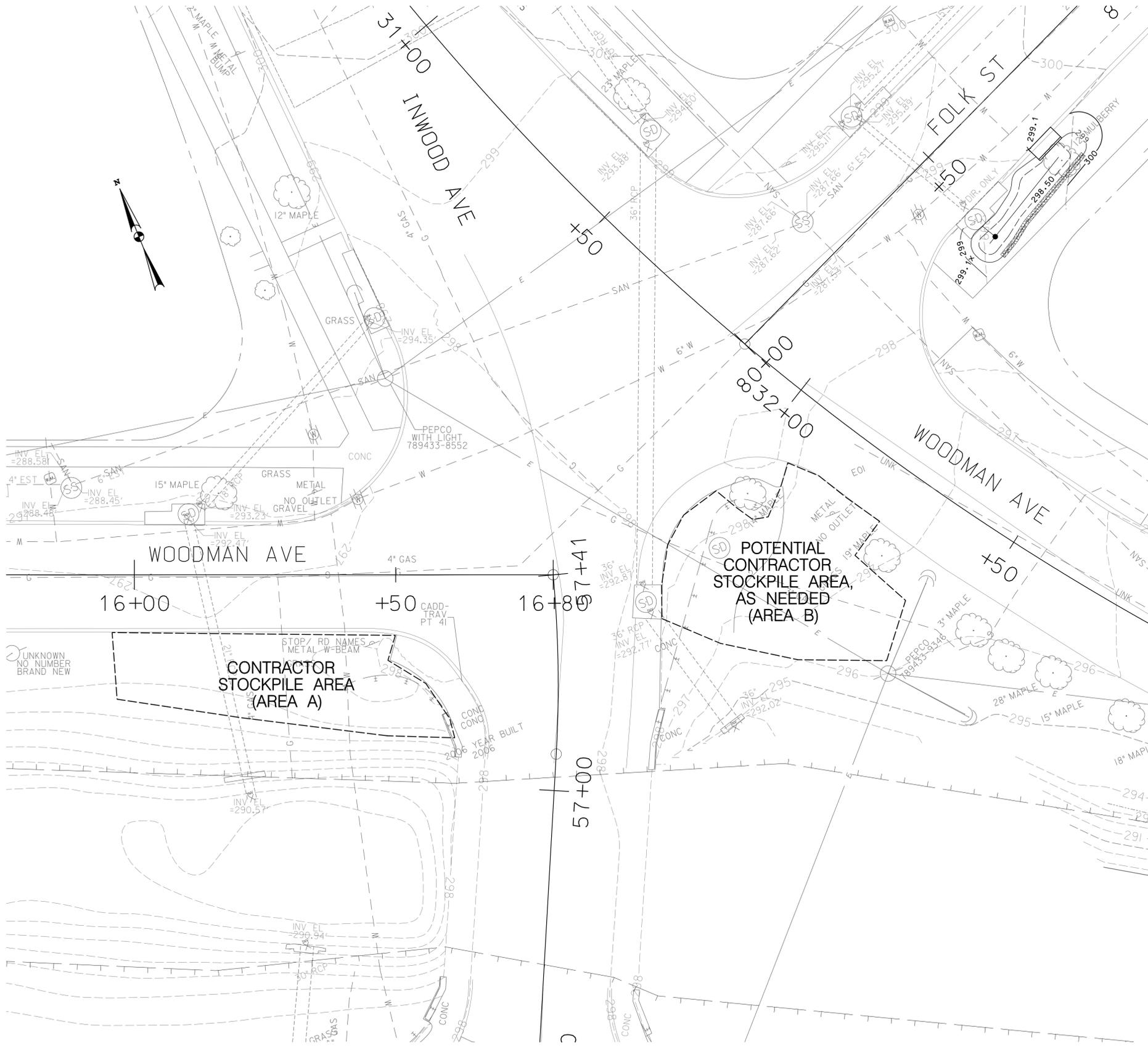
SLIGO (13th) ELECTION DISTRICT
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MONTGOMERY COUNTY, MARYLAND

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MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.

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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 OWNER'S REPRESENTATIVE AND THE SITE ENGINEER.
2. CONTRACTOR SHALL COORDINATE TRAFFIC CONTROL MEASURES WITH MCDOT CONTRACTOR. THE CONTRACTOR SHALL COMPLY WITH MCDOT'S WORK ZONE TEMPORARY TRAFFIC CONTROL STANDARDS AND MSHA STANDARDS NO. 104.02-10 AND NO. 104.02-14.
3. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING OF TREES, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.
4. CLEAR AND GRADE FOR INSTALLATION OF SEDIMENT CONTROL DEVICES, ONLY DISTURBING THE AREA NEEDED FOR INSTALLATION OF THE SEDIMENT CONTROL DEVICES.
5. INSTALL SEDIMENT CONTROL DEVICES INCLUDING INLET PROTECTION, SILT FENCE AND TREE PROTECTION FENCING. TREE PROTECTION AREAS ARE SHOWN ON THE PLAN AND PROFILE SHEETS, IF REQUIRED. IMMEDIATELY STABILIZE ANY DISTURBANCE CAUSED BY THIS.
6. ONCE THE SEDIMENT CONTROL DEVICES ARE INSTALLED, THE PERMITTEE MUST OBTAIN WRITTEN APPROVAL FROM THE MCDPS INSPECTOR BEFORE PROCEEDING WITH ANY ADDITIONAL CLEARING, GRUBBING OR GRADING.
7. DISTURBED AREAS WITHIN THE PROJECT LIMITS SHALL HAVE EITHER PERMANENT OR TEMPORARY STABILIZATION AT THE END OF EACH WORK DAY.
8. CONTRACTOR MAY COMPLETE WORK IN EACH LOD AREA CONCURRENTLY AS LONG AS THE LOD IS STAKED OUT AND ALL SEDIMENT CONTROLS ARE IN PLACE. THE CONTRACTOR SHALL NOT EXCEED A MAXIMUM OF 5,000 SF OF DISTURBANCE AT ANY ONE TIME PER MCDPS 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 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 34 INCH PLYWOOD IS PLACED ON ALL NON-PAVED SURFACES.

BIORETENTION, RAIN GARDEN, BIOSWALE OR MODIFIED BIOFILTER FACILITY CONSTRUCTION:

1. 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. THE CONTRACTOR SHALL COORDINATE WITH THE DPS FIELD INSPECTOR.
2. CONSTRUCT THE FACILITY PER THE PLANS AND DETAILS. THE CURB OPENINGS TO THE FACILITY SHALL BE CLOSED OFF 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.
3. 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.
4. PERMANENTLY STABILIZE ALL DISTURBED AREAS AS SHOWN ON THE LANDSCAPE PLANS AND/OR TYPICAL SECTIONS.
5. THE CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM MCDPS INSPECTOR, PRIOR TO THE REMOVAL OF ANY SEDIMENT CONTROL DEVICE. ANY AREAS DISTURBED DURING THE REMOVAL OF E&S CONTROLS SHALL BE IMMEDIATELY STABILIZED.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT: _____ REVIEWED _____ DATE _____ APPROVED _____ DATE _____ S.M. FILE NO. _____	SEDIMENT CONTROL TECHNICAL REQUIREMENTS: REVIEWED _____ DATE _____ APPROVED _____ DATE _____	
MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT BEEN STARTED, UNLESS THE PERMIT HAS BEEN EXTENDED.		

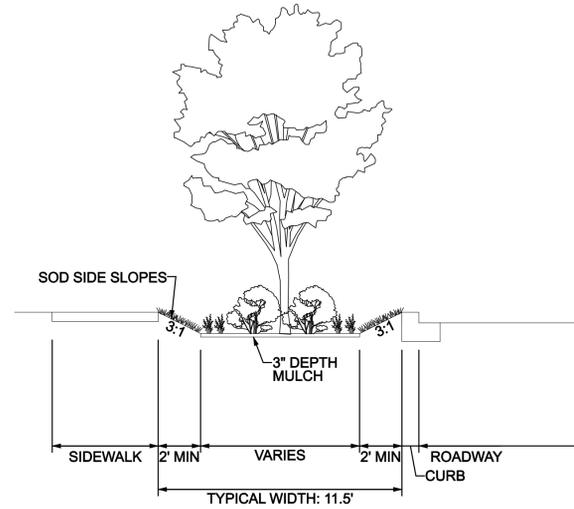
EROSION AND SEDIMENT CONTROL PLAN
FOREST ESTATES
 SLIGO (13th) ELECTION DISTRICT
 PARCEL X, SUBDIVISION X, LIBER X FOLIO X
 MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
 255 ROCKVILLE PIKE, RM. 120
 ROCKVILLE, MD 20850-4166
 (240) 777-7709

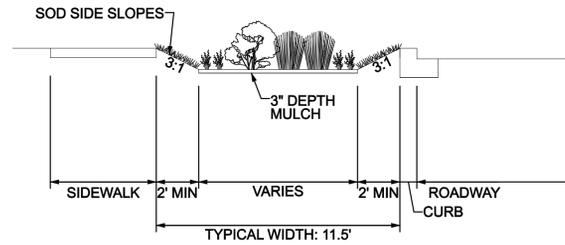
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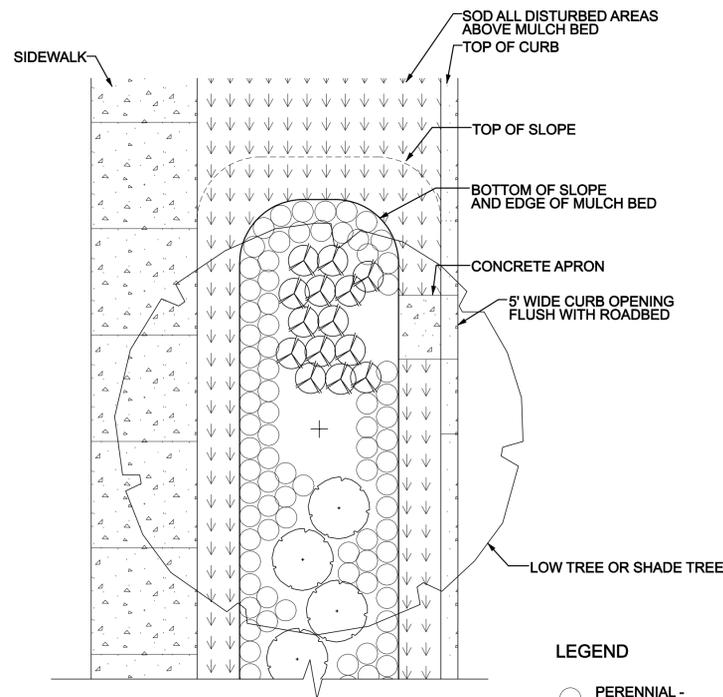
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**RAIN GARDEN PLANTING
TYPICAL SECTION**
NOT TO SCALE



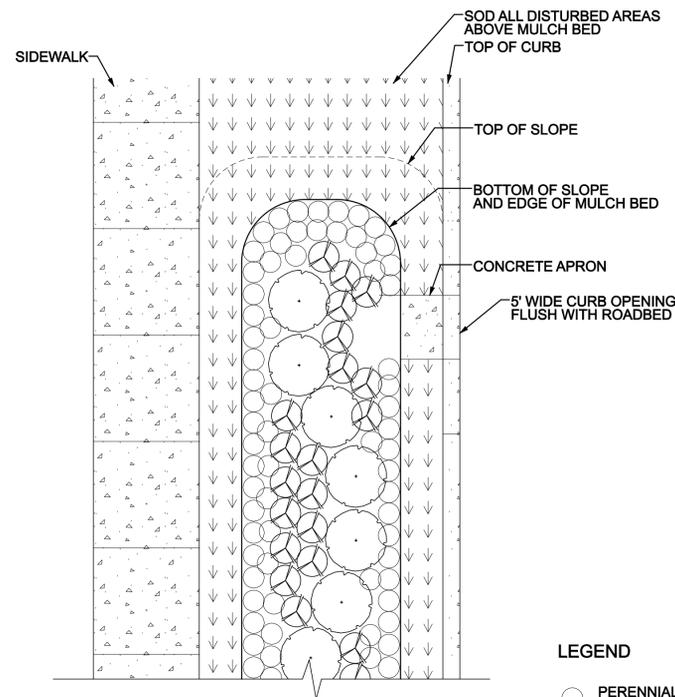
**BIORETENTION PLANTING
TYPICAL SECTION**
NOT TO SCALE



**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

LEGEND

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

CONCEPTUAL PLANTING SCHEDULE			
QUANTITY	ITEM	SIZE	UNIT
GROUNDCOVERS			
	Turfgrass 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 'Rotstrahbusch' / Dwarf Red Switchgrass	0+	EA
PERENNIALS			
	Aesclepias tuberosa / Butterfly Milkweed	0+	EA
	Aster Novi-Belgii / Woods Pink Aster	0+	EA
	Coreopsis verticillata 'Moonbeam' / Moonbeam Tickseed	0+	EA
	Echinacea purpurea / Purple Coneflower	0+	EA
	Rudbeckia fulgida 'Goldstrum' / Black-Eyed Susan	0+	EA
SHRUBS			
	Clethra alnifolia 'Hummingbird' / Dwarf Summer Sweet	18" H, Container	EA
	Ilex glabra 'Compacta' / Dwarf Inkberry	18" H, Container	EA
	Ilex verticillata 'Red Sprite' / Dwarf Winterberry	18" H, Container	EA
	Ilex verticillata 'Jim Dandy' / Male Winterberry	18" H, Container	EA
	Potentilla fruticosa / Bushy Cinquefoil	18" H, Container	EA
LOW TREES			
	Amelanchier canadensis / Serviceberry	5' H, Container	EA
	Chionanthus 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 caroliniana / American Hornbeam	2 1/2' Cal, B&B	EA
	Quercus phellos / Willow Oak	2 1/2' Cal, B&B	EA

NOTES:

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

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APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED	HJD	
S.M. FILE NO. _____			DATE	MAY 11	
			SCALE		
			36	36	
			OF		

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

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