INDEX OF SHEETS

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HARFORD COUNTY

95% DESIGN PLANS
NOT FOR CONSTRUCTION

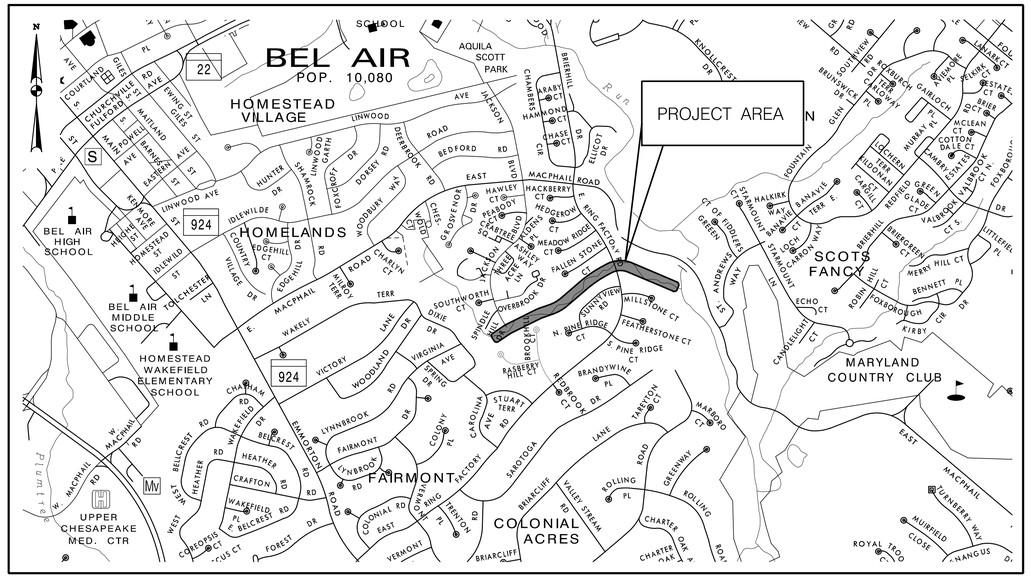
Bid No. : TBA

Sunny View Road Stream Rehabilitation Project

Department Of Public Works
Office of Watershed Protection and Engineering

LEGEND

EXISTING ROADWAY
BASE OR SURVEY LINE
TRAVERSE POINT
PROPERTY LINE
EXISTING EASEMENT
LIMIT OF DISTURBANCE — LOD
GRADING ELEVATION CONTOURS (5') — 55
GRADING ELEVATION CONTOURS (1') — 54
EXISTING GROUND CONTOURS (5') — 55
EXISTING GROUND CONTOURS (1') — 54
EXISTING FENCE LINE — X — X —
EXISTING PIPE/CULVERT
EXISTING DROP INLET
WETLAND
25' WETLAND BUFFER — B —
WATERS OF THE US — WUS —
HEDGE /TREE LINE
BUSH /TREE
SANITARY SEWER — SAN —
CLAY CHANNEL BLOCK
WOOD TOE
WOODY TOE BOULDER
TOE BOULDER PROTECTION
ROCK ROOT PACK — RP —
RIFFLE HABITAT STRUCTURE
RIFFLE DIVERSITY STRUCTURE
TRIBUTARY CONFLUENCE STABILIZATION
FLOODPLAIN ENHANCEMENT
HEADCUT STABILIZATION



NOTE: COORDINATES AND BEARINGS SHOWN HEREON ARE REFERRED TO THE MARYLAND COORDINATE SYSTEM (NAD 83/1991) AND ARE BASED ON THE FOLLOWING HARFORD COUNTY SURVEY CONTROL MONUMENTS:

FALLSTON	N 675,445.19	E 1,477,585.69
FALLSTON AZ MK.	N 676,752.37	E 1,477,595.25

NOTE: ALL ELEVATIONS SHOWN HEREON ARE REFERRED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) WITH LOCAL REFERENCE TO THE FOLLOWING HARFORD COUNTY SURVEY CONTROL MONUMENTS:

FALLSTON	ELEV. 455.79
FALLSTON AZ MK.	ELEV. 464.98

NOTE: STATE STREAM USE CLASS DESIGNATION III (NATURAL TROUT WATERS) IN STREAM CLOSURE OCTOBER 1 THROUGH APRIL 30 INCLUSIVE OF ANY YEAR.

HORIZONTAL DATUM	NAD 83 / 91
VERTICAL DATUM	NAVD 88

SCALE: 1" = 1000'
1000 0 1000 2000 FEET

GENERAL NOTES

1. ALL WORK PERFORMED ON THIS PROJECT SHALL BE IN ACCORDANCE WITH MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO AND MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES. THIS IS TO INCLUDE ALL SEWER LINES, SERVICE LINES, ROADS, PAVED SURFACES, ETC. AT THE CONTRACTOR'S EXPENSE.
3. PRIOR TO ANY ONSITE LAND DISTURBANCES, FORTY-EIGHT (48) HOURS ADVANCE NOTICE SHALL BE GIVEN TO THE D.P.W. INSPECTION SECTION BY CONTACTING THE CHIEF INSPECTOR AT 410-638-3128 AT WHICH TIME A PRECONSTRUCTION MEETING WILL BE SCHEDULED.
4. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF TRAFFIC AND TRAFFIC CONTROL DURING CONSTRUCTION AND PRIOR TO ACCEPTANCE BY THE COUNTY; CONSISTENT WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. BEFORE THE START OF CONSTRUCTION, THE CONTRACTOR IS TO VERIFY THE LOCATION OF EXISTING UTILITIES BY CONTACTING "MISS UTILITY" (1-800-257-7777).
7. TOPOGRAPHIC SURVEY WAS PREFORMED BY M A ENGINEERING CONSULTANTS, INC. IN APRIL 2019.
8. FEMA FIRM PANEL NO. 0164E (MAP NO. 24025C0164E). THE PROJECT BOUNDARY FALLS WITHIN A FEMA ZONE A FLOODPLAIN.

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND

LICENSE NO. 32013 EXPIRATION DATE 07/05/2021

SEAL

S/C PLAN #: 59858
GRADING PERMIT #: 2713-2020

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

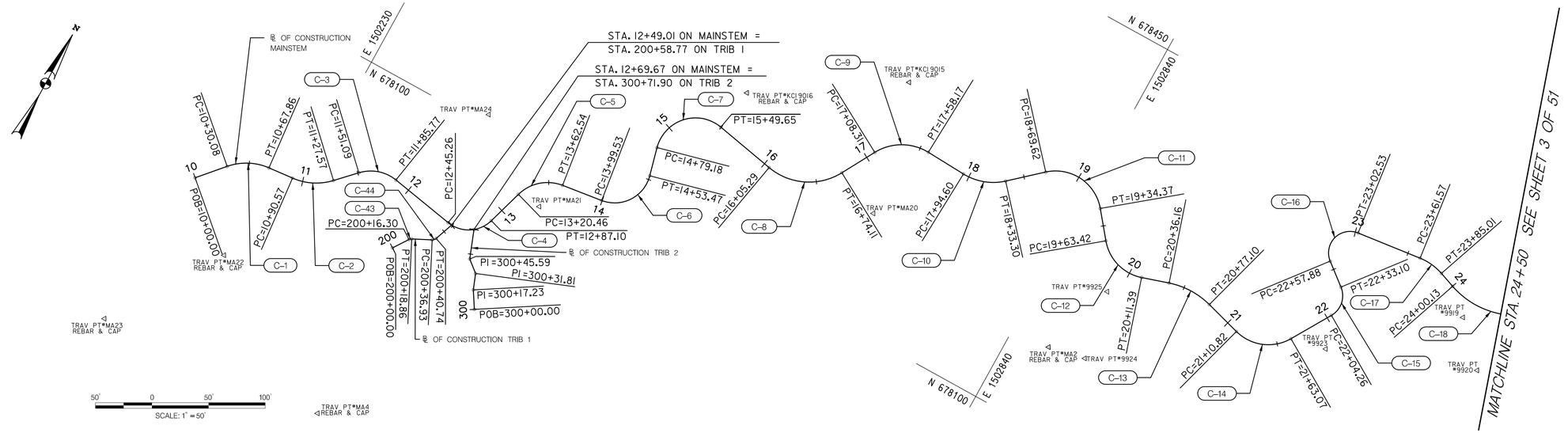
REV#	DATE	DESCRIPTION
		REVISIONS

SUNNY VIEW ROAD
STREAM REHABILITATION
TITLE SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-838-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE 1"= 1000'	
DESIGNED BY KRM/JBS	SHEET 1 OF 51
DRAWN BY WJW	FWA JOB NUMBER



BASELINE CONTROL COORDINATES

BL CONSTRUCTION	POINT	NORTHING	EASTING	STATION	BEARING AH	RADIUS
	POB	677935.3688	1502143.0909	10+00.00	N 41°33'22.5028" E	50.26'
	PC	677957.8793	1502163.0460	10+30.08	N 41°33'22.5028" E	
	PI	677972.7205	1502176.2023	10+49.92	N 84°37'26.4616" E	
	CC	677924.5379	1502200.6572			
	PT	677974.5787	1502195.9481	10+67.86	N 84°37'26.4616" E	52.36'
	PC	677976.7061	1502218.5548	10+90.57	N 84°37'26.4616" E	
	PI	677978.5152	1502237.7791	11+09.88	N 44°08'21.4372" E	
	CC	678028.8372	1502213.6490			
	PT	677992.3724	1502251.2262	11+27.57	N 44°08'21.4372" E	35.55'
	PC	678009.2507	1502267.6048	11+51.09	N 44°08'21.4372" E	
	PI	678022.7855	1502280.7389	11+69.95	S 79°58'12.2840" E	
	CC	677984.4920	1502293.1187			
	PT	678019.5008	1502299.3106	11+85.77	S 79°40'29.4132" E	28.71'
	PC	678008.8380	1502357.8378	12+45.26	S 79°40'29.4132" E	
	PI	678004.2452	1502383.0476	12+70.88	N 16°50'01.9674" E	
	CC	678037.0875	1502362.9844			
	PT	678028.7719	1502390.4685	12+87.10	N 16°50'01.9674" E	36.87'
	PC	678060.7009	1502400.1290	13+20.46	N 16°50'01.9674" E	
	PI	678083.3567	1502406.9838	13+44.13	N 82°13'57.6524" E	
	CC	678050.0231	1502435.4199			
	PT	678086.5557	1502430.4368	13+62.54	N 82°13'57.6524" E	31.98'
	PC	678091.5544	1502467.0839	13+99.53	N 82°13'57.6524" E	
	PI	678096.4082	1502502.6678	14+35.44	N 14°23'31.2871" W	
MAINSTEM	CC	678123.2448	1502462.7613			
	PT	678131.1946	1502493.7414	14+53.47	N 14°23'31.2850" W	35.00'
	PC	678156.0953	1502487.3517	14+79.18	N 14°23'31.2850" W	
	PI	678209.6921	1502473.5983	15+34.51	S 79°01'16.4522" E	
	CC	678164.7947	1502521.2533			
	PT	678199.1541	1502527.9189	15+49.65	S 79°01'16.4522" E	55.00'
	PC	678188.5590	1502582.5341	16+05.29	S 79°01'16.4522" E	
	PI	678180.9913	1502621.5437	16+45.02	N 29°17'00.4400" E	
	CC	678242.5524	1502593.0086			
	PT	678215.6502	1502640.9802	16+74.11	N 29°17'00.4400" E	45.00'
	PC	678245.4839	1502657.7107	17+08.31	N 29°17'00.4400" E	
	PI	678269.7632	1502671.3264	17+36.15	S 87°14'07.9048" E	
	CC	678223.4730	1502696.9602			
	PT	678268.4206	1502699.1306	17+58.17	S 87°14'07.9048" E	50.00'
	PC	678266.6635	1502735.5197	17+94.60	S 87°14'07.9048" E	
	PI	678265.6807	1502755.8747	18+14.98	N 48°24'55.3807" E	
	CC	678316.6054	1502737.9312			
	PT	678279.2065	1502771.1175	18+33.30	N 48°24'55.3807" E	40.00'
	PC	678303.3131	1502798.2840	18+69.62	N 48°24'55.3807" E	
	PI	678331.1667	1502829.6733	19+11.59	S 38°50'13.9419" E	
	CC	678273.3940	1502824.8330			
	PT	678298.4784	1502855.9903	19+34.37	S 38°50'13.9419" E	40.00'
	PC	678275.8547	1502874.2044	19+63.42	S 38°50'13.9419" E	
	PI	678254.5551	1502891.3525	19+90.76	N 72°26'53.8479" E	

BASELINE CONTROL COORDINATES

BL CONSTRUCTION	POINT	NORTHING	EASTING	STATION	BEARING AH	RADIUS
	CC	678300.9391	1502905.3616			
	PT	678262.8013	1502917.4243	20+11.39	N 72°26'53.8479" E	70.00'
	PC	678270.2716	1502941.0426	20+36.16	N 72°26'53.8479" E	
	PI	678276.6270	1502961.1360	20+57.24	S 74°02'28.8941" E	
	CC	678203.5305	1502962.1523			
	PT	678270.8327	1502981.3983	20+77.10	S 74°02'28.8941" E	40.00'
	PC	678261.5617	1503013.8183	21+10.82	S 74°02'28.8941" E	
	PI	678253.1470	1503043.2441	21+41.43	N 31°07'00.8060" E	
	CC	678300.0201	1503024.8160			
	PT	678279.3487	1503059.0606	21+63.07	N 31°07'00.8060" E	20.00'
	PC	678314.6094	1503080.3454	22+04.26	N 31°07'00.8060" E	
	PI	678329.6570	1503089.4287	22+21.83	N 51°30'10.7698" W	
	CC	678324.9451	1503063.2231			
	PT	678340.5979	1503075.6725	22+33.10	N 51°30'10.7698" W	19.00'
	PC	678356.0233	1503056.2781	22+57.88	N 51°30'10.7698" W	
	PI	678384.3387	1503020.6770	23+03.37	N 83°09'27.2100" E	
	CC	678370.8935	1503068.1051			
	PT	678389.7581	1503065.8415	23+02.53	N 83°09'27.2100" E	50.00'
	PC	678396.7920	1503124.4601	23+61.57	N 83°09'27.2100" E	
	PI	678398.2142	1503136.3124	23+73.51	S 69°59'12.1511" E	
	CC	678347.1482	1503130.4170			
	PT	678394.1288	1503147.5289	23+85.01	S 69°59'12.1511" E	75.00'
	PC	678388.9527	1503161.7399	24+00.13	S 69°59'12.1511" E	
MAINSTEM	PI	678373.4348	1503204.3443	24+45.48	N 47°42'06.6598" E	
	CC	678459.4237	1503187.4078			
	PT	678403.9497	1503237.8819	24+81.70	N 47°42'06.6598" E	
	PC	678426.1090	1503262.2362	25+14.62	N 47°42'06.6598" E	
	PI	678442.9893	1503280.7886	25+39.71	N 32°05'43.0333" W	
	CC	678448.2986	1503242.0465			30.00'
	PT	678464.2384	1503267.4615	25+56.41	N 32°05'43.0333" W	
	PC	678479.9482	1503257.6086	25+74.95	N 32°05'43.0333" W	
	PI	678509.4913	1503239.0796	26+09.82	N 57°41'46.5147" E	
	CC	678498.5447	1503287.2594			35.00'
	PT	678528.1277	1503268.5551	26+29.80	N 57°41'46.5147" E	
	PI	678573.8666	1503340.8964	27+15.39	N 62°07'46.9878" E	
	PC	678594.8351	1503380.5488	27+60.24	N 62°07'46.9878" E	
	PI	678597.4230	1503385.4425	27+65.78	N 80°06'19.0022" E	
	CC	678563.8949	1503396.9103			35.00'
	PT	678598.3742	1503390.8960	27+71.23	N 83°49'15.8081" E	
	PC	678602.1084	1503425.3874	28+05.92	N 83°49'15.8081" E	
	PI	678603.7828	1503440.8539	28+21.47	N 52°14'01.3296" E	
	CC	678656.7889	1503419.4675			55.00'
	PT	678613.3105	1503453.1519	28+36.24	N 52°14'01.3296" E	
	PC	678633.3584	1503479.0288	28+68.97	N 52°14'01.3296" E	
	PI	678644.0063	1503492.7727	28+86.36	N 0°35'50.9142" W	
	CC	678661.0264	1503457.5933			35.00'
	PT	678661.3914	1503492.5914	29+01.25	N 0°35'50.9142" W	

BASELINE CONTROL COORDINATES

BL CONSTRUCTION	POINT	NORTHING	EASTING	STATION	BEARING AH	RADIUS
	PC	678692.6561	1503492.2654	29+32.51	N 0°35'50.9142" W	
	PI	678704.3236	1503492.1437	29+44.18	N 36°16'36.8746" E	
	CC	678693.0210	1503527.2635			35.00'
	PT	678713.7301	1503499.0476	29+55.04	N 36°16'36.8746" E	
	PC	678764.6232	1503536.4007	30+18.17	N 36°16'36.8746" E	
	PI	678800.7853	1503562.9420	30+63.02	S 70°09'30.2271" E	
	CC	678729.1219	1503584.7707			60.00'
	PT	678785.5599	1503605.1360	30+95.20	S 70°09'30.2271" E	
	PC	678778.5087	1503624.6771	31+15.98	S 70°09'30.2271" E	
	PI	678767.4640	1503655.2852	31+48.52	N 4°54'39.3530" E	
	CC	678802.0245	1503633.1626			25.00'
	PT	678799.8844	1503658.0708	31+61.76	N 4°54'39.3530" E	
	PC	678823.1839	1503660.0728	31+85.15	N 4°54'39.3530" E	
	PI	678834.3214	1503661.0297	31+96.33	N 30°06'56.9099" E	
	CC	678818.9036	1503709.8892			50.00'
	PT	678843.9910	1503666.6386	32+07.14	N 30°06'56.9099" E	
	PC	678905.8398	1503702.5139	32+78.65	N 30°06'56.9099" E	
	PI	678920.9774	1503711.2944	32+96.14	N 49°58'04.9814" E	
	CC	678855.6649	1503789.0152			100.00'
	PT	678932.2335	1503724.6937	33+13.29	N 49°58'04.9814" E	
	PC	678941.0036	1503735.1337	33+26.93	N 49°58'04.9814" E	
	PI	678962.8713	1503761.1651	33+60.93	S 78°13'20.3970" E	
	CC	678887.4056	1503780.1587			70.00'
MAINSTEM	PT	678955.9319	1503794.4468	33+90.23	S 78°13'20.3970" E	
	PC	678955.2408	1503797.7613	33+93.61	S 78°13'20.3970" E	
	PI	678953.8730	1503804.3213	34+00.31	N 76°35'40.4861" E	
	CC	678984.6092	1503803.8847			30.00'
	PT	678955.4266	1503810.8399	34+06.80	N 76°35'40.4861" E	
	PI	678979.2962	1503910.9919	35+09.75	N 79°26'00.2823" E	
	PC	678989.4704	1503965.5334	35+65.24	N 79°26'00.2823" E	
	PI	678990.6991	1503972.1198	35+71.94	N 60°24'57.5251" E	
	CC	679028.7921	1503958.1983			40.00'
	PT	678994.0068	1503977.9463	35+78.51	N 60°24'57.5251" E	
	PC	679010.3880	1504006.8011	36+11.69	N 60°24'57.5251" E	
	PI	679029.8941	1504041.1604	36+51.20	S 30°17'24.1188" E	
	CC	678975.6027	1504026.5491			40.00'
	PT	678995.7778	1504061.0884	36+74.03	S 30°17'24.1188" E	
	PC	678966.5798	1504078.1436	37+07.85	S 30°17'24.1188" E	
	PI	678949.0235	1504088.3985	37+28.18	S 74°32'49.8374" E	
	CC	678991.7987	1504121.3177			50.00'
	PT	678943.6062	1504107.9955	37+46.47	S 74°32'49.8374" E	
	PC	678931.0728	1504153.3342	37+93.51	S 74°33'02.4812" E	
	PI	678919.6722	1504194.5851	38+36.31	S 15°59'48.0552" E	83.00'
	CC	678851.0719	1504131.2242			
	PT	678879.4551	1504209.2203	38+72.54	S 15°59'48.0552" E	
	PC	678806.1411	1504235.8996	39+50.55	S 15°59'48.0552" E	
	PI	678801.3989	1504237.6253	39+55.60	S 35°05'37.8919" E	30.00'

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

REVISIONS

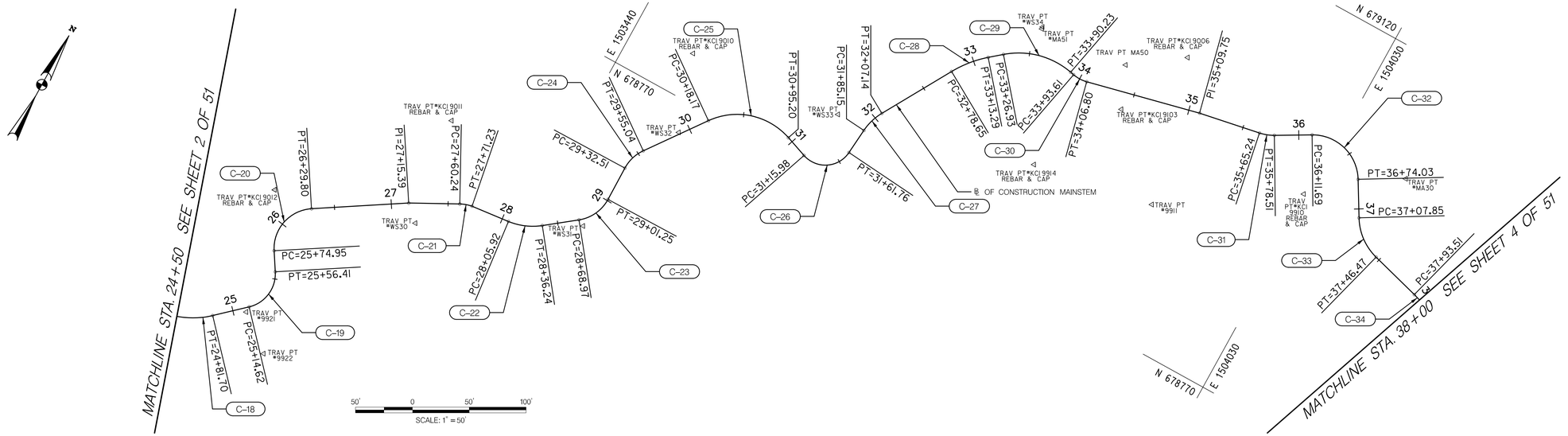
REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION
GEOMETRY SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE	DRAWING NO.
09-01-20	
SCALE	
1"= 50'	
DESIGNED BY	SHEET 2 OF 51
KRM/JBS	
DRAWN BY	FWA JOB NUMBER
WJW	



BASELINE CONTROL COORDINATES

BL CONSTRUCTION	POINT	NORTHING	EASTING	STATION	BEARING AH	RADIUS
MAINSTEM	CC	678816.4001	1504264.0909			
	PT	678797.4823	1504240.8075	39+60.55	S 39°05'37.8919" E	
	PC	678738.4458	1504288.7747	40+36.62	S 39°05'37.8919" E	
	PI	678694.0095	1504324.8792	40+93.87	N 75°58'47.9520" E	90.00'
	CC	678795.1991	1504358.6250			
	PT	678707.8801	1504380.4284	41+38.61	N 75°58'47.9520" E	
	PC	678714.6541	1504407.5571	41+66.57	N 74°06'44.4382" E	
	PI	678722.6754	1504435.7390	41+95.87	S 67°25'39.9173" E	84.00'
	CC	678633.8629	1504430.5523			
	PT	678711.4282	1504462.7955	42+22.95	S 67°25'39.9173" E	
	PC	678694.3169	1504503.9589	42+67.53	S 67°25'39.9173" E	
	PI	678682.7661	1504531.7460	42+97.62	N 68°50'52.8537" E	75.00'
	CC	678763.5716	1504532.7475			
	PT	678693.6246	1504559.8108	43+24.77	N 68°50'52.8537" E	
	PC	678717.8553	1504622.4368	43+91.92	N 68°50'52.8537" E	
	PI	678726.0993	1504643.7440	44+14.76	S 36°34'11.4499" E	30.00'
	CC	678689.8765	1504633.2621			
	PT	678707.7506	1504657.3560	44+30.97	S 36°34'11.4499" E	
	PC	678690.2070	1504670.3707	44+52.81	S 36°34'11.4499" E	
	PI	678676.1365	1504680.8089	44+70.33	S 16°36'41.7452" W	35.00'
	CC	678669.3540	1504642.2611			
	PT	678659.3481	1504675.8004	44+85.30	S 16°36'41.7452" W	
	PC	678658.9623	1504675.6853	44+85.70	S 16°36'41.7450" W	
	PI	678639.3056	1504669.8210	45+06.21	S 74°50'19.6687" E	20.00'
	CC	678653.2446	1504694.8506			
	PT	678633.9407	1504689.6199	45+17.62	S 74°50'19.6687" E	
	PC	678628.5217	1504709.6186	45+38.34	S 74°50'19.6687" E	
	PI	678624.7880	1504723.3978	45+52.62	S 51°47'04.8993" E	70.00'
	CC	678560.9582	1504691.3111			
	PT	678615.9566	1504734.6144	45+66.51	S 51°47'04.8993" E	
	POE	678579.5546	1504780.8476	46+25.35		
TRIB 1	POB	677965.5594	1502325.6159	200+00.00	N 34°19'16.1638" E	
	PC	677979.0217	1502334.8065	200+16.30	N 34°19'16.1640" E	
	PI	677980.1029	1502335.5446	200+17.61	N 63°39'52.4131" E	
	CC	677976.2025	1502338.9360			5.0000'
	PT	677980.6836	1502336.7179	200+18.86	N 63°39'52.4131" E	
	PC	677988.6998	1502352.9121	200+36.93	N 63°39'52.4131" E	
	PI	677989.5877	1502354.7060	200+38.93	N 20°01'49.9149" E	
	CC	677993.1808	1502350.6940			5.0000'
	PT	677991.4682	1502355.3915	200+40.74	N 20°01'49.9149" E	
	POE	678008.4080	1502361.5673	200+58.77		
TRIB 2	POB	677953.0401	1502415.2299	300+00.00	N 31°55'53.4303"	
	PI	677967.6658	1502406.1150	300+17.23	N 21°20'19.4081"	
	PI	677981.2418	1502400.8114	300+31.81	N 50°38'20.3994"	
	PI	677989.9841	1502390.1535	300+45.59	N 20°47'33.1558"	
	POE	678014.5793	1502380.8143	300+71.90		

CURVE DATA

BL CONSTRUCTION	CURVE NO.	DELTA	Dc	R	T	L	E	CENTER OF CURVE NORTH	CENTER OF CURVE EAST
MAINSTEM	C-1	43°04'03.9588"	113°59'40.2666"	50.26'	19.83'	37.78'	3.77	677924.5379	1502200.6572
	C-2	40°29'05.0244"	109°25'24.8776"	52.36'	19.31'	37.00'	3.45	678028.8372	1502213.6490
	C-3	55°53'26.2788"	161°09'36.7061"	35.55'	18.86'	34.68'	4.69	677984.4920	1502293.1187
	C-4	83°29'28.6194"	199°32'09.2105"	28.71'	25.62'	41.84'	9.77	678037.0875	1502362.9844
	C-5	65°23'55.6850"	155°23'45.0403"	36.87'	23.67'	42.09'	6.94	678050.0231	1502435.4199
	C-6	96°37'28.9396"	179°08'23.4478"	31.98'	35.91'	53.94'	16.11	678123.2448	1502462.7613
	C-7	115°22'14.8328"	163°42'08.0178"	35.00'	55.33'	70.48'	30.47	678164.7947	1502521.2533
	C-8	71°41'43.1076"	104°10'26.9204"	55.00'	39.74'	68.82'	12.85	678242.5524	1502593.0086
	C-9	63°28'51.6550"	127°19'26.2361"	45.00'	27.84'	49.86'	7.91	678223.4730	1502696.9602
	C-10	44°20'56.7146"	114°35'29.6125"	50.00'	20.38'	38.70'	3.99	678316.6054	1502737.9312
	C-11	92°44'50.6774"	143°14'22.0156"	40.00'	41.97'	64.75'	17.98	678273.3940	1502824.8330
	C-12	68°42'52.2101"	143°14'22.0156"	40.00'	27.34'	47.97'	8.45	678300.9391	1502905.3616
	C-13	33°30'37.2577"	81°51'04.0090"	70.00'	21.07'	40.94'	3.1	678203.5305	1502962.1523
	C-14	74°50'30.2997"	143°14'22.0156"	40.00'	30.61'	52.25'	10.37	678300.0201	1503024.8160
	C-15	82°37'11.5757"	286°28'44.0312"	20.00'	17.58'	28.84'	6.63	678324.9451	1503063.2231
	C-16	134°39'37.9798"	301°33'24.2435"	19.00'	45.49'	44.66'	30.3	678370.8935	1503068.1051
	C-17	26°51'20.6388"	114°35'29.6125"	50.00'	11.94'	23.44'	1.41	678347.1482	1503130.4170
	C-18	62°18'41.1890"	76°23'39.7416"	75.00'	45.34'	81.57'	12.64	678459.4237	1503187.4078
	C-19	79°47'49.6931"	190°59'09.3541"	30.00'	25.08'	41.78'	9.1	678448.2986	1503242.0465
	C-20	89°47'29.5480"	163°42'08.0178"	35.00'	34.87'	54.85'	14.41	678498.5447	1503287.2594
	C-21	17°58'32.0142"	163°42'08.0178"	35.00'	5.54'	10.98'	0.44	678563.8949	1503396.9103
	C-22	31°35'14.4785"	104°10'26.9204"	55.00'	15.56'	30.32'	2.16	678656.7889	1503419.4675
	C-23	52°49'52.2439"	163°42'08.0178"	35.00'	17.39'	32.27'	4.08	678661.0254	1503457.5933
	C-24	36°52'27.7887"	163°42'08.0178"	35.00'	11.67'	22.53'	1.89	678693.0210	1503527.2635
	C-25	73°33'52.8983"	95°29'34.6771"	60.00'	44.86'	77.04'	14.91	678729.1219	1503584.7707
	C-26	104°55'50.4197"	229°10'59.2250"	25.00'	32.54'	45.78'	16.03	678802.0245	1503633.1626
	C-27	25°12'17.5570"	114°35'29.6125"	50.00'	11.18'	22.00'	1.23	678818.9036	1503709.8892
	C-28	19°51'08.0714"	57°17'44.8062"	100.00'	17.50'	34.65'	1.52	678855.6649	1503789.0152
	C-29	51°48'34.6216"	81°51'04.0090"	70.00'	34.00'	63.30'	7.82	678887.4056	1503780.1587
	C-30	25°10'59.1169"	190°59'09.3541"	30.00'	6.70'	13.19'	0.74	678984.6092	1503803.8847
	C-31	19°01'02.7571"	143°14'22.0156"	40.00'	6.70'	13.28'	0.56	679028.7921	1503958.1983
	C-32	89°17'38.3562"	143°14'22.0156"	40.00'	39.51'	62.34'	16.22	678975.6027	1504026.5491
	C-33	44°15'25.7185"	114°35'29.6125"	50.00'	20.33'	38.62'	3.98	678991.7987	1504121.3177
	C-34	54°33'14.4258"	69°01'51.8147"	83.00'	42.80'	79.03'	10.38	678851.0719	1504131.2242
	C-35	19°05'49.8367"	190°59'09.3541"	30.00'	5.05'	10.00'	0.42	678816.4001	1504264.0909
	C-36	64°55'34.1559"	63°39'43.1180"	90.00'	57.25'	101.99'	16.67	678795.1991	1504358.6250
	C-37	38°27'35.6447"	68°12'33.3407"	84.00'	29.30'	56.39'	4.96	678633.8629	1504430.5523
	C-38	43°43'27.2289"	76°23'39.7416"	75.00'	30.09'	57.23'	5.81	678763.5716	1504532.7475
	C-39	74°34'55.6963"	190°59'09.3541"	30.00'	22.85'	39.05'	7.71	678689.8765	1504633.2621
	C-40	53°10'53.1951"	163°42'08.0178"	35.00'	17.52'	32.49'	4.14	678669.3540	1504642.2611
	C-41	91°27'01.4137"	286°28'44.0312"	20.00'	20.51'	31.92'	8.65	678653.2446	1504694.8506
	C-42	23°03'14.7695"	81°51'04.0090"	70.00'	14.28'	28.17'	1.44	678560.9582	1504691.3111
TRIB 1	C-43	29°20'36.2493"	1145°54'56.1249"	5.0000'	1.3091'	2.5607'	0.1685	677976.2025	1502338.9360
	C-44	43°38'02.4982"	1145°54'56.1249"	5.0000'	2.0016'	3.8078'	0.3858	677993.1808	1502350.6940

TRAVERSE CONTROL COORDINATES

POINT	NORTHING	EASTING	ELEVATION
KCI 9002	678764.7800	1504645.2760	203.61
KCI 9003	678784.5520	1504442.8700	205.22
KCI 9004	678933.1530	1504226.6780	208.97
KCI 9006	679016.9790	1503878.2380	223.44
KCI 9010	678809.8580	1503496.0420	216.65
KCI 9011	678655.4690	1503338.8720	219.00
KCI 9012	678527.0510	1503232.2030	220.50
KCI 9015	678314.2930	1502654.3800	229.49
KCI 9016	678236.8660	1502533.4570	231.57
KCI 9103	678948.9739	1503849.2258	223.11
KCI 9910	678961.4199	1504025.5399	210.45
KCI 9911	678888.6840	1503913.1580	222.81
KCI 9914	678869.3154	1503805.4984	215.75
KCI 9919	678369.3260	1503182.9094	222.87
KCI 9920	678334.5189	1503216.5427	226.83
KCI 9921	678421.0382	1503262.2250	219.97
KCI 9922	678396.3465	1503293.2722	226.89
KCI 9923	678286.3007	1503090.3239	226.21
KCI 9924	678176.0345	1502908.1077	239.47
KCI 9925	678237.1796	1502896.9066	226.78
MA2	678169.2966	1502875.3503	239.72
MA4	677805.6967	1502338.3713	248.00
MA20	678197.7971	1502682.6950	229.19
MA21	678060.1871	1502421.4654	231.49
MA22	677887.9264	1502198.6106	236.76
MA23	677787.7158	1502133.2593	239.04
MA24	678109.6978	1502343.1190	241.92
MA30	679016.5494	1504097.5247	209.76
MA50	678984.8995	1503833.6824	223.58
MA51	678977.0502	1503753.8871	214.46
WS30	678561.2670	1503354.5515	218.00
WS31	678630.3656	1503484.7874	215.81
WS32	678743.0213	1503518.6005	213.67
WS33	678824.5285	1503633.4537	214.89
WS34	678978.7583	1503753.6316	214.50

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

REVISIONS

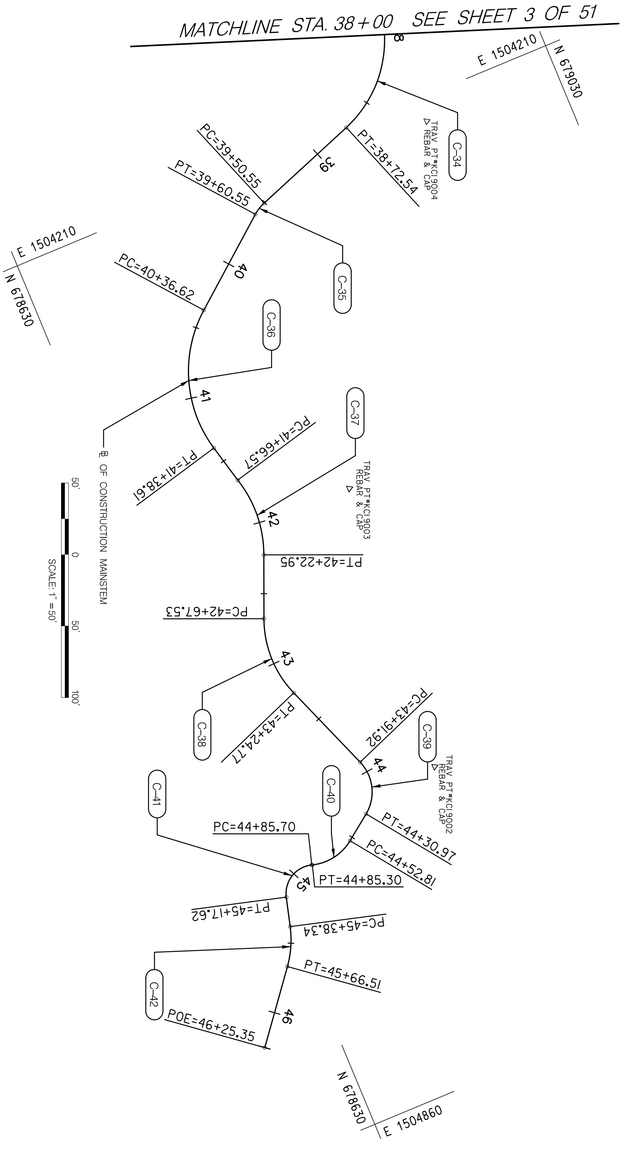
REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION
GEOMETRY SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE	09-01-20
SCALE	1"= 50'
DESIGNED BY	KRM/JBS
DRAWN BY	WJW
DRAWING NO.	
SHEET	3 OF 51
FWA JOB NUMBER	



DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

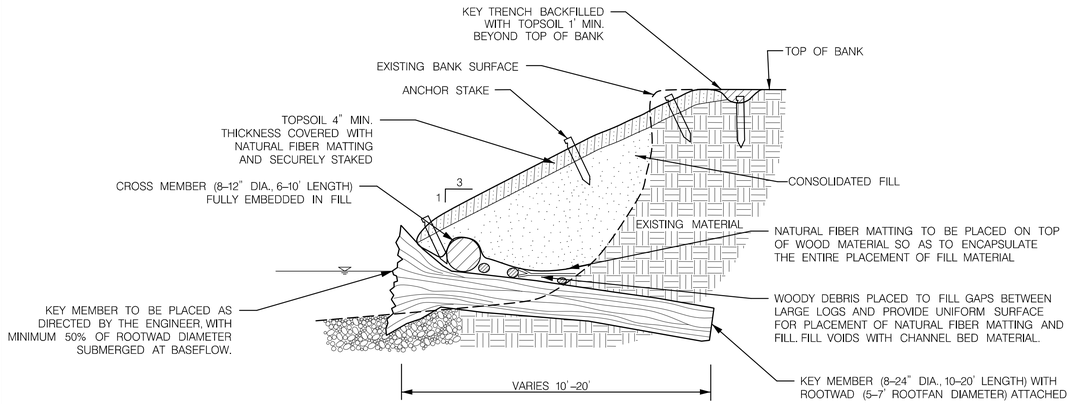
SUNNY VIEW ROAD
STREAM REHABILITATION

GEOMETRY SHEET

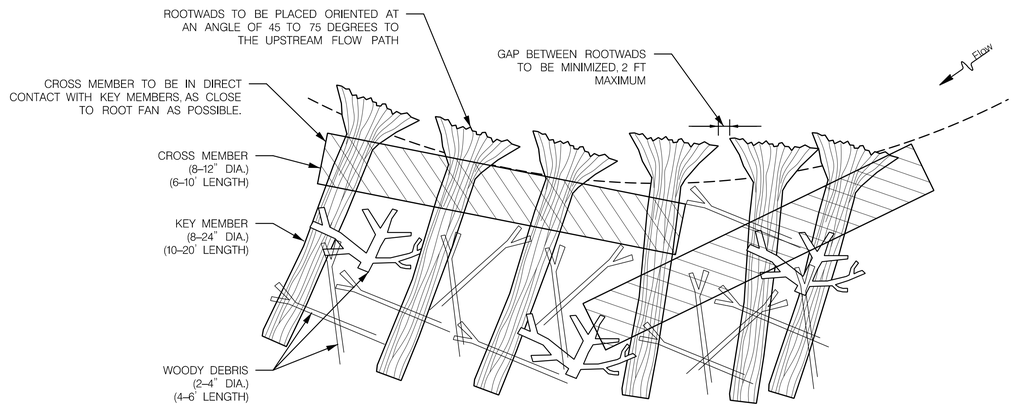
REVISIONS		
REV#	DATE	DESCRIPTION

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

DRAWN BY: WJW
DESIGNED BY: KRM/JRS
CHECKED BY:
SCALE: 1" = 50'
DATE: 09-01-00
DRAWING NO.
PM JOB NUMBER
SHEET 4 OF 51



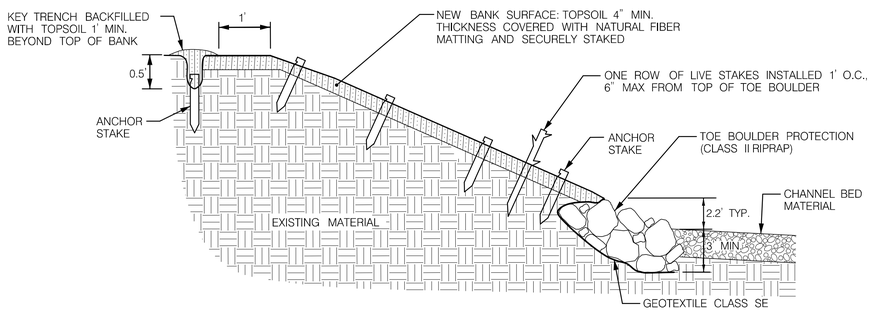
TYPICAL SECTION
WOOD TOE (WT)
NOT TO SCALE



PLAN VIEW
WOOD TOE (WT)
NOT TO SCALE

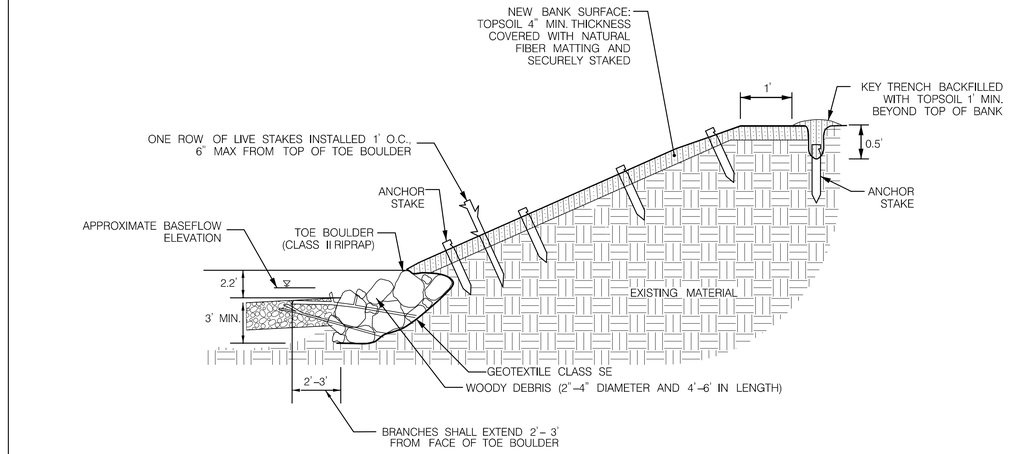
NOTE: SPECIES OF SYCAMORE, WALNUT, AND OAK TO BE PREFERENTIALLY USED IN THE WOOD TOE.

WOOD TOE



TYPICAL SECTION
TOE BOULDER PROTECTION (TBP)
NOT TO SCALE

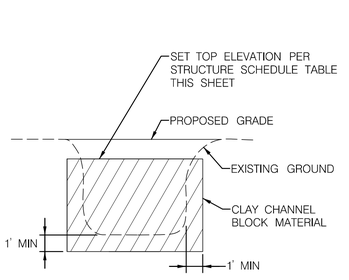
TOE BOULDER PROTECTION



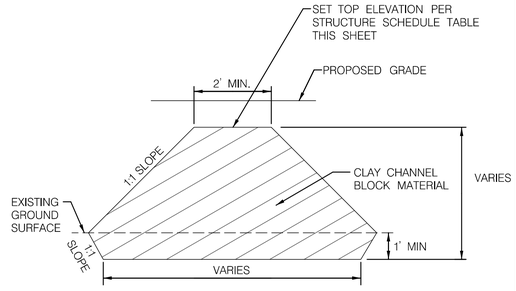
TYPICAL SECTION
WOODY TOE BOULDER (WTB)
NOT TO SCALE

NOTES:
1. TOP OF THE WOODY DEBRIS SHALL BE PLACED AT OR BELOW BASEFLOW ELEVATION.
2. MINIMIZE VOID SPACE IN TOE BOULDER
3. WOODY DEBRIS TO BE PLACED AT AN AVERAGE OF ONE BRANCH PER LINEAR FOOT OF BANK TREATMENT AND A MAXIMUM SPACING OF 2 LINEAR FEET BETWEEN BRANCHES

WOODY TOE BOULDER



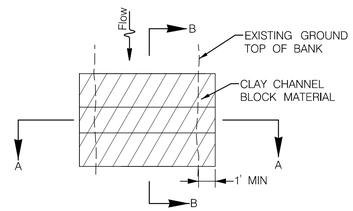
TYPICAL SECTION 'A–A'
CLAY CHANNEL BLOCK
NOT TO SCALE



TYPICAL SECTION 'B–B'
CLAY CHANNEL BLOCK
NOT TO SCALE

NOTE: CLAY CHANNEL BLOCK MATERIAL TO BE PLACED IN 8" COMPACTED LIFTS.

CLAY CHANNEL BLOCK (CCB)	
STRUCTURE	TOP ELEVATION
CCB-1	229.7'
CCB-2	228.3'
CCB-3	226.8'
CCB-4	225.5'
CCB-5	224.8'
CCB-6	214.1'
CCB-7	214.3'



PLAN VIEW
CLAY CHANNEL BLOCK
NOT TO SCALE

CLAY CHANNEL BLOCK

NOTE:
LINES AND GRADES OF INDIVIDUAL STRUCTURES VARY. SEE STRUCTURE SCHEDULES, PROFILES AND CROSS-SECTIONS FOR PROPOSED LAYOUT AND DIMENSIONS.

509 South Exeter Street
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McCORMICK TAYLOR

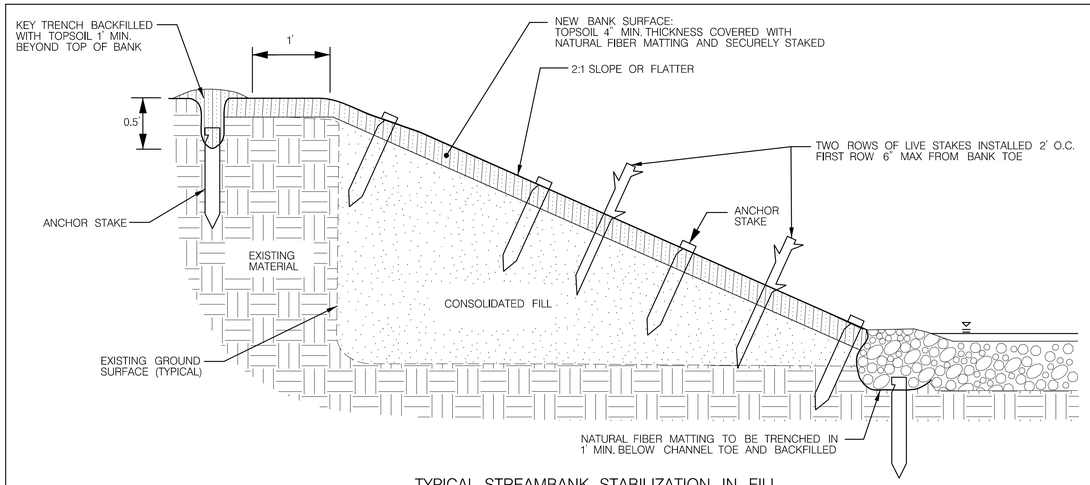
REVISIONS		
REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION
DETAIL SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

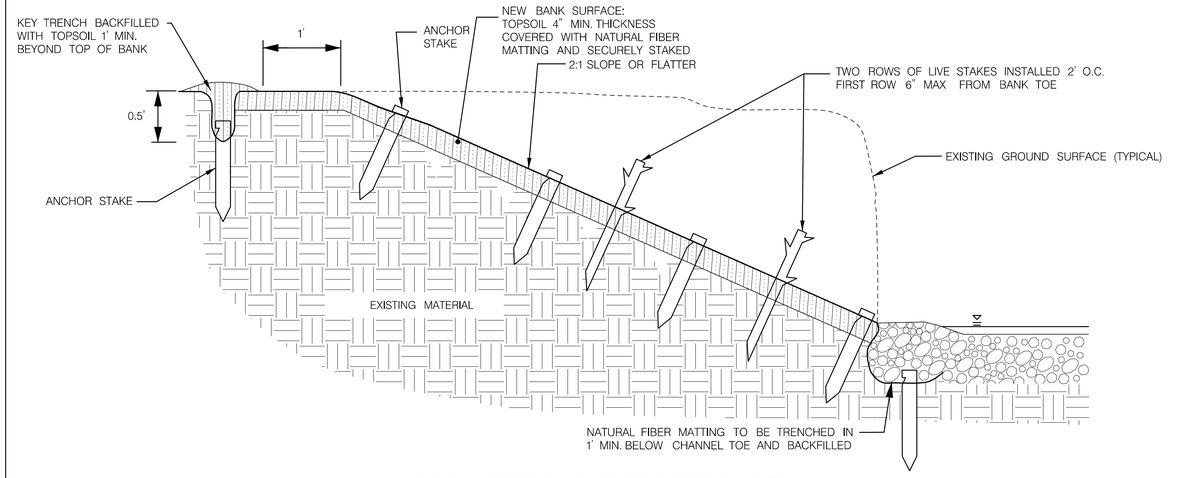
OFFICE OF WATERSHED
PROTECTION AND RESTORATION
220 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE NOT TO SCALE	
DESIGNED BY KRM/JBS	SHEET 5 OF 51
DRAWN BY WJW	FWA JOB NUMBER



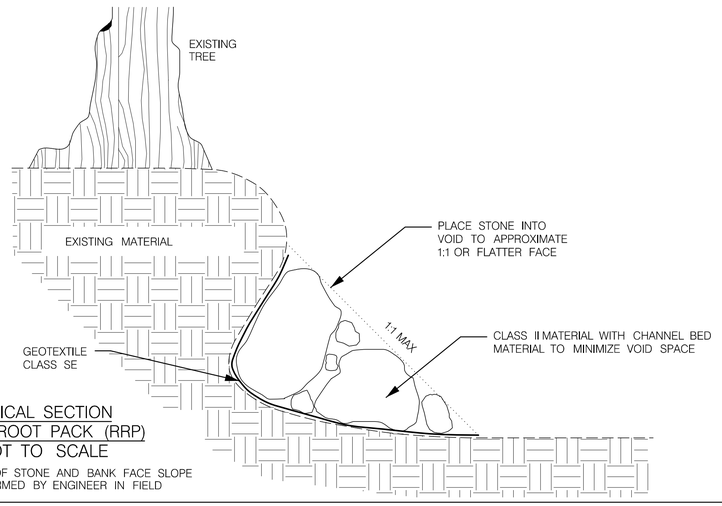
TYPICAL STREAMBANK STABILIZATION IN FILL

NOT TO SCALE



TYPICAL STREAMBANK STABILIZATION IN CUT

NOT TO SCALE

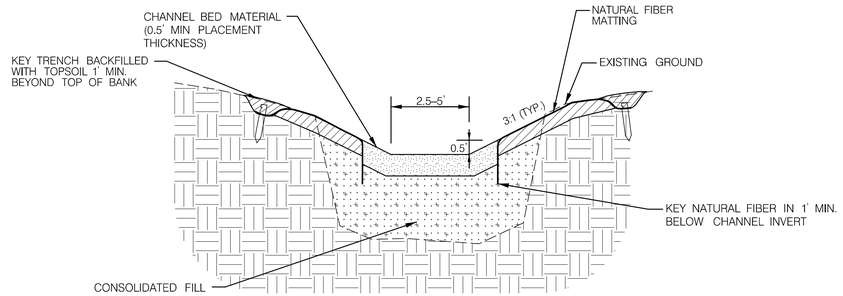


TYPICAL SECTION
ROCK ROOT PACK (RRP)

NOT TO SCALE

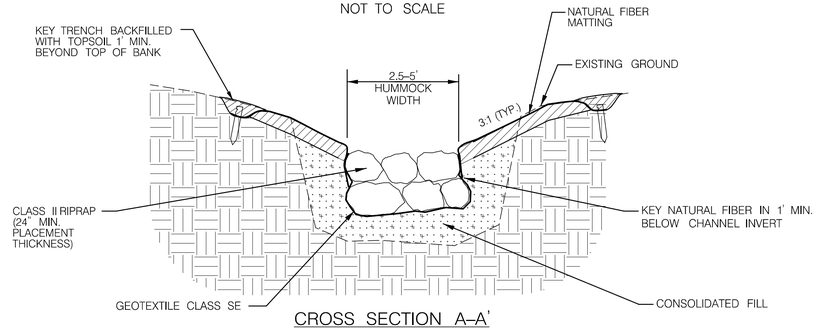
NOTE: LIMITS OF STONE AND BANK FACE SLOPE TO BE CONFIRMED BY ENGINEER IN FIELD

RP ROCK ROOT PACK



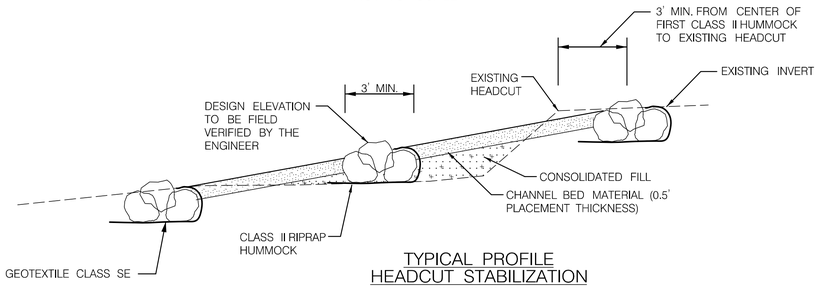
CROSS SECTION B–B'
HEADCUT STABILIZATION

NOT TO SCALE



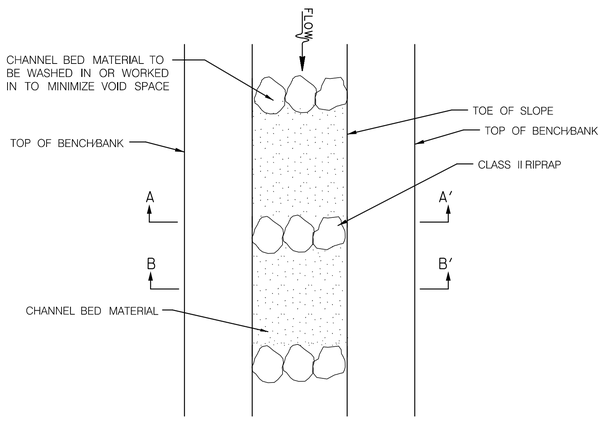
CROSS SECTION A–A'
HEADCUT STABILIZATION

NOT TO SCALE



TYPICAL PROFILE
HEADCUT STABILIZATION

NOT TO SCALE



PLAN VIEW
HEADCUT STABILIZATION

NOT TO SCALE

HEADCUT STABILIZATION

NOTE:
LINES AND GRADES OF INDIVIDUAL STRUCTURES VARY. SEE STRUCTURE SCHEDULES, PROFILES AND CROSS-SECTIONS FOR PROPOSED LAYOUT AND DIMENSIONS.

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REVISIONS

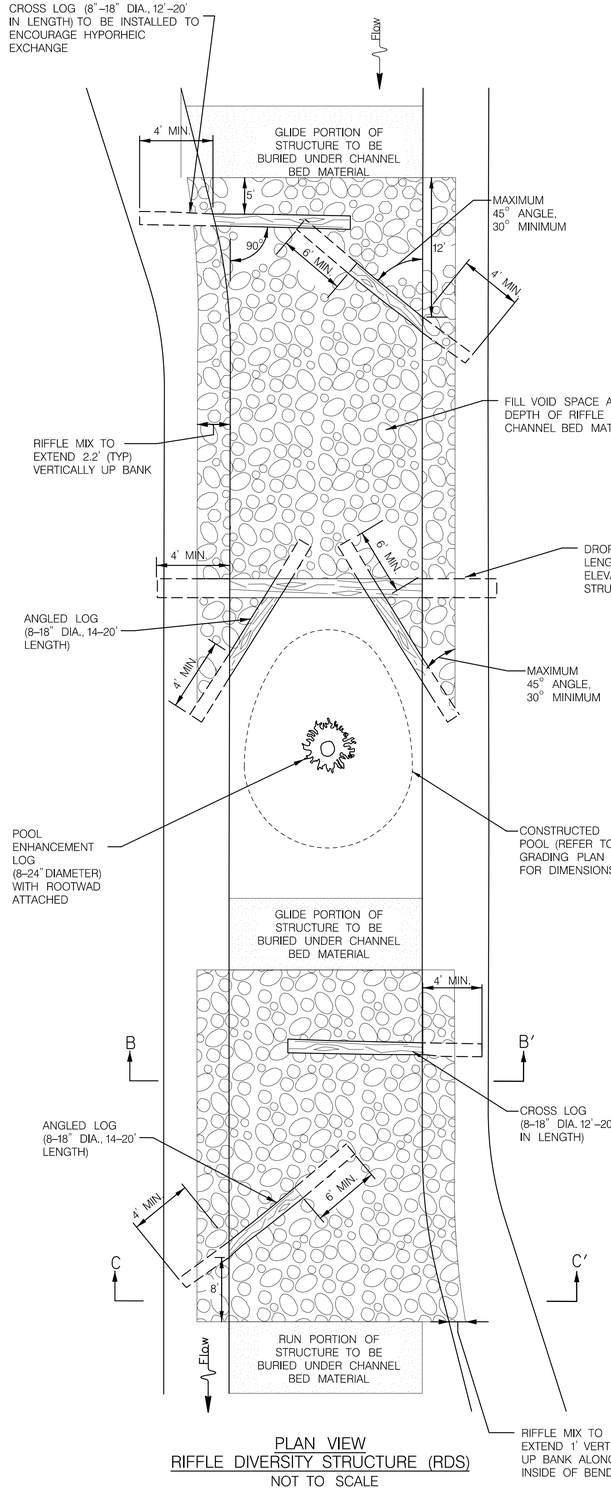
REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION
DETAIL SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
220 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE	09-01-20
SCALE	NOT TO SCALE
DESIGNED BY	KRM/JBS
DRAWN BY	WJW
DRAWING NO.	
SHEET	6 OF 51
FWA JOB NUMBER	



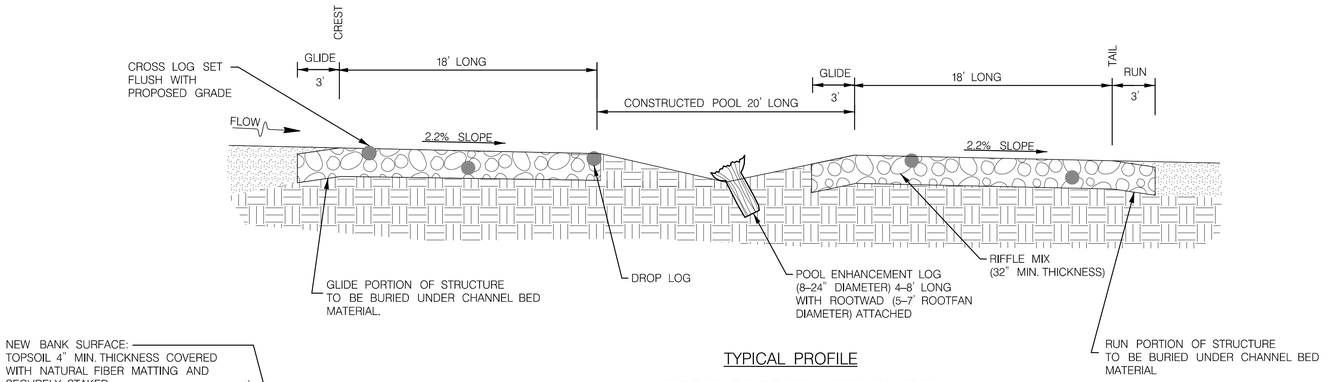
PLAN VIEW
RIFFLE DIVERSITY STRUCTURE (RDS)
NOT TO SCALE

RIFFLE DIVERSITY STRUCTURE (RDS)	
STRUCTURE	DROP LOG ELEVATION
RDS-1	230.3'
RDS-2	226.7'

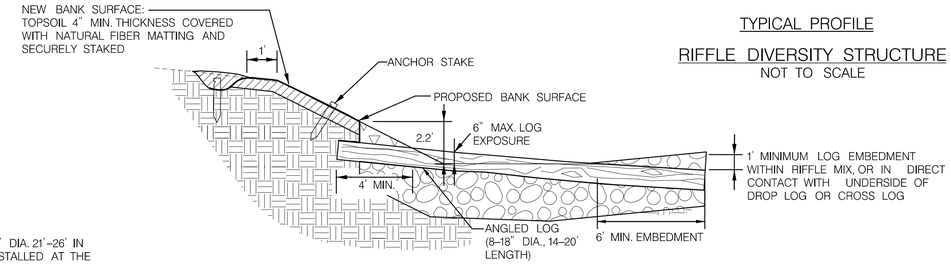
NOTE:

1. ORIENT ROOTWAD OF POOL ENHANCEMENT LOG UPSTREAM TO AN ANGLE OF 30–45 DEGREES FROM VERTICAL
2. USE DRIVING TECHNIQUES TO ENSURE POOL ENHANCEMENT LOG IS EMBEDDED INTO EXISTING CONDITIONS. TAPER END OF LOG TO AID IN DRIVING.
3. AT LEAST 70% OF ROOTWAD TO BE SUBMERGED DURING BASEFLOW. BASEFLOW ELEVATION TO BE APPROXIMATED BY ELEVATION OF DOWNSTREAM RIFFLE CREST.
4. ANGLED LOGS TO BE INSTALLED AT A SLOPE OF 1–2% RELATIVE TO VERTICAL, INCREASING IN ELEVATION DOWNSTREAM
5. REFER TO RIFFLE HABITAT STRUCTURE FOR TYPICAL CROSS SECTIONS B–B' AND C–C'

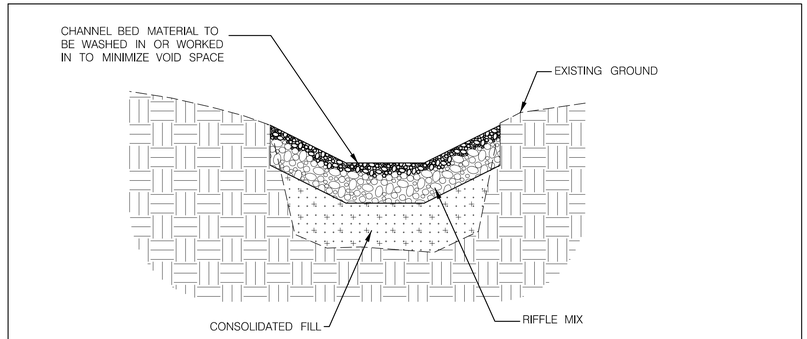
RIFFLE DIVERSITY STRUCTURE



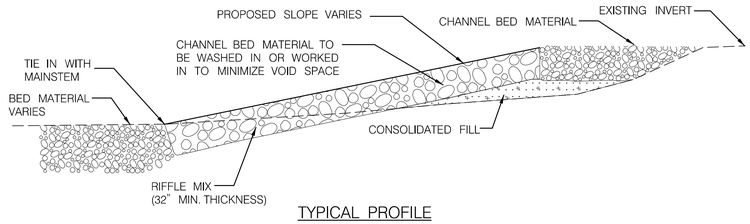
TYPICAL PROFILE
RIFFLE DIVERSITY STRUCTURE
NOT TO SCALE



TYPICAL SECTION ANGLED LOG
RIFFLE DIVERSITY STRUCTURE
NOT TO SCALE



TYPICAL SECTION
TRIBUTARY CONFLUENCE STABILIZATION (TCS)
NOT TO SCALE



TYPICAL PROFILE
TRIBUTARY CONFLUENCE STABILIZATION (TCS)
NOT TO SCALE

TRIBUTARY CONFLUENCE STABILIZATION

NOTE:
LINES AND GRADES OF INDIVIDUAL STRUCTURES VARY. SEE STRUCTURE SCHEDULES, PROFILES AND CROSS–SECTIONS FOR PROPOSED LAYOUT AND DIMENSIONS.

McCORMICK TAYLOR
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REVISIONS

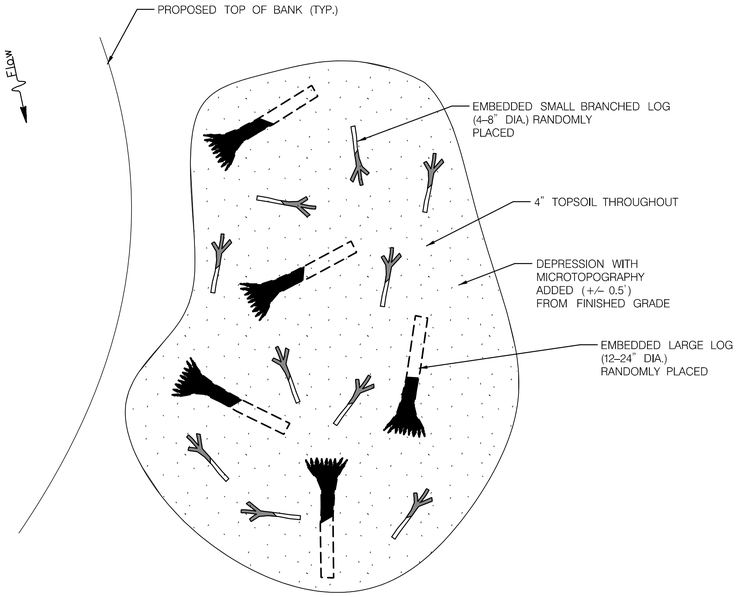
REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION
DETAIL SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE NOT TO SCALE	
DESIGNED BY KRM/JBS	SHEET 7 OF 51
DRAWN BY WJW	FWA JOB NUMBER

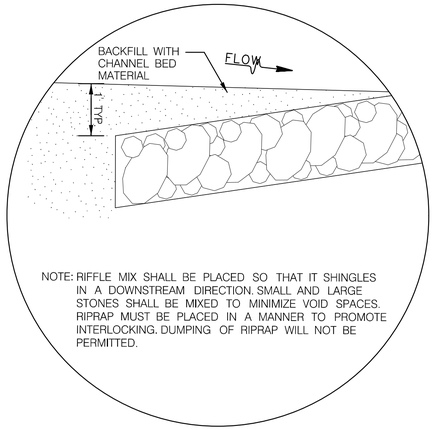


TYPICAL PLAN VIEW
FLOODPLAIN ENHANCEMENT FEATURE
NOT TO SCALE

NOTES:

1. HARDWOOD SPECIES AND LOGS WITH INTACT ROOTWADS TO BE PREFERENTIALLY USED IN INSTREAM STRUCTURES
2. INCORPORATE MICROTOPOGRAPHY IN AREAS WHICH LIMIT IMPACTS TO EXISTING NATURAL RESOURCES AND EXISTING UTILITY RIGHT OF WAYS
3. ROUGH GRADE FINISHED SURFACE: MANIPULATE GROUND TO CREATE MICROTOPOGRAPHY WITH AREAS +/– 0.5' FROM PROPOSED GRADE.
4. MINIMUM OF FIVE (5) LARGE LOGS AND TEN (10) SMALL BRANCHED LOGS TO BE PLACED IN EACH FLOODPLAIN ENHANCEMENT FEATURE. ADDITIONAL WOODY DEBRIS CAN BE PLACED WITH APPROVAL OF THE ENGINEER.
5. PLACEMENT AND EMBEDMENT OF LARGE LOGS AND SMALL BRANCHES TO BE DETERMINED IN THE FIELD AT THE DIRECTION OF THE ENGINEER. ALL WOODY DEBRIS TO BE EMBEDDED AT A MINIMUM OF 70% OF THE LOG SURFACE AREA EMBEDDED.

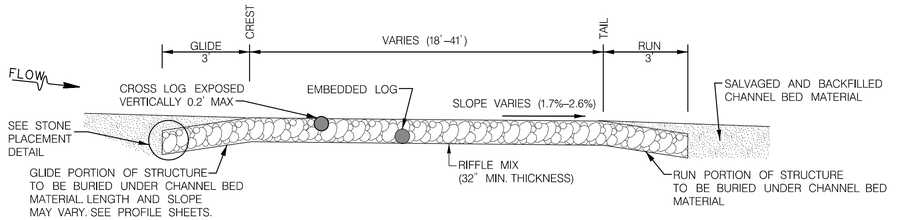
FLOODPLAIN ENHANCEMENT



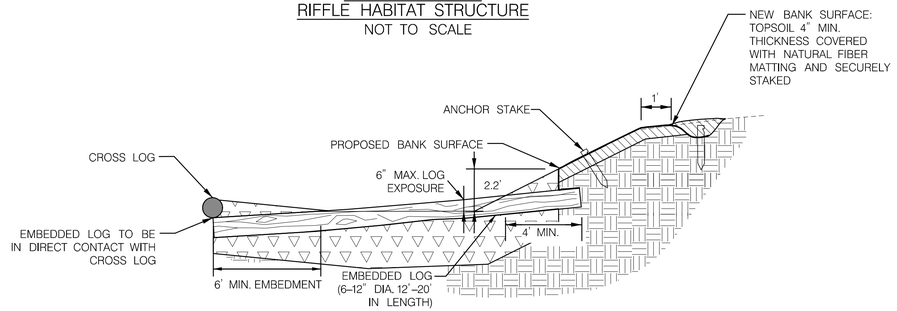
NOTE: RIFFLE MIX SHALL BE PLACED SO THAT IT SHINGLES IN A DOWNSTREAM DIRECTION. SMALL AND LARGE STONES SHALL BE MIXED TO MINIMIZE VOID SPACES. RIPRAP MUST BE PLACED IN A MANNER TO PROMOTE INTERLOCKING. DUMPING OF RIPRAP WILL NOT BE PERMITTED.

STONE PLACEMENT DETAIL
NOT TO SCALE

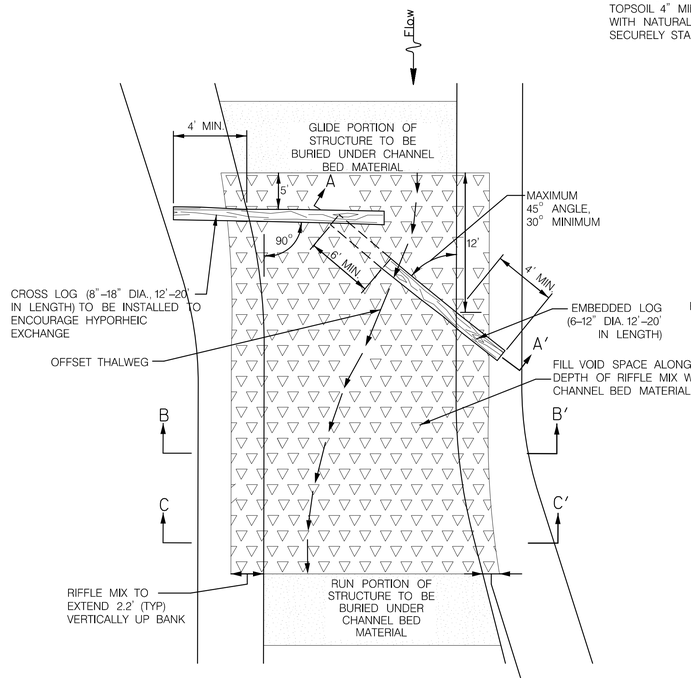
RIFFLE MIX	
AMOUNT OF STONE (%)	STONE TYPE
20	RIVER STONE
20	SHA CLASS 1
60	SHA CLASS 2
100	TOTAL



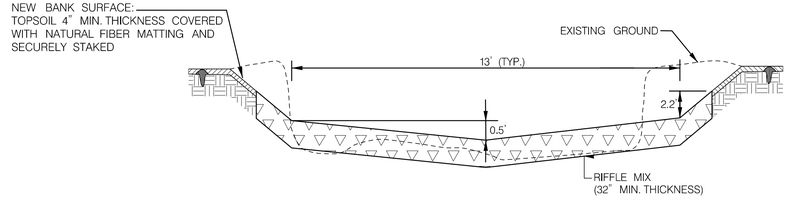
TYPICAL PROFILE
RIFFLE HABITAT STRUCTURE
NOT TO SCALE



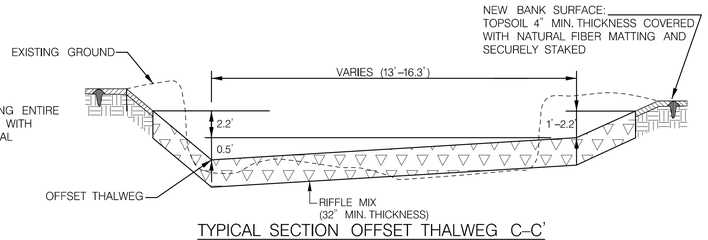
TYPICAL SECTION A–A'
RIFFLE HABITAT STRUCTURE
NOT TO SCALE



PLAN VIEW
RIFFLE HABITAT STRUCTURE (RHS)
NOT TO SCALE



TYPICAL SECTION B–B'
RIFFLE HABITAT STRUCTURE
NOT TO SCALE



TYPICAL SECTION OFFSET THALWEG C–C'
RIFFLE HABITAT STRUCTURE
NOT TO SCALE

NOTES:

1. ADD IN WOODY DEBRIS (2–4" DIA. AND 4–6 FT. LENGTH) THROUGHOUT THE LENGTH OF THE RIFFLE HABITAT STRUCTURE AND TO THE FULL DEPTH OF THE RIFFLE MIX.
2. MIX IN WOODY DEBRIS INTO THE RIFFLE MIX SUCH THAT THE WOODY DEBRIS REPRESENTS 20% BY VOLUME OF THE RIFFLE MIX WITHIN THE CHANNEL BOTTOM. WHERE THE CHANNEL BOTTOM IS DEFINED AS THE AREA BETWEEN THE BOTTOM OF BANK LIMITS/TOE OF SLOPE LIMITS.

RIFFLE HABITAT STRUCTURE

NOTE:
LINES AND GRADES OF INDIVIDUAL STRUCTURES VARY. SEE STRUCTURE SCHEDULES, PROFILES AND CROSS-SECTIONS FOR PROPOSED LAYOUT AND DIMENSIONS.

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McCORMICK TAYLOR

REVISIONS

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DETAIL SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
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212 SOUTH BOND STREET
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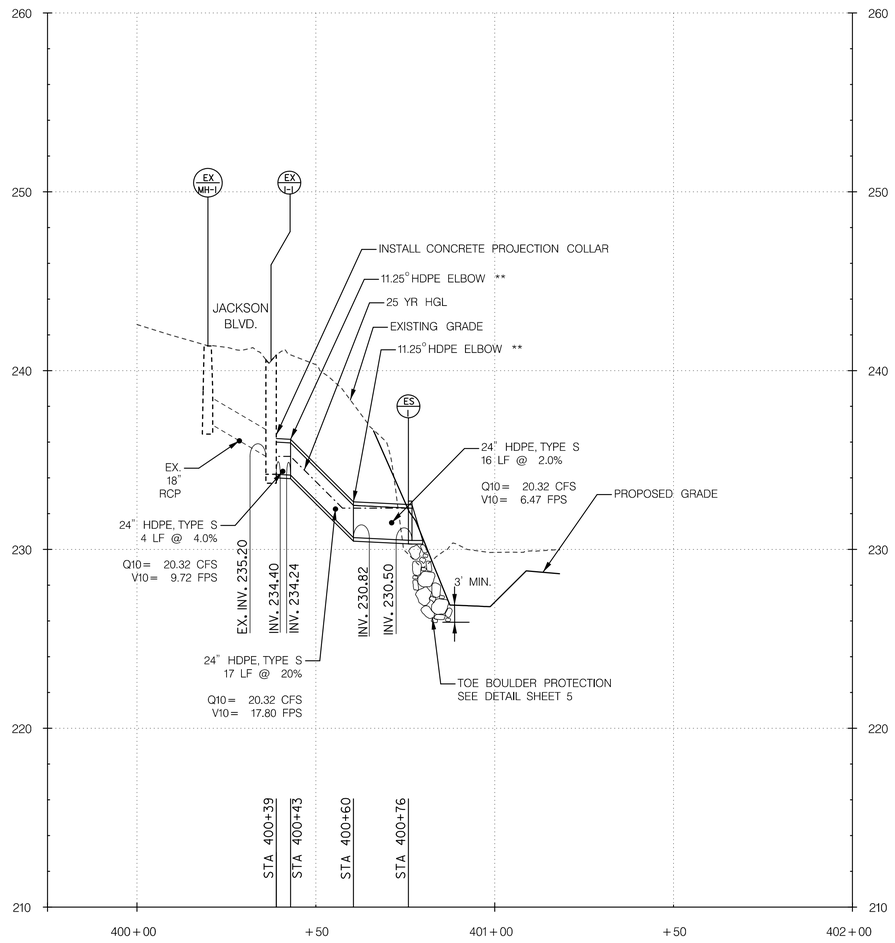
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE NOT TO SCALE	
DESIGNED BY KRM/JBS	SHEET 8 OF 51
DRAWN BY WJW	FWA JOB NUMBER

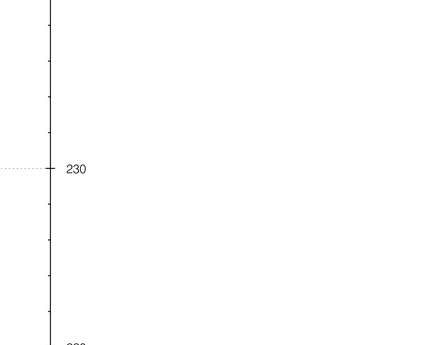


** NOTE: INSTALL CONCRETE ANCHORS AT DOWNSTREAM JOINT OF HDPE ELBOWS AND PIPE JOINTS BETWEEN ELBOWS.

24 INCH CORRUGATED POLYETHELENE PIPE					
FROM	TO	SIZE (IN.)	TYPE	LENGTH (LF)	REMARKS
EX-I-1	11.25° BEND *	24	TYPE S	4	
11.25° BEND *	11.25° BEND **	24	TYPE S	17	
11.25° BEND **	ES-1	24	TYPE S	16	

11.25° BEND * IS DOWNSTREAM OF EX-I-1
11.25° BEND ** IS UPSTREAM OF ES-1

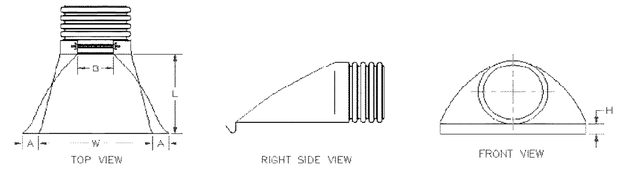
24 INCH STANDARD POLYETHELENE END SECTION				
STRUCTURE ID	NORTHING	EASTING	TYPE	STANDARD NO.
ES-1	678086.10	1502403.82	END SECTION	SEE DETAIL THIS SHEET



NOTE: CONCRETE PROJECTION COLLAR IS PAID AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR MIX NO.2 CONCRETE FOR MISCELLANEOUS STRUCTURES.

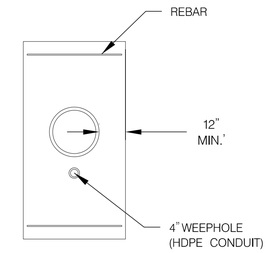
CONCRETE PROJECTION COLLAR DETAIL
NOT TO SCALE

Pipe Diameter, in (mm)						
Diameter (in, mm)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)
A in (mm)	6.5 (165)	6.5 (165)	7.5 (191)	7.5 (191)	7.5 (191)	7.5 (191)
B (max) in (mm)	10.0 (254)	10.0 (254)	15.0 (381)	18.0 (475)	22.0 (559)	25.0 (635)
H in (mm)	6.5 (165)	6.5 (165)	6.5 (165)	6.5 (165)	8.6 (218)	8.6 (218)
L in (mm)	25.0 (635)	25.0 (635)	32.0 (813)	36.0 (914)	58.0 (1473)	58.0 (1473)
W in (mm)	29.0 (737)	29.0 (737)	35.0 (889)	45.0 (1143)	63.0 (1600)	63.0 (1600)

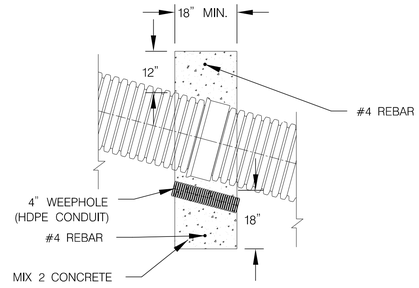


NOTES:
1. FLARED END SECTIONS FOR USE IN CULVERT AND DRAINAGE OUTLET APPLICATIONS.
2. THE INVERT OF THE PIPE AND THE END SECTION SHALL BE THE SAME ELEVATION. THE FLARED END SECTION SHALL BE HIGH DENSITY POLYETHYLENE MEETING ASTM D3350 MINIMUM CELL CLASSIFICATION 213320C; CONTACT MANUFACTURER FOR ADDITIONAL CELL CLASSIFICATION INFORMATION. WHEN PROVIDED, THE METAL THREADED FASTENING ROD SHALL BE STAINLESS STEEL.

STANDARD POLYETHYLENE END SECTION
NOT TO SCALE



ELEVATION



PROFILE

NOTE: CONCRETE ANCHOR IS PAID AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR MIX NO.2 CONCRETE FOR MISCELLANEOUS STRUCTURES.

CONCRETE ANCHOR DETAIL
NOT TO SCALE

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

REVISIONS

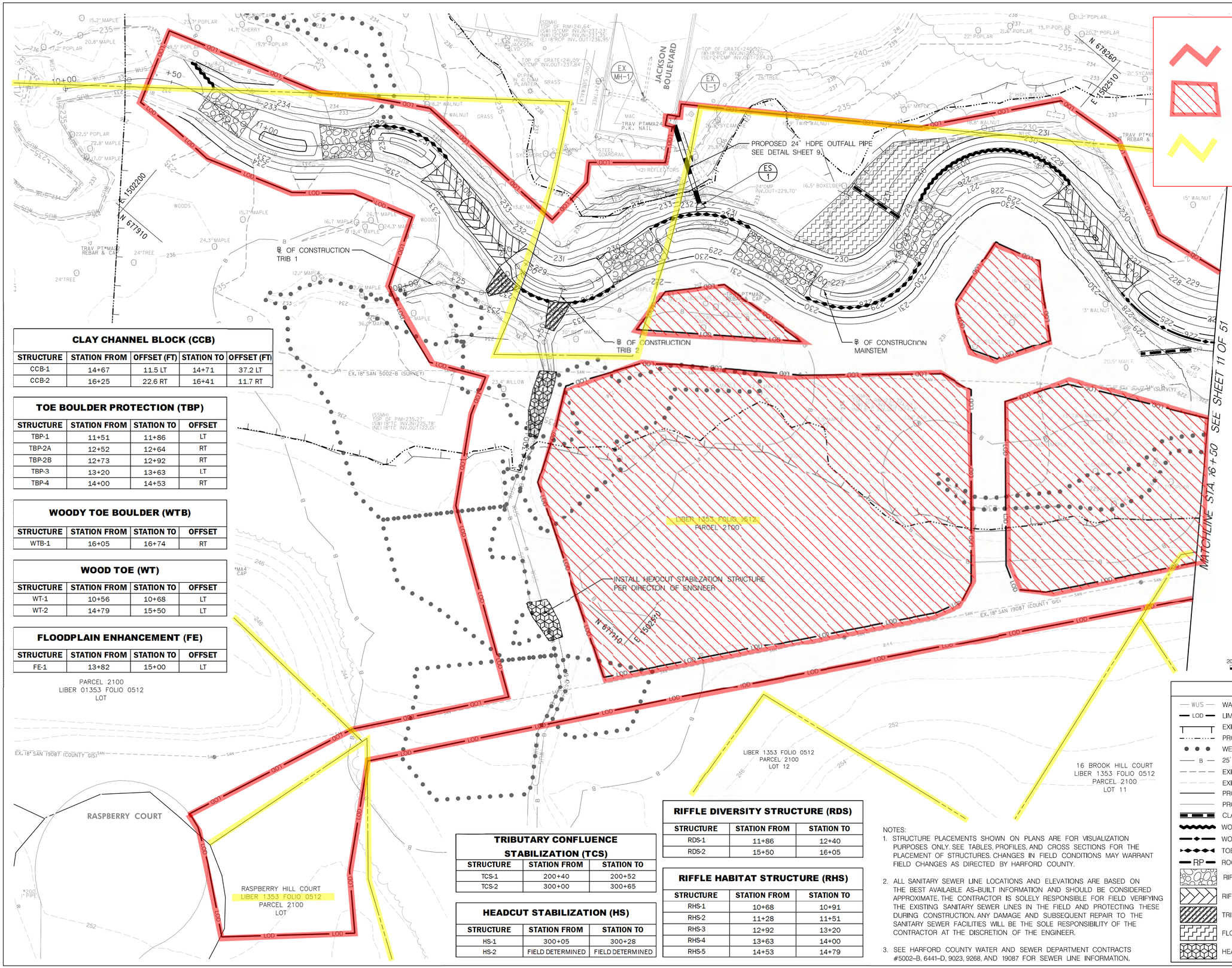
REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION
DETAIL SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE NOT TO SCALE	
DESIGNED BY KRM/JBS	SHEET 9 OF 51
DRAWN BY WJW	FWA JOB NUMBER



CLAY CHANNEL BLOCK (CCB)

STRUCTURE	STATION FROM	OFFSET (FT)	STATION TO	OFFSET (FT)
CCB-1	14+67	11.5 LT	14+71	37.2 LT
CCB-2	16+25	22.6 RT	16+41	11.7 RT

TOE BOULDER PROTECTION (TBP)

STRUCTURE	STATION FROM	STATION TO	OFFSET
TBP-1	11+51	11+86	LT
TBP-2A	12+52	12+64	RT
TBP-2B	12+73	12+92	RT
TBP-3	13+20	13+63	LT
TBP-4	14+00	14+53	RT

WOODY TOE BOULDER (WTB)

STRUCTURE	STATION FROM	STATION TO	OFFSET
WTB-1	16+05	16+74	RT

WOOD TOE (WT)

STRUCTURE	STATION FROM	STATION TO	OFFSET
WT-1	10+56	10+68	LT
WT-2	14+79	15+50	LT

FLOODPLAIN ENHANCEMENT (FE)

STRUCTURE	STATION FROM	STATION TO	OFFSET
FE-1	13+82	15+00	LT

TRIBUTARY CONFLUENCE STABILIZATION (TCS)

STRUCTURE	STATION FROM	STATION TO
TCS-1	200+40	200+52
TCS-2	300+00	300+65

HEADCUT STABILIZATION (HS)

STRUCTURE	STATION FROM	STATION TO
HS-1	300+05	300+28
HS-2	FIELD DETERMINED	FIELD DETERMINED

RIFFLE DIVERSITY STRUCTURE (RDS)

STRUCTURE	STATION FROM	STATION TO
RDS-1	11+86	12+40
RDS-2	15+50	16+05

RIFFLE HABITAT STRUCTURE (RHS)

STRUCTURE	STATION FROM	STATION TO
RHS-1	10+68	10+91
RHS-2	11+28	11+51
RHS-3	12+92	13+20
RHS-4	13+63	14+00
RHS-5	14+53	14+79

NOTES:
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3. SEE HARFORD COUNTY WATER AND SEWER DEPARTMENT CONTRACTS #5002-B, 6441-D, 9023, 9268, AND 19087 FOR SEWER LINE INFORMATION.

LEGEND

WUS	WATERS OF THE U.S.
LOD	LIMIT OF DISTURBANCE
T	EXISTING 100 YEAR FLOODPLAIN
	PROPOSED 100 YEAR FLOODPLAIN
	WETLAND BOUNDARY
B	25' WETLAND BUFFER
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	CLAY CHANNEL BLOCK
	WOOD TOE
	WOODY TOE BOULDER
	TOE BOULDER PROTECTION
RP	ROCK ROOT PACK
	RIFFLE HABITAT STRUCTURE
	RIFFLE DIVERSITY STRUCTURE
	TRIBUTARY CONFLUENCE STABILIZATION
	FLOODPLAIN ENHANCEMENT
	HEADCUT STABILIZATION

REVISIONS

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STREAM REHABILITATION
PLAN SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
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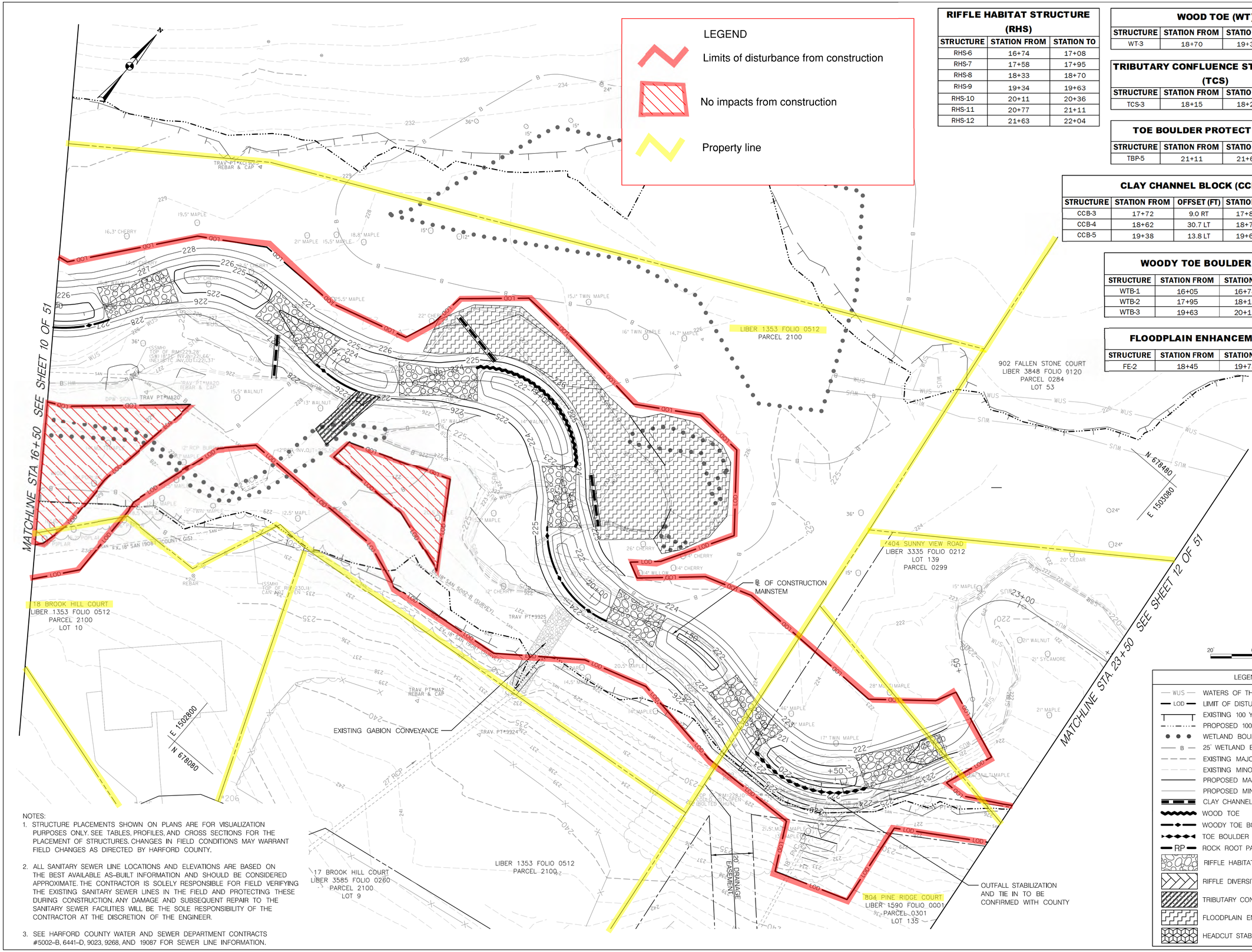
OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE	09-01-20
SCALE	1" = 20'
DESIGNED BY	KRM/JBS
DRAWN BY	WJW
DRAWING NO.	
SHEET	10 OF 51
FWA JOB NUMBER	



RIFFLE HABITAT STRUCTURE (RHS)

STRUCTURE	STATION FROM	STATION TO
RHS-6	16+74	17+08
RHS-7	17+58	17+95
RHS-8	18+33	18+70
RHS-9	19+34	19+63
RHS-10	20+11	20+36
RHS-11	20+77	21+11
RHS-12	21+63	22+04

WOOD TOE (WT)

STRUCTURE	STATION FROM	STATION TO	OFFSET
WT-3	18+70	19+34	LT

TRIBUTARY CONFLUENCE STABILIZATION (TCS)

STRUCTURE	STATION FROM	STATION TO	OFFSET
TCS-3	18+15	18+24	RT

TOE BOULDER PROTECTION (TBP)

STRUCTURE	STATION FROM	STATION TO	OFFSET
TBP-5	21+11	21+63	RT

CLAY CHANNEL BLOCK (CCB)

STRUCTURE	STATION FROM	OFFSET (FT)	STATION TO	OFFSET (FT)
CCB-3	17+72	9.0 RT	17+85	25.4 RT
CCB-4	18+62	30.7 LT	18+77	9.9 LT
CCB-5	19+38	13.8 LT	19+62	17.7 LT

WOODY TOE BOULDER (WTB)

STRUCTURE	STATION FROM	STATION TO	OFFSET
WTB-1	16+05	16+74	RT
WTB-2	17+95	18+15	RT
WTB-3	19+63	20+11	RT

FLOODPLAIN ENHANCEMENT (FE)

STRUCTURE	STATION FROM	STATION TO	OFFSET
FE-2	18+45	19+73	LT

LEGEND

- WUS — WATERS OF THE U.S.
- LOD — LIMIT OF DISTURBANCE
- EXISTING 100 YEAR FLOODPLAIN
- PROPOSED 100 YEAR FLOODPLAIN
- WETLAND BOUNDARY
- B — 25' WETLAND BUFFER
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- CLAY CHANNEL BLOCK
- WOOD TOE
- WOODY TOE BOULDER
- TOE BOULDER PROTECTION
- RP — ROCK ROOT PACK
- RIFFLE HABITAT STRUCTURE
- RIFFLE DIVERSITY STRUCTURE
- TRIBUTARY CONFLUENCE STABILIZATION
- FLOODPLAIN ENHANCEMENT
- HEADCUT STABILIZATION

NOTES:

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DATE	DRAWING NO.
09-01-20	
SCALE	
1"= 20'	
DESIGNED BY	
KRM/JBS	SHEET 11 OF 51
DRAWN BY	FWA JOB NUMBER
WJW	

LEGEND

Limits of disturbance from construction

No impacts from construction

Property line

MATCHLINE STA. 23+50 SEE SHEET 12 OF 51

MATCHLINE STA. 29+50 SEE SHEET 13 OF 51

E 1503170 N 678570

E 1503520 N 678570

N 678230 E 1503170

904 FALLEN STONE COURT
LIBER 1409 FOLIO 1048
PARCEL 0284
LOT 54

906 FALLEN STONE COURT
LIBER 4125 FOLIO 0187
PARCEL 0284
LOT 55

908 FALLEN STONE COURT
LIBER 3669 FOLIO 0581
PARCEL 0284
LOT 56

910 FALLEN STONE COURT
LIBER 1564 FOLIO 0670
PARCEL 0284
LOT 57

402 SUNNY VIEW ROAD
LIBER 2206 FOLIO 0053
PARCEL 0299
LOT 137

404 SUNNY VIEW ROAD
LIBER 3253 FOLIO 0164
PARCEL 0299
LOT 138

406 SUNNY VIEW ROAD
LIBER 3335 FOLIO 0212
LOT 139
PARCEL 0299

408 SUNNY VIEW ROAD
LIBER 3776 FOLIO 0211
PARCEL 0299
LOT 140

410 SUNNY VIEW ROAD
LIBER 2545 FOLIO 0986
PARCEL 0299
LOT 141

412 SUNNY VIEW ROAD
LIBER 3910 FOLIO 0210
PARCEL 0299
LOT 142

LIBER 1685 FOLIO 0824
PARCEL 0301
LOT 136

SUNNY VIEW ROAD

ABANDONED TREE HOUSE

SHED

REMOVE AND RESET METAL FENCE

20' DRAINAGE & UTILITY EASEMENT 738177

℄ OF CONSTRUCTION MAINSTEM

TRAV PT*KCI 9012 REBAR & CAP

TRAV PT*KCI 9011 REBAR & CAP

TRAV PT*9919

TRAV PT*9920

TRAV PT*WS30

EX. 18" SAN 5002-B (SURVEY)

SCALE: 1" = 20'

RIFFLE HABITAT STRUCTURE (RHS)

STRUCTURE	STATION FROM	STATION TO
RHS-13	24+82	25+15
RHS-14	25+56	25+75
RHS-15	26+30	26+50
RHS-16	27+73	28+00
RHS-17	28+40	28+66
RHS-18	29+07	29+36

TOE BOULDER PROTECTION (TBP)

STRUCTURE	STATION FROM	STATION TO	OFFSET
TBP-6	25+75	26+30	LT
TBP-7	27+62	27+73	LT

WOODY TOE BOULDER (WTB)

STRUCTURE	STATION FROM	STATION TO	OFFSET
WTB-4	24+22	24+82	RT
WTB-5	25+15	25+56	RT

WOOD TOE (WT)

STRUCTURE	STATION FROM	STATION TO	OFFSET
WT-4	28+00	28+40	RT
WT-5	28+66	29+07	RT

NOTES:

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2. ALL SANITARY SEWER LINE LOCATIONS AND ELEVATIONS ARE BASED ON THE BEST AVAILABLE AS-BUILT INFORMATION AND SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD VERIFYING THE EXISTING SANITARY SEWER LINES IN THE FIELD AND PROTECTING THESE DURING CONSTRUCTION. ANY DAMAGE AND SUBSEQUENT REPAIR TO THE SANITARY SEWER FACILITIES WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AT THE DISCRETION OF THE ENGINEER.
3. SEE HARFORD COUNTY WATER AND SEWER DEPARTMENT CONTRACTS #5002-B, 6441-D, 9023, 9268, AND 19087 FOR SEWER LINE INFORMATION.

LEGEND

- WUS — WATERS OF THE U.S.
- LOD — LIMIT OF DISTURBANCE
- EXISTING 100 YEAR FLOODPLAIN
- PROPOSED 100 YEAR FLOODPLAIN
- WETLAND BOUNDARY
- B — 25' WETLAND BUFFER
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- CLAY CHANNEL BLOCK
- WOOD TOE
- WOODY TOE BOULDER
- TOE BOULDER PROTECTION
- RP — ROCK ROOT PACK
- RIFFLE HABITAT STRUCTURE
- RIFFLE DIVERSITY STRUCTURE
- TRIBUTARY CONFLUENCE STABILIZATION
- FLOODPLAIN ENHANCEMENT
- HEADCUT STABILIZATION

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

REVISIONS

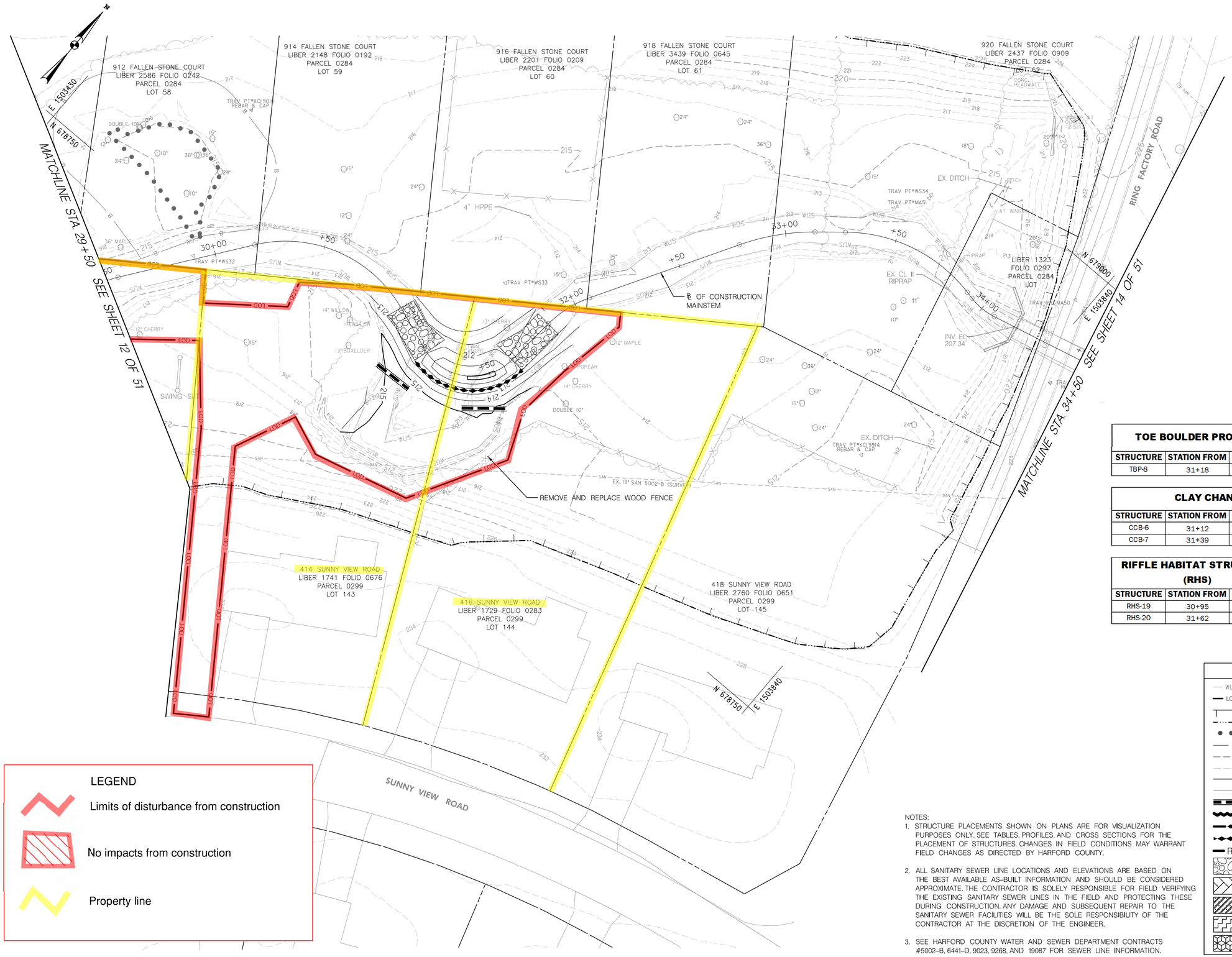
REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION
PLAN SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE 1"= 20'	
DESIGNED BY KRM/JBS	SHEET 12 OF 51
DRAWN BY WJW	FWA JOB NUMBER



LEGEND

Limits of disturbance from construction

No impacts from construction

Property line

TOE BOULDER PROTECTION (TBP)

STRUCTURE	STATION FROM	STATION TO	OFFSET
TBP-8	31+18	31+62	RT

CLAY CHANNEL BLOCK (CCB)

STRUCTURE	STATION FROM	OFFSET (FT)	STATION TO	OFFSET (FT)
CCB-6	31+12	21.9 RT	31+23	17.2 RT
CCB-7	31+39	14.8 RT	31+51	17.4 RT

RIFFLE HABITAT STRUCTURE (RHS)

STRUCTURE	STATION FROM	STATION TO
RHS-19	30+95	31+18
RHS-20	31+62	31+85

20' 0 20' 40'
SCALE: 1" = 20'

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PLAN SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
220 SOUTH BOND STREET
1ST FLOOR
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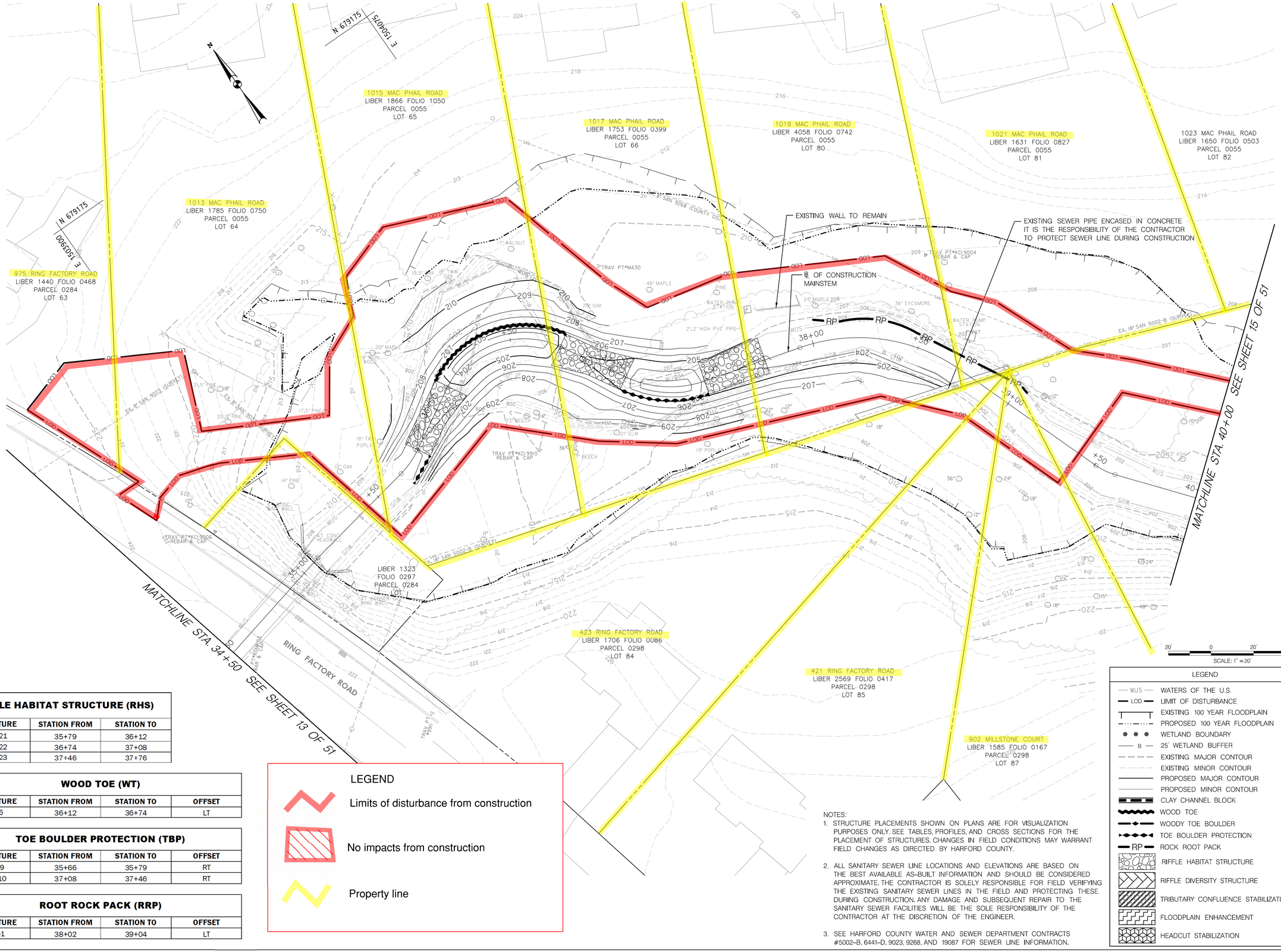
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE 1"= 20'	
DESIGNED BY KRM/JBS	SHEET 13 OF 51
DRAWN BY WJW	FWA JOB NUMBER



RIFFLE HABITAT STRUCTURE (RHS)		
STRUCTURE	STATION FROM	STATION TO
RHS-21	35+79	36+12
RHS-22	36+74	37+08
RHS-23	37+46	37+76

WOOD TOE (WT)			
STRUCTURE	STATION FROM	STATION TO	OFFSET
WT-6	36+12	36+74	LT

TOE BOULDER PROTECTION (TBP)			
STRUCTURE	STATION FROM	STATION TO	OFFSET
TBP-9	35+66	35+79	RT
TBP-10	37+08	37+46	RT

ROOT ROCK PACK (RRP)			
STRUCTURE	STATION FROM	STATION TO	OFFSET
RRP-1	38+02	39+04	LT

LEGEND

Limits of disturbance from construction

No impacts from construction

Property line

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DATE 09-01-20	DRAWING NO.
SCALE 1"= 20'	
DESIGNED BY KRM/JBS	SHEET 14 OF 51
DRAWN BY WJW	FWA JOB NUMBER

MATCHLINE STA. 40+00 SEE SHEET 14 OF 51

904 MILLSTONE COURT
LIBER 2801 FOLIO 0304
PARCEL 0298
LOT 88

906 MILLSTONE COURT
LIBER 2218 FOLIO 0359
PARCEL 0298
LOT 89

908 MILLSTONE COURT
LIBER 4941 FOLIO 0559
PARCEL 0298
LOT 90

910 MILLSTONE COURT
LIBER 1588 FOLIO 1099
PARCEL 0298
LOT 91

1023 MAC PHAIL ROAD
LIBER 1650 FOLIO 0503
PARCEL 0055
LOT 82

1025 MAC PHAIL ROAD
LIBER 3805 FOLIO 0107
PARCEL 0055
LOT 83

LIBER 0992 FOLIO 0900
PARCEL 0057
LOT

LIBER 3919 FOLIO 0166
PARCEL 0227
LOT

MACPHAIL ROAD

E 1504460 N 678870

E 1504460 N 678560

N 678870 E 1504820

EXISTING SEWER PIPE ENCASED IN CONCRETE - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT SEWER LINE DURING CONSTRUCTION.

℄ OF CONSTRUCTION MAINSTEM

TRAV PT*KCI 9002 REBAR & CAP

TRAV PT*KCI 9003 REBAR & CAP

LEGEND

Limits of disturbance from construction

No impacts from construction

Property line

SCALE: 1" = 20'

LEGEND

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TOE BOULDER PROTECTION (TBP)

STRUCTURE	STATION FROM	STATION TO	OFFSET
TBP-10	43+81	44+82	LT

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DATE	DRAWING NO.
09-01-20	
SCALE	
1" = 20'	
DESIGNED BY	SHEET 15 OF 51
KRM/JBS	
DRAWN BY	FWA JOB NUMBER
WJW	

EROSION AND SEDIMENT CONTROL – GENERAL NOTES

SEQUENCE OF CONSTRUCTION

1. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK.

2. THE CONTRACTOR SHALL NOTIFY THE HARFORD COUNTY CONSTRUCTION INSPECTION DIVISION (410) 638-3128 AND WATER AND SEWER DIVISION (410) 638-3300: A MINIMUM OF 24 HOURS PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY THE MARYLAND DEPARTMENT OF ENVIRONMENT INSPECTOR AT (301) 665-2850, FIVE (5) DAYS BEFORE ANY LAND DISTURBING ACTIVITY.

3. ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED WHERE INDICATED ON THE PLANS AND ALONG THE OUTER LOD PERIMETER. THIS SHALL BE COMPLETED BY AND INSPECTED AT THE PRECONSTRUCTION MEETING.

4. THE COUNTY SHALL COORDINATE AN ON-SITE PRE-CONSTRUCTION MEETING WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, THE COUNTY PROJECT MANAGER, THE ENGINEER, AND THE EROSION AND SEDIMENT CONTROL INSPECTOR.

5. THE CONTRACTOR SHALL REFER TO STANDARD NO. MD 104.00-13 GENERAL NOTE 11 FOR CONSTRUCTION ACCESS CONSIDERATIONS.

STAGE 1 - RING FACTORY ROAD TO MACPHAIL ROAD

1. CONSTRUCT THE PERIMETER CONTROLS AS SHOWN ON THE PLAN INCLUDING STABILIZED CONSTRUCTION ENTRANCES, SUPER SILT FENCE, AND SILT FENCE. CLEARING ONLY THE AREAS NEEDED TO INSTALL THE E&S CONTROLS. CARE SHALL BE TAKEN TO MINIMIZE DISTURBANCE TO ALL TREES.

2. AS THE PERIMETER CONTROLS ARE INSTALLED, CLEAR AND GRUB ACCESS ROADS ALONG PROJECT AREA. ACCESS ROADS SHALL BE STABILIZED AT THE END OF EACH WORK DAY WITH WOOD MULCH. INSTALL MULCH ACCESS PATH, TIMBER MATS, AND TEMPORARY BRIDGE. NO DISTURBED AREA SHALL BE LEFT OVERNIGHT UNLESS DIRECTED TO AN APPROVED EROSION AND SEDIMENT CONTROL DEVICE. STAGING AND STORAGE AREAS MAY BE CLEARED AND UTILIZED AS NEEDED.

3. STREAM RESTORATION SHALL PROCEED DOWNSTREAM TO UPSTREAM UTILIZING SANDBAG DAMS WITH PUMP AROUNDS TO ALLOW ACCESS INTO THE STREAM. AT THE END OF EACH DAY ALL DISTURBED AREAS SHALL BE STABILIZED UNLESS DIRECTED TO AN APPROVED EROSION AND SEDIMENT CONTROL DEVICE. AREAS WITHIN THE CHANNEL SHALL BE STABILIZED WITH STREAM BED MATERIAL, CHANNEL BANKS SHALL BE STABILIZED WITH MATTING. DEWATER ANY SEDIMENT LADEN WATER THROUGH A FILTER BAG. NO PUMPING OPERATIONS SHALL BE PERMITTED DURING OFF WORK HOURS.

   A. CONSTRUCT SANDBAG DIVERSION AND PUMP AROUND BETWEEN STA. 43+60 TO STA. 44+80. WORK AREA SHALL BE DEWATERED AND PUMPED TO AN APPROVED DEWATERING DEVICE. COMMENCE CHANNEL GRADING, AND CONSTRUCT IN CHANNEL STABILITY STRUCTURES.

   B. CONSTRUCT SANDBAG DIVERSION AND PUMP AROUND BETWEEN STA. 40+35 TO STA. 41+90. WORK AREA SHALL BE DEWATERED AND PUMPED TO AN APPROVED DEWATERING DEVICE. COMMENCE CHANNEL BANK GRADING.

   C. CONSTRUCT SANDBAG DIVERSION AND PUMP AROUND BETWEEN STA. 35+60 TO STA. 39+40. WORK AREA SHALL BE DEWATERED AND PUMPED TO AN APPROVED DEWATERING DEVICE. COMMENCE CHANNEL GRADING, RELOCATION, AND CONSTRUCT IN CHANNEL STABILITY STRUCTURES.

4. UPON COMPLETION OF WORK PERMANENTLY STABILIZE ALL DISTURBED AREAS AS SHOWN ON THE LANDSCAPE PLANS.

5. WHEN AREAS ARE FULLY STABILIZED REMOVE THE REMAINING SEDIMENT CONTROL DEVICES AND IMMEDIATELY STABILIZE ANY DISTURBED AREAS.

STAGE 2 - RASPBERRY COURT TO RING FACTORY ROAD

1. CONSTRUCT THE PERIMETER CONTROLS AS SHOWN ON THE PLAN INCLUDING STABILIZED CONSTRUCTION ENTRANCES, MAT CROSSINGS, TEMPORARY BRIDGES, TEMPORARY PIPES, SUPER SILT FENCE, SILT FENCE, AND SILT FENCE ON PAVEMENT. CLEARING ONLY THE AREAS NEEDED TO INSTALL THE E&S CONTROLS. CARE SHALL BE TAKEN TO MINIMIZE DISTURBANCE TO ALL TREES.

2. AS THE PERIMETER CONTROLS ARE INSTALLED, CLEAR AND GRUB ACCESS ROADS ALONG PROJECT AREA. ACCESS ROADS SHALL BE STABILIZED AT THE END OF EACH WORK DAY WITH WOOD MULCH. NO DISTURBED AREA SHALL BE LEFT OVERNIGHT UNLESS DIRECTED TO AN APPROVED EROSION AND SEDIMENT CONTROL DEVICE. STAGING AND STORAGE AREAS MAY BE CLEARED AND UTILIZED AS NEEDED.

3. ALL STREAM CROSSINGS SHALL BE CONDUCTED WITHIN THE DIVERSION AREA OR WITH A TEMPORARY SAME DAY STREAM CROSSING AS SHOWN IN THE DETAILS.

4. STREAM RESTORATION SHALL PROCEED DOWN STREAM TO UPSTREAM UTILIZING SANDBAG DAMS WITH PUMP AROUNDS TO ALLOW ACCESS INTO THE STREAM. AT THE END OF EACH DAY ALL DISTURBED AREAS SHALL BE STABILIZED UNLESS DIRECTED TO AN APPROVED EROSION AND SEDIMENT CONTROL DEVICE. AREAS WITHIN THE CHANNEL SHALL BE STABILIZED WITH STREAM BED MATERIAL, CHANNEL BANKS SHALL BE STABILIZED WITH MATTING. DEWATER ANY SEDIMENT LADEN WATER THROUGH A FILTER BAG. NO PUMPING OPERATIONS SHALL BE PERMITTED DURING OFF WORK HOURS.

   A. CONSTRUCT SANDBAG DIVERSION AND PUMP AROUND BETWEEN STA. 30+85 TO STA. 31+95. WORK AREA SHALL BE DEWATERED AND PUMPED TO AN APPROVED DEWATERING DEVICE. COMMENCE CHANNEL GRADING, RELOCATION, AND CONSTRUCT IN CHANNEL STABILITY STRUCTURES.

   B. CONSTRUCT SANDBAG DIVERSION AND PUMP AROUND BETWEEN STA. 27+55 TO STA. 29+65. WORK AREA SHALL BE DEWATERED AND PUMPED TO AN APPROVED DEWATERING DEVICE. COMMENCE CHANNEL GRADING, RELOCATION, AND CONSTRUCT IN CHANNEL STABILITY STRUCTURES.

   C. CONSTRUCT SANDBAG DIVERSION AND PUMP AROUND BETWEEN STA. 24+05 TO STA. 26+80. WORK AREA SHALL BE DEWATERED AND PUMPED TO AN APPROVED DEWATERING DEVICE. COMMENCE CHANNEL GRADING, RELOCATION, AND CONSTRUCT IN CHANNEL STABILITY STRUCTURES.

   D. CONSTRUCT SANDBAG DIVERSION AND PUMP AROUND BETWEEN STA. 18+20 TO STA. 22+20. INSTALL ADDITIONAL SANDBAG DIVERSION FOR CLEAR WATER NEAR STA. 18+35, RT. WORK AREA SHALL BE DEWATERED AND PUMPED TO AN APPROVED DEWATERING DEVICE. COMMENCE CHANNEL GRADING, RELOCATION, AND CONSTRUCT IN CHANNEL STABILITY STRUCTURES.

   E. CONSTRUCT SANDBAG DIVERSION AND PUMP AROUND BETWEEN STA. 13+55 TO STA. 18+40. WORK AREA SHALL BE DEWATERED AND PUMPED TO AN APPROVED DEWATERING DEVICE. COMMENCE CHANNEL GRADING, RELOCATION, AND CONSTRUCT IN CHANNEL STABILITY STRUCTURES.

   F. CONSTRUCT SANDBAG DIVERSION AND PUMP AROUND BETWEEN STA. 10+50 TO STA. 13+80. WORK AREA SHALL BE DEWATERED AND PUMPED TO AN APPROVED DEWATERING DEVICE. COMMENCE CHANNEL GRADING, RELOCATION, AND CONSTRUCT IN CHANNEL STABILITY STRUCTURES. REMOVE EX. 24" CMP PIPE FROM EX-1-1 AT JACKSON BOULEVARD AND REPLACE WITH 24" HDPE DURING A 3-DAY DRY WEATHER PERIOD. INSTALL ES-1, CONCRETE PROJECTION COLLAR AND CONCRETE ANCHOR AS SHOWN.

5. UPON COMPLETION OF WORK PERMANENTLY STABILIZE ALL DISTURBED AREAS AS SHOWN ON THE LANDSCAPE PLANS.

6. WHEN AREAS ARE FULLY STABILIZED REMOVE THE REMAINING SEDIMENT CONTROL DEVICES AND IMMEDIATELY STABILIZE ANY DISTURBED AREAS.

S/C PLAN #: 59858
GRADING PERMIT #: 2713-2020

PERMANENT VEGETATIVE STABILZATION FOR NTW

ALL DISTURBED AREAS, WHICH ARE NOT TO BE PAVED, SHALL BE PERMANENTLY STABILIZED AS FOLLOWS:

A) SEEDBED PREPARATION:
LOOSEN UPPER THREE INCHES BY RAKING, DISCING, OR OTHER ACCEPTABLE MEANS AFTER SPREADING FOUR INCHES OF TOPSOIL.

B) SOIL AMENDMENTS:
APPLY 500 LBS PER ACRE OF 10-10-10 FERTILIZER AND TWO TONS PER ACRE OF LIME.

C) SEEDING:*
FOR PERIODS OF MARCH 1 TO MAY 15 AND AUGUST 15 TO OCTOBER 15, SEED WITH 125 LBS PER ACRE OF TALL FESCUE, 15 LBS PER ACRE OF PERENNIAL RYEGRASS, AND 10 LBS OF KENTUCKY BLUEGRASS.

FOR PERIOD OF MAY 16 TO AUGUST 14, SEED WITH 110 LBS PER ACRE OF TALL FESCUE AND 3 LBS PER ACRE OF WEEPING LOVEGRASS.

FOR PERIOD OF OCTOBER 16 TO FEBRUARY 28, PROTECT SITE BY: OPTIONS - 1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, 2) USE SOD, OR 3) SEED WITH 60 LBS PER ACRE OF TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.
NOTE: FOR QUICK COVER WITH TALL FESCUE, ADD 2 LBS OF SMALL GRAIN PER 1,000 SQ. FT.

D) MULCHING SPECIFICATIONS:
MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

APPLY 2 TONS PER ACRE OF STRAW OVER ALL SEEDED AREAS. IF A MULCH ANCHORING TOOL IS TO BE USED, THE RATE SHALL BE INCREASED TO 2.5 TONS PER ACRES. **

MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND AND WATER. THE TYPE OF MULCH ANCHORING USED MUST COMPLY WITH THE 2011 MARYLAND STANDARD AND SPECIFICATIONS.

* IF OTHER SEED MIXES ARE TO BE SUBSTITUTED, THEY MUST COMPLY WITH THE 2011 MARYLAND STANDARD AND SPECIFICTAIONS, CHAPTER B, TABLE B-3 (PAGES B 26 TO B 31)
** IF A DIFFERENT TYPE OF MULCH IS TO BE USED, IT MUST COMPLY WITH THE 2011 MARYLAND STANDARD AND SPECIFICTION, CHAPTER B: MULCHING (PAGES B 6 & B 7)

TEMPORARY VEGETATION STABILIZATION FOR NTW

TEMPORARY VEGETATION STABILIZATION
A) SEEDBED PREPARATION:
LOOSEN UPPER THREE INCHES BY DISCING, RAKING OR OTHER ACCEPTABLE MEANS.

B) SOIL AMENDMENTS:
APPLY 600 LBS PER ACRE OF 10-10-10 FERTILIZER AND TWO TONS PER ACRE OF LIME.

C) SEEDING: *
FOR PERIODS OF MARCH 1 TO APRIL 30 AND AUGUST 15 TO NOVEMBER 15, SEED WITH 2.5 BU PER ACRE OF CEREAL RYE PLUS 30 LBS PER ACRE OF TALL FESCUE OR 5 LBS PER ACRE OF REDTOP OR 20 LBS PER ACRE OF PERENNIAL RYEGRASS.

FOR PERIOD OF MAY 1 TO AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS OR 40 LBS PER ACRE OF JAPANESE OR FOXTAIL MILLET.

FOR THE PERIOD OF NOVEMBER 16 TO FEBRUARY 28, PROTECT THE SITE BY APPLYING TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING OR USE SOD.

D) MULCHING SPECIFICATIONS:
MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

APPLY 2 TONS PER ACRE OF STRAW OVER ALL SEEDED AREAS. IF A MULCH ANCHORING TOOL IS TO BE USED, THE RATE SHALL BE INCREASED TO 2.5 TONS PER ACRES. **

MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND AND WATER. THE TYPE OF MULCH ANCHORING USED MUST COMPLY WITH THE 2011 MARYLAND STANDARD AND SPECIFICATIONS.

* IF OTHER SEED MIXES ARE TO BE SUBSTITUTED, THEY MUST COMPLY WITH THE 2011 MARYLAND STANDARD AND SPECIFICTAIONS, CHAPTER B, TABLE B-1 (PAGE B 20)
** IF A DIFFERENT TYPE OF MULCH IS TO BE USED, IT MUST COMPLY WITH THE 2011 MARYLAND STANDARD AND SPECIFICTION, CHAPTER B: MULCHING (PAGES B 6 & B 7)

SITE ANALYSIS

TOTAL AREA OF SITE:	5.19 AC
AREA TO BE CLEARED:	5.19 AC
AREA TO VEGETATED:	5.19 AC
AREA TO BE PAVED:	0.00 AC
AREA DISTURBED:	5.19 AC
TOTAL CUT:	2,647 CY
TOTAL FILL:	3,448 CY
TOPSOIL:	7,447 SY
NPDES DATA POINT	N: 678940.9437 E: 1503868.5310

PUMPS SHALL ONLY OPERATE DURING APPROVED WORKING HOURS

HARFORD COUNTY SEDIMENT CONTROL NOTES

1. THE CONTRACTOR/OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS. FURTHER, NO CONSTRUCTION ACTIVITY SHALL TAKE PLACE UNTIL ALL REQUIRED PERMITS HAVE BEEN OBTAINED.

2. THE LIMITS OF DISTURBANCE SHALL BE CLEARLY DELINEATED IN THE FIELD PRIOR TO GRADING OF THE SITE TO ENSURE COMPLIANCE WITH APPROVED PLANS. ALL FOREST RETENTION AREAS WILL BE DELINEATED WITH BLAZE ORANGE FENCE AS WELL AS ANY SWM INFILTRATION PRACTICE PRIOR TO ANY CLEARING. WORK BEYOND THE LIMITS OF DISTURBANCE AND IN ANY AREA INSIDE THE FOREST RETENTION AND SWM INFILTRATION AREA IS CONSIDERED TO BE A VIOLATION OF THIS PLAN.

3. ALL SEDIMENT CONTROL PRACTICES MUST BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY. UPON COMPLETION OF THE INSTALLATION OF PERIMETER SEDIMENT CONTROL PRACTICES THE SITE MUST BE INSPECTED BY THE DEPARTMENT OF PUBLIC WORKS (DPW). NO ADDITIONAL CONSTRUCTION ACTIVITY WILL BE AUTHORIZED WITHOUT THE APPROVAL FROM DPW.

4. ALL POINTS OF INGRESS AND EGRESS SHALL BE PROTECTED TO PREVENT TRACKING OF MUD INTO PUBLIC WAYS. DURING CONSTRUCTION, EVERY MEANS WILL BE TAKEN TO CONTROL SOIL EROSION AND SILTATION. IF NECESSARY A WASH RACK MAY NEED TO BE ESTABLISHED.

5. EARTH DIKES, SEDIMENT TRAPS, ETC. WILL BE LOCATED AS SHOWN ON THESE DRAWINGS. FIELD CHANGES AND MINOR ADJUSTMENTS ARE PERMISSIBLE AS LONG AS THE INSTALLATION FUNCTIONS AND CONFORMS TO SPECIFICATIONS. THE SITE INSPECTOR PRIOR TO INSTALLATION MUST APPROVE ALL SUCH CHANGES. MAJOR CHANGES TO THE APPROVED PLAN WILL REQUIRE RE-APPROVAL BY THE HARFORD SOIL CONSERVATION DISTRICT.

6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
   A) THREE CALENDAR DAYS ON SLOPES GREATER THAN 3:1, ALL WATERWAYS AND TO THE SURFACE OF ALL PERIMETER CONTROLS.
   B) SEVEN CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS OF THE PROJECT SITE.

7. DUST CONTROL MUST BE MANAGED AS PART OF ALL SEDIMENT CONTROL PLANS. FAILURE TO DO SO IS A VIOLATION OF THIS PLAN.

8. SEDIMENT BASINS MUST BE BUILT TO DESIGN SPECIFICATIONS SHOWN ON THE PLAN. IF THE BASIN IS TO BE USED AS A FUTURE SWM FACILITY, THE BASIN WILL BE BUILT IN ACCORDANCE WITH THE LATEST MD-378 STANDARDS AND SPECIFICATIONS. SPECIFIED MATERIALS MUST BE USED. NO CHANGES OR MODIFICATIONS WILL BE MADE WITHOUT WRITTEN AUTHORIZATION OF THE HARFORD SOIL CONSERVATION DISTRICT.

9. TEMPORARY FENCING SHALL BE PLACED AROUND ALL SEDIMENT BASINS, TRAPS, AND PONDS DURING CONSTRUCTION AND SITE GRADING.

10. AT THE END OF EACH WORKING DAY ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT OPERATIONAL. A WEEKLY LOG WILL BE KEPT IN ACCORDANCE WITH NOI/NPDES REGULATIONS. A COPY OF THE APPROVED SEDIMENT CONTROL PLANS SHALL BE AVAILABLE AT THE SITE AT ALL TIMES.

11. ENSURE POSITIVE DRAINAGE TO ALL ROAD INLETS DURING ALL PHASES OF ROAD CONSTRUCTION TO ENSURE POSITIVE FLOW TO TRAPS AND OR BASINS.

12. CUT AND/OR FILL SHALL BE DONE IN CONFORMANCE WITH 2011 EROSION AND SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS FOR LAND GRADING.

13. SURFACE FLOWS OVER CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER REDIRECTING FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO SAFELY CONVEY WATER DOWN SLOPES WITHOUT CAUSING EROSION.

14. OFF-SITE WASTE OR BORROW AREAS SHALL HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN PRIOR TO THE IMPORT OR EXPORT OF MATERIAL TO/FROM THE PROJECT SITE.

15. ALL MATERIAL ORIGINATING FROM THE DEVELOPMENT OF THE PROPERTY AND DEPOSITED ON THE PUBLIC RIGHT-OF-WAY SHALL BE IMMEDIATELY REMOVED.

16. STORM DRAIN INLETS AND OUTLETS SHALL BE PROTECTED PER 2011 EROSION AND SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS.

17. TOPSOIL, LIMING, FERTILIZING, SEEDING, MULCHING, SOD, ETC. ARE ALL ESSENTIAL PARTS OF THE SEDIMENT CONTROL PLAN AND MUST BE COMPLETED ALONG WITH ALL OTHER PRACTICES.

18. TRAPS TO BE REMOVED SHALL BE DEWATERED AS PER THE 2011 EROSION AND SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS.

19. PRIOR TO REMOVAL OF TRAPS OR CONVERSION OF SEDIMENT BASINS TO SWM FACILITIES, THE STORM DRAINS WILL BE FLUSHED

20. SEDIMENT CONTROL PRACTICES WILL BE MAINTAINED UNTIL ALL DISTURBED AREAS FOR WHICH THE PRACTICES WERE INSTALLED HAVE BEEN STABILIZED. SEDIMENT CONTROL PRACTICES MAY BE REMOVED ONLY WITH THE AUTHORIZATION OF THE DPW INSPECTOR. ALL DISTURBED AREAS RESULTING FROM THE REMOVAL OF SEDIMENT CONTROL DEVICES SHALL BE STABILIZED IMMEDIATELY. REMOVAL PRIOR TO INSPECTOR'S APPROVAL CONSTITUTES A VIOLATION.

ENGINEER'S CERTIFICATION
I certify that this plan for erosion and sediment control and storm water management represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the 2011 Maryland Standard and Specifications for Soil Erosion and Sediment Control.

_____
(Engineer / Date)

DEVELOPER'S CERTIFICATION
I / We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that any responsible personnel involved in the construction project will have a certification of attendance at a Department of Natural Resources Approved Training Program for the control of sediment and erosion before beginning the project. I also authorize periodic onsite inspection by the Harford Soil Conservation District or their authorized agents, or as deemed necessary

_____
(Developer / Date)

EROSION AND SEDIMENT CONTROL
PLAN #:59858

RECOMENDED FOR APPROVAL:

_____
HARFORD COUNTY - D.P.W.

TECHNICAL CONCURRENCE:

_____
NRCS-NATURAL RESOURCES
CONSERVATION SERVICE

APPROVED:

_____
HARFORD SOIL CONSERVATION DISTRICT

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

McCORMICK TAYLOR

REVISIONS

REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION
EROSION AND SEDIMENT CONTROL
GENERAL NOTES SHEET

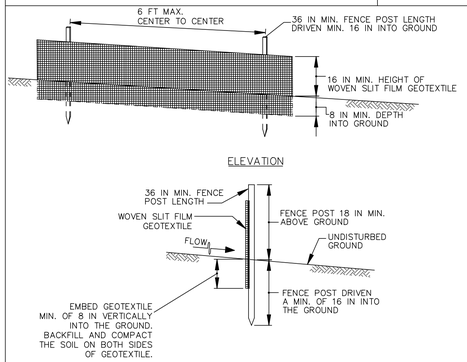
DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE	
DESIGNED BY KRM/JBS	SHEET 16 OF 51
DRAWN BY WJW	FWA JOB NUMBER

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

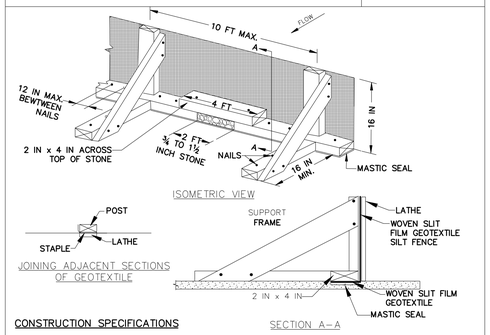
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-2 SILT FENCE ON PAVEMENT

STANDARD SYMBOL: SFOP



CONSTRUCTION SPECIFICATIONS

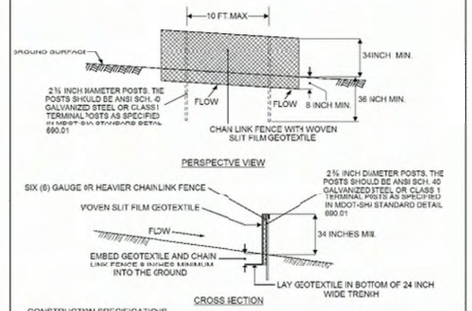
1. USE NOMINAL 2 INCH X 4 INCH LUMBER.
2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
3. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
4. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
5. PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
6. KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.
7. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
8. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
9. SECURE BOARDS TO PAVEMENT WITH 40D 5 INCH MINIMUM LENGTH NAILS.
10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2½ INCH DIAMETER GALVANIZED STEELPOSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 6 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2¾ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF THE CHAIN LNK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND. LAY THE GEOTEXTILEIN THE BOTTOM OF THE 24 INCH WIDE TRENCH.
4. WHERE ENDS OF THE GEOTEXILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BYPASS.
5. EXTEND BOTH ENDS OF THE SIPER SILT FENCE IPHILL A MINIMUMOF 3 VERTICAL FEET TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURERS CERTIFICATION TO TIE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETSTHE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF THE FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MODIFIED FOR USE IN BALTIMORE COUNTY

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	MODIFIED - 2012	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONTIDAL WETLAND, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.

4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO THE NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.

6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.

7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.

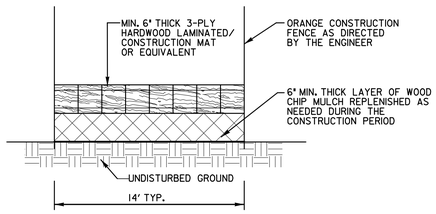
8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.

9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:

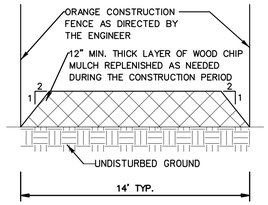
   USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.

10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.

11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.



SWAMP MAT/TIMBER MAT ACCESS PATH DETAIL
NOT TO SCALE



MULCH ACCESS PATH DETAIL
NOT TO SCALE

ACCESS PATH DETAIL NOTES:

1. MATS SHALL BE PLACED END TO END TO FORM A CONTINUOUS SPAN FOR THE ENTIRE LENGTH OF THE AREA TO BE PROTECTED.
2. MATS SHALL BE INSPECTED FREQUENTLY AND MAINTAINED OR REPLACED AS NECESSARY TO ENSURE THEIR PROPER FUNCTION.
3. INDIVIDUAL MATS SHALL BE SECURELY CONSTRUCTED WITH INDIVIDUAL COMPONENT LAYERS BOLTED, CABLED OR OTHERWISE SECURELY FASTENED. ACCESS ROUTES TO BE TO BE VERIFIED BY ENGINEER AT PRE-CONSTRUCTION MEETING. MINOR ADJUSTMENTS TO THE ALIGNMENT THAT MINIMIZES TREE DISTURBANCE ARE ENCOURAGED AND REQUIRE REVIEW AND APPROVAL BY THE ENGINEER AND THE SEDIMENT CONTROL INSPECTOR.
4. AS FIELD CONDITIONS WARRANT, ADDITIONAL WOOD CHIP MULCH (EXCEEDING THE MINIMUM 6") MAY BE REQUIRED AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR TO AVOID RUTTING OF THE SOIL SURFACE.
5. SWAMP MATS ARE REQUIRED WHEN CROSSING WETLANDS.
6. CONTRACTOR SHALL MAINTAIN MULCH MAT THROUGHOUT CONSTRUCTION PERIOD. UPON COMPLETION OF THE PROJECT, MULCH CAN REMAIN IN PLACE, BEING SPREAD THROUGHOUT THE SITE AT A MAXIMUM DEPTH OF 2". THE CONTRACTOR MUST ENSURE THAT THIS PROCESS IS DONE THROUGHOUT THE GRADING PROCESS, IN A MANNER WHICH ENSURES PROPOSED GRADES ARE MET AND MAINTAINED, WITHOUT DISTURBANCE TO FINAL SEEDING AND PLANTING OF THE SITE.
7. SCARIFICATION OF COMPACTED MULCH TO OCCUR UPON REMOVAL OF ACCESS PATH, AT DIRECTION OF THE ENGINEER. IF SOILS ARE EXPOSED AND RUTTED BELOW MULCH MATTING, CONTRACTOR TO ADDRESS ACCORDINGLY TO RESTORE NATURAL CONDITIONS. STABILIZE ALL EXPOSED SOIL WITH APPROPRIATE PERMANENT SEED MIX, AS DEFINED IN THE LANDSCAPE PLANS. SOIL STABILIZATION MATTING MAY BE REQUIRED AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR TO STABILIZE SLOPED AREAS.
8. THE ACCESS PATH IS DESIGNED TO PREVENT COMPACTION OF EXISTING SOILS USING LOW PRESSURE EQUIPMENT WHICH EXERTS NO MORE THAN 12 PSI. IF THE CONTRACTOR INTENDS TO USE ANY EQUIPMENT WITH HIGHER LOADS, ADDITIONAL PROTECTION MEASURES MUST BE PROVIDED, AT NO ADDITIONAL COST TO THE COUNTY, AND THOSE MEASURES MUST BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.

EROSION & SEDIMENT CONTROL LEGEND

- STABILIZED CONSTRUCTION ENTRANCE — SCE
- STAGING AND STOCKPILE AREA
- EXISTING 100 YEAR FLOODPLAIN
- PROPOSED 100 YEAR FLOODPLAIN
- WETLAND BOUNDARY
- 25' WETLAND BUFFER — B
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- WATERS OF THE U.S. — WUS
- LIMIT OF DISTURBANCE — LOD
- SAND BAG DIVERSION
- DIVERSION/PUMP AROUND HOSE
- SILT FENCE ON PAVMENT — SFOP
- SILT FENCE — SF
- SUPER SILT FENCE — SSF
- CLEAR WATER PUMP — CWP
- DEWATERING PUMP — DWP
- DEWATERING FILTER BAG — FB
- OUTFALL PROTECTION
- TREE PLANKING — P
- EXISTING TREE TO BE REMOVED
- MULCH ACCESS PATH
- TIMBER MAT ACCESS PATH
- SAME DAY STABILIZATION
- TEMPORARY ACCESS BRIDGE — TB

S/C PLAN #: 59858
GRADING PERMIT #: 2713-2020

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

REVISIONS

REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION

EROSION AND SEDIMENT CONTROL DETAILS

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

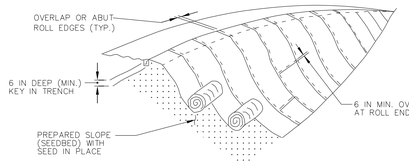
OFFICE OF WATERSHED
PROTECTION AND RESTORATION
1ST FLOOR 707 EAST BOND STREET
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE NOT TO SCALE	
DESIGNED BY KRM/JBS	SHEET 17 OF 51
DRAWN BY WJW	FWA JOB NUMBER

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL

TSSMS – 2 lb/ft²



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.

4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.

5. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

6. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.

7. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

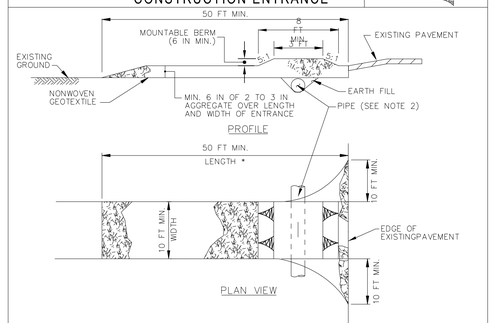
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL

SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.

3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.

4. WHERE SPECIFIED OR DIRECTED BY THE COUNTY PLACE A 6 INCH LAYER OF WOOD CHIP MULCH AS SUBBASE TO PROTECT TREE ROOTS.

5. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.

6. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction
DETAIL 1.2: PUMP-AROUND PRACTICE

DESCRIPTION

The work should consist of installing a temporary pump around and supporting measures to divert flow around instream construction sites.

IMPLEMENTATION SEQUENCE

Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to Detail 1.2):

1. Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.

2. The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.

3. The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.

4. Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.

5. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.

6. Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.

7. Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.

8. Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction.

9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross- sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.

10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.

11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.

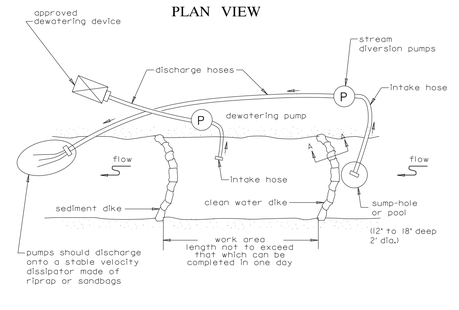
12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.

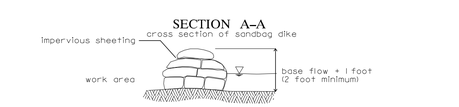
13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.

14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

TEMPORARY INSTREAM CONSTRUCTION MEASURES	*REVISED NOVEMBER 2000 PAGE 1.2 - 1.2*	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction
DETAIL 1.2: PUMP-AROUND PRACTICE





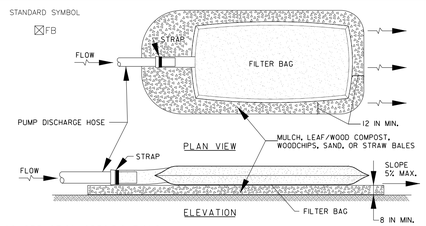
TEMPORARY INSTREAM CONSTRUCTION MEASURES	*REVISED NOVEMBER 2000 PAGE 1.2 - 3*	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-4 FILTER BAG (FB)

☒FB

STANDARD SYMBOL

☒FB



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.

2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.

3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS, AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.

4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.

5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D-4491
PERMITTIVITY (SEC⁻¹)	1.2 SEC⁻¹	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

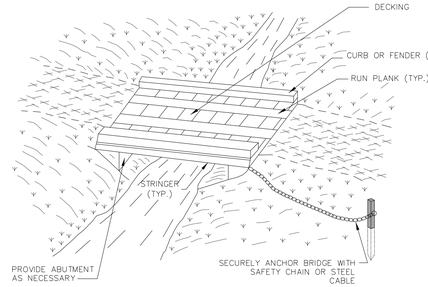
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-4-1 TEMPORARY ACCESS BRIDGE

STANDARD SYMBOL

TB



LOCATION PLAN

NOTE:
TIME OF YEAR RESTRICTIONS DO NOT APPLY TO THE CONSTRUCTION OR REMOVAL OF A TEMPORARY ACESS BRIDGE UNLESS THERE IS DISTURBANCE TO THE STREAM CHANNEL.

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-4-1 TEMPORARY ACCESS BRIDGE

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TEMPORARY BRIDGE STRUCTURE AT OR ABOVE THE BANK ELEVATION TO PREVENT IMPACTS FROM FLOATING MATERIALS AND DEBRIS.

2. PLACE ABUTMENTS PARALLEL TO, AND ON, STABLE BANKS.

3. CONSTRUCT BRIDGE TO SPAN ENTIRE CHANNEL UNLESS OTHERWISE INDICATED ON APPROVED PLAN.

4. USE STRINGERS CONSISTING OF LOGS, SAWN TIMBER, PRESTRESSED CONCRETE BEAMS, METAL BEAMS, OR OTHER APPROVED MATERIALS.

5. SELECT DECKING MATERIALS TO PROVIDE SUFFICIENT STRENGTH TO SUPPORT THE ANTICIPATED LOAD. PLACE ALL DECKING MEMBERS PERPENDICULAR TO THE STRINGERS, BUTT TIGHTLY, AND SECURELY FASTEN. DECKING MATERIALS MUST BE BUTTED TIGHTLY TO PREVENT ANY SOIL MATERIAL TRACKED ONTO THE BRIDGE FROM FALLING INTO THE WATERWAY BELOW.

6. SECURELY FASTEN OPTIONAL RUN PLANKING FOR THE LENGTH OF THE SPAN. PROVIDE A RUN PLANK FOR EACH TRACK OF THE EQUIPMENT WHEELS. ALTHOUGH RUN PLANKS ARE OPTIONAL, THEY MAY BE NECESSARY TO PROPERLY DISTRIBUTE LOADS.

7. INSTALL CURBS THE ENTIRE LENGTH OF THE OUTER SIDES OF THE DECK TO PREVENT SEDIMENT FROM ENTERING THE STREAM CHANNEL.

8. ANCHOR BRIDGE SECURELY AT ONLY ONE END USING STEEL CABLE OR CHAIN. ANCHORING AT ONLY ONE END WILL PREVENT CHANNEL OBSTRUCTION IN THE EVENT THAT FLOODWATERS FLOAT THE BRIDGE. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL POSTS. ANCHOR MUST BE SUFFICIENT TO PREVENT THE BRIDGE FROM FLOATING DOWNSTREAM.

9. AREAS DISTURBED DURING BRIDGE INSTALLATION AND\OR REMOVAL MUST NOT BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.

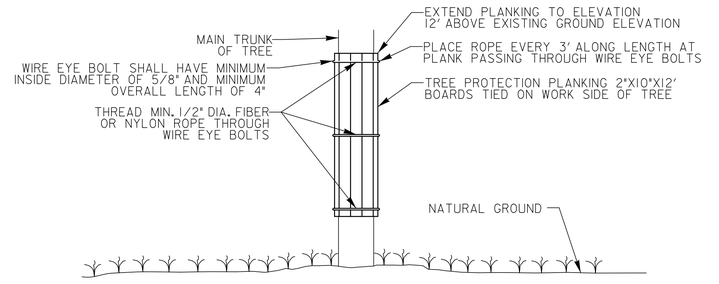
10. STABILIZE APPROACH TO BRIDGE AND KEEP FREE OF EROSION. CLEAN SEDIMENT FROM DECKING AND CURBS DAILY BY SCRAPING, SWEEPING, AND/OR VACUUMING. ENSURE THAT DECKING AND CURBS REMAIN TIGHTLY BUTTED WITHOUT GAPS. REMOVE DEBRIS TRAPPED BY BRIDGE. MAINTAIN AREAS ADJACENT TO CROSSING TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

11. AFTER THE TEMPORARY CROSSING IS NO LONGER NEEDED, REMOVE IT WITHIN 14 CALENDAR DAYS. IF SUBJECT TO THE USE DESIGNATION CLOSURE, REMOVE AT THE END OF CLOSURE PERIOD. PROTECT STREAM BANKS DURING BRIDGE REMOVAL AND STABILIZE ALL DISTURBED AREAS WITH EROSION CONTROL MATTING. ACCOMPLISH REMOVAL OF THE BRIDGE AND CLEAN UP OF THE AREA WITHOUT CONSTRUCTION EQUIPMENT WORKING IN THE WATERWAY CHANNEL. STORE ALL REMOVED MATERIALS IN AN APPROVED STAGING AREA.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



NOTES:

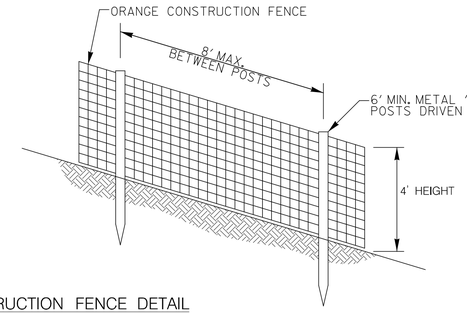
1. FOR TREE PROTECTION PLANKING, AS DIRECTED BY THE ENGINEER, TIE WITH 1/2" DIAMETER ROPE (FIBER OR NYLON), SUFFICIENT 2"X10"X12' BOARDS AROUND MAIN TRUNK OF TREE TO PROTECT ALL AREAS EXPOSED TO CONSTRUCTION. IN THE EVENT THAT 2"X10"X12' BOARDS ARE TOO LARGE FOR A TREE, 2"X10"X6', 2"X10"X8' OR 2"X10"X10' BOARDS MAY BE USED AS DIRECTED BY THE ENGINEER

TREE PROTECTION PLANKING DETAIL

NOT TO SCALE

NOTES:

1. PRACTICE MAY BE COMBINED WITH SEDIMENT CONTROL FENCING.
2. LOCATION AND LIMITS OF FENCING SHALL BE COORDINATED IN FIELD WITH ENGINEER.
3. BOUNDARIES OF PROTECTION AREA SHALL BE STAKED PRIOR TO INSTALLING PROTECTIVE DEVICE.
4. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
5. ROOT DAMAGE SHALL BE AVOIDED.
6. SECURE FENCING TO POSTS USING TENSION WIRE OR REINFORCED PLASTIC TIE OF GAUGE SUFFICIENT TO PREVENT TEARING OF FENCING FROM POSTS.



ORANGE CONSTRUCTION FENCE DETAIL

NOT TO SCALE

S/C PLAN #: 59858
GRADING PERMIT #: 2713-2020

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

REVISIONS

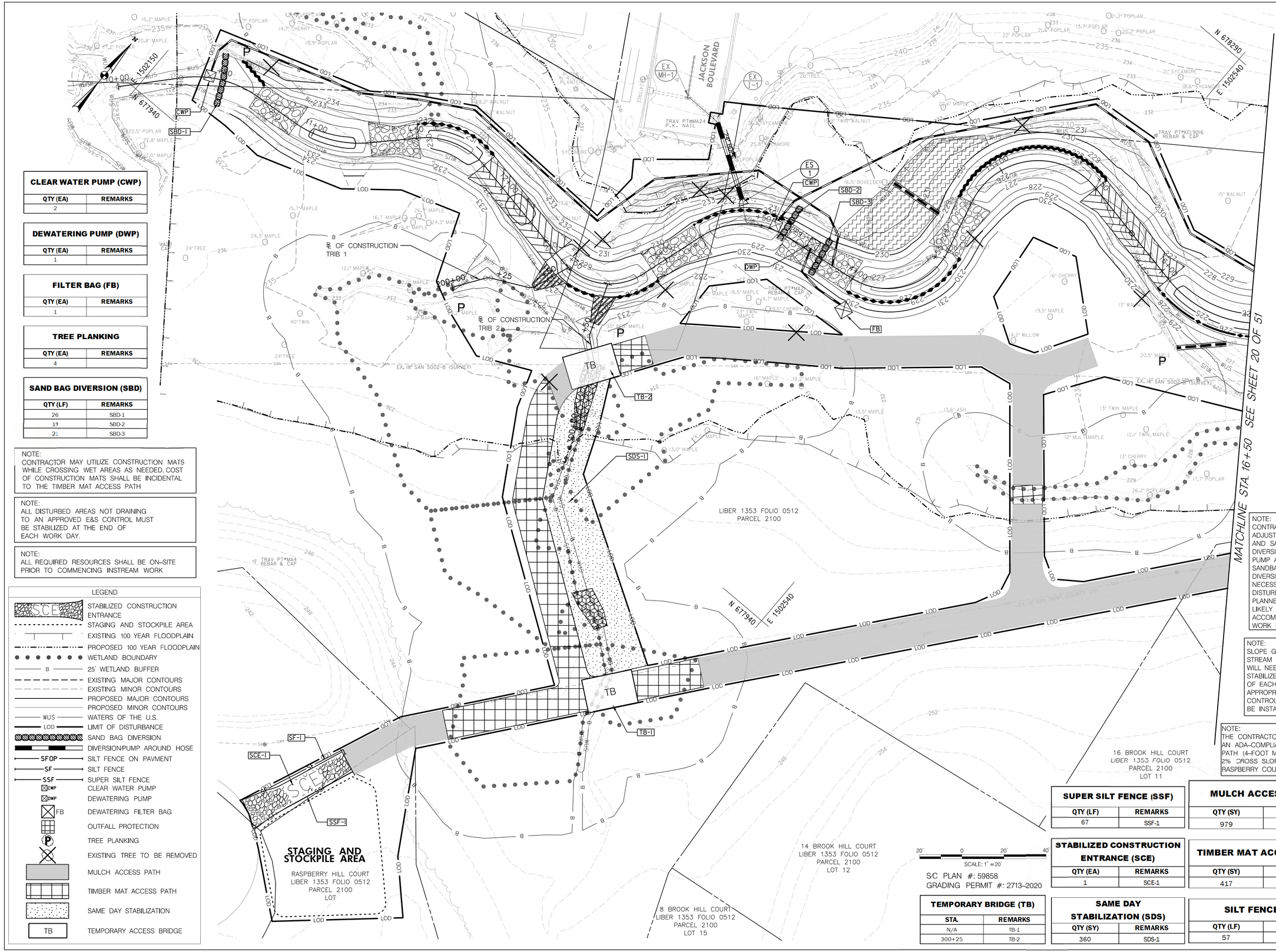
REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION
EROSION AND SEDIMENT CONTROL DETAILS

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF PUBLIC WORKS

OFFICE OF WATERSHED PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE NOT TO SCALE	SHEET 18 OF 51
DESIGNED BY KRM/JBS	
DRAWN BY WJW	FWA JOB NUMBER



CLEAR WATER PUMP (CWP)	
QTY (EA)	REMARKS
2	

DEWATERING PUMP (DWP)	
QTY (EA)	REMARKS
1	

FILTER BAG (FB)	
QTY (EA)	REMARKS
1	

TREE PLANKING	
QTY (EA)	REMARKS
4	

SAND BAG DIVERSION (SBD)	
QTY (LF)	REMARKS
26	SBD-1
19	SBD-2
21	SBD-3

NOTE:
CONTRACTOR MAY UTILIZE CONSTRUCTION MATS WHILE CROSSING WET AREAS AS NEEDED. COST OF CONSTRUCTION MATS SHALL BE INCIDENTAL TO THE TIMBER MAT ACCESS PATH

NOTE:
ALL DISTURBED AREAS NOT DRAINING TO AN APPROVED E&S CONTROL MUST BE STABILIZED AT THE END OF EACH WORK DAY.

NOTE:
ALL REQUIRED RESOURCES SHALL BE ON-SITE PRIOR TO COMMENCING INSTREAM WORK

LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- STAGING AND STOCKPILE AREA
- EXISTING 100 YEAR FLOODPLAIN
- PROPOSED 100 YEAR FLOODPLAIN
- WETLAND BOUNDARY
- B — 25' WETLAND BUFFER
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- WUS — WATERS OF THE U.S.
- LOD — LIMIT OF DISTURBANCE
- SAND BAG DIVERSION
- DIVERSION/PUMP AROUND HOSE
- SFOP — SILT FENCE ON PAVMENT
- SF — SILT FENCE
- SSF — SUPER SILT FENCE
- CWP — CLEAR WATER PUMP
- DWP — DEWATERING PUMP
- FB — DEWATERING FILTER BAG
- OUTFALL PROTECTION
- P — TREE PLANKING
- EXISTING TREE TO BE REMOVED
- MULCH ACCESS PATH
- TIMBER MAT ACCESS PATH
- SAME DAY STABILIZATION
- TB — TEMPORARY ACCESS BRIDGE

SUPER SILT FENCE (SSF)	
QTY (LF)	REMARKS
67	SSF-1

MULCH ACCESS PATH	
QTY (SY)	REMARKS
979	

STABILIZED CONSTRUCTION ENTRANCE (SCE)	
QTY (EA)	REMARKS
1	SCE-1

TIMBER MAT ACCESS PATH	
QTY (SY)	REMARKS
417	

TEMPORARY BRIDGE (TB)	
STA.	REMARKS
N/A	TB-1
300+25	TB-2

SAME DAY STABILIZATION (SDS)	
QTY (SY)	REMARKS
360	SDS-1

SILT FENCE (SF)	
QTY (LF)	REMARKS
57	SF-1

20' 0 20' 40'
SCALE: 1" = 20'

SC PLAN #: 59858
GRADING PERMIT #: 2713-2020

NOTE:
CONTRACTOR MAY ADJUST PUMP AROUND AND SANDBAG-STONE DIVERSION OR MAY ADD PUMP AROUND AND SANDBAG-STONE DIVERSION WHERE NECESSARY TO ISOLATE DISTURBED AREAS WHEN PLANNED WORK IS NOT LIKELY TO BE ACCOMPLISHED WITHIN WORK DAY.

NOTE:
SLOPE GRADING ABOVE STREAM CHANNELS WILL NEED TO BE STABILIZED AT THE END OF EACH DAY OR APPROPRIATE SEDIMENT CONTROLS WILL NEED TO BE INSTALLED.

NOTE:
THE CONTRACTOR SHALL MAINTAIN AN ADA-COMPLIANT TRAVERSABLE PATH (4-FOOT MINIMUM WIDTH, 2% CROSS SLOPE) ALONG RASPBERRY COURT AT ALL TIMES.

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

REVISIONS

REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION
EROSION AND SEDIMENT CONTROL PLAN

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF PUBLIC WORKS
OFFICE OF WATERSHED PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE	DRAWING NO.
09-01-20	
SCALE	
1" = 20'	
DESIGNED BY	SHEET 19 OF 51
KRM/JBS	
DRAWN BY	FWA JOB NUMBER
WJW	

FILTER BAG (FB)	
QTY (EA)	REMARKS
2	

PUMP DISCHARGE OUTFALL PROTECTION (OP)	
QTY (EA)	REMARKS
1	

CLEAR WATER PUMP (CWP)	
QTY (EA)	REMARKS
2	

DEWATERING PUMP (DWP)	
QTY (EA)	REMARKS
2	

MULCH ACCESS PATH	
QTY (SY)	REMARKS
728	

TIMBER MAT ACCESS PATH	
QTY (SY)	REMARKS
39	

TEMPORARY BRIDGE (TB)	
STA.	REMARKS
19+95	TB-3
20+25	TB-4
21+80	TB-5

SILT FENCE (SF)	
QTY (LF)	REMARKS
83	SF-2

NOTE:
CONTRACTOR MAY ADJUST PUMP AROUND AND SANDBAG–STONE DIVERSION OR MAY ADD PUMP AROUND AND SANDBAG–STONE DIVERSION WHERE NECESSARY TO ISOLATE DISTURBED AREAS WHEN PLANNED WORK IS NOT LIKELY TO BE ACCOMPLISHED WITHIN WORK DAY.

NOTE:
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NOTE:
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TREE PLANKING	
QTY (EA)	REMARKS
2	

SAND BAG DIVERSION (SBD)	
QTY (LF)	REMARKS
18	SBD-4
18	SBD-5
10	SBD-6
16	SBD-7

MATCHLINE STA. 18+50 SEE SHEET 19 OF 51

MATCHLINE STA. 23+50 SEE SHEET 21 OF 51

LIBER 1353 FOLIO 0512
PARCEL 2100

902 FALLEN STONE COURT
LIBER 3848 FOLIO 0120
PARCEL 0284
LOT 53

404 SUNNY VIEW ROAD
LIBER 3335 FOLIO 0212
LOT 139
PARCEL 0299

18 BROOK HILL COURT
LIBER 1353 FOLIO 0512
PARCEL 2100
LOT 10

17 BROOK HILL COURT
LIBER 3585 FOLIO 0260
PARCEL 2100

804 PINE RIDGE COURT
LIBER 1590 FOLIO 0001
PARCEL 0301
LOT 135

BROOKHILL COURT

EXISTING GABION CONVEYANCE

E 1502800
N 678480

E 1503080
N 678480

20' DRAINAGE EASEMENT

CWP SBD-4 SBD-5 DWP FB CWP SBD-6 SF-2 TB-4 TB TB-3 TB-5 SBD-7 OP FB DWP

LIMIT OF CONSTRUCTION MAINSTEM

SCALE: 1" = 20'

LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- STAGING AND STOCKPILE AREA
- EXISTING 100 YEAR FLOODPLAIN
- PROPOSED 100 YEAR FLOODPLAIN
- WETLAND BOUNDARY
- 25' WETLAND BUFFER
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- WATERS OF THE U.S.
- LIMIT OF DISTURBANCE
- SAND BAG DIVERSION
- DIVERSION/PUMP AROUND HOSE
- SILT FENCE ON PAVEMENT
- SILT FENCE
- SUPER SILT FENCE
- CLEAR WATER PUMP
- DEWATERING PUMP
- DEWATERING FILTER BAG
- OUTFALL PROTECTION
- TREE PLANKING
- EXISTING TREE TO BE REMOVED
- MULCH ACCESS PATH
- TIMBER MAT ACCESS PATH
- SAME DAY STABILIZATION
- TEMPORARY ACCESS BRIDGE

SC PLAN #: 59858
GRADING PERMIT #: 2713–2020

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

REVISIONS		
REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION

EROSION AND SEDIMENT CONTROL PLAN

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF PUBLIC WORKS

OFFICE OF WATERSHED PROTECTION AND RESTORATION
220 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE	DRAWING NO.
09-01-20	
SCALE	
1" = 20'	
DESIGNED BY	SHEET 20 OF 51
KRM/JBS	
DRAWN BY	FWA JOB NUMBER
WJW	

NOTE:
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NOTE:
INSTALL R11–4 (ROAD CLOSED TO THRU TRAFFIC) SIGNS MOUNTED ON TYPE III BARRICADES AT BOTH ENDS OF SUNNY VIEW ROAD.

NOTE:
THE CONTRACTOR SHALL MAINTAIN AN ADA–COMPLIANT TRAVERSABLE PATH (4–FOOT MINIMUM WIDTH, 2% CROSS SLOPE) ALONG SUNNY VIEW ROAD AT ALL TIMES.

NOTE:
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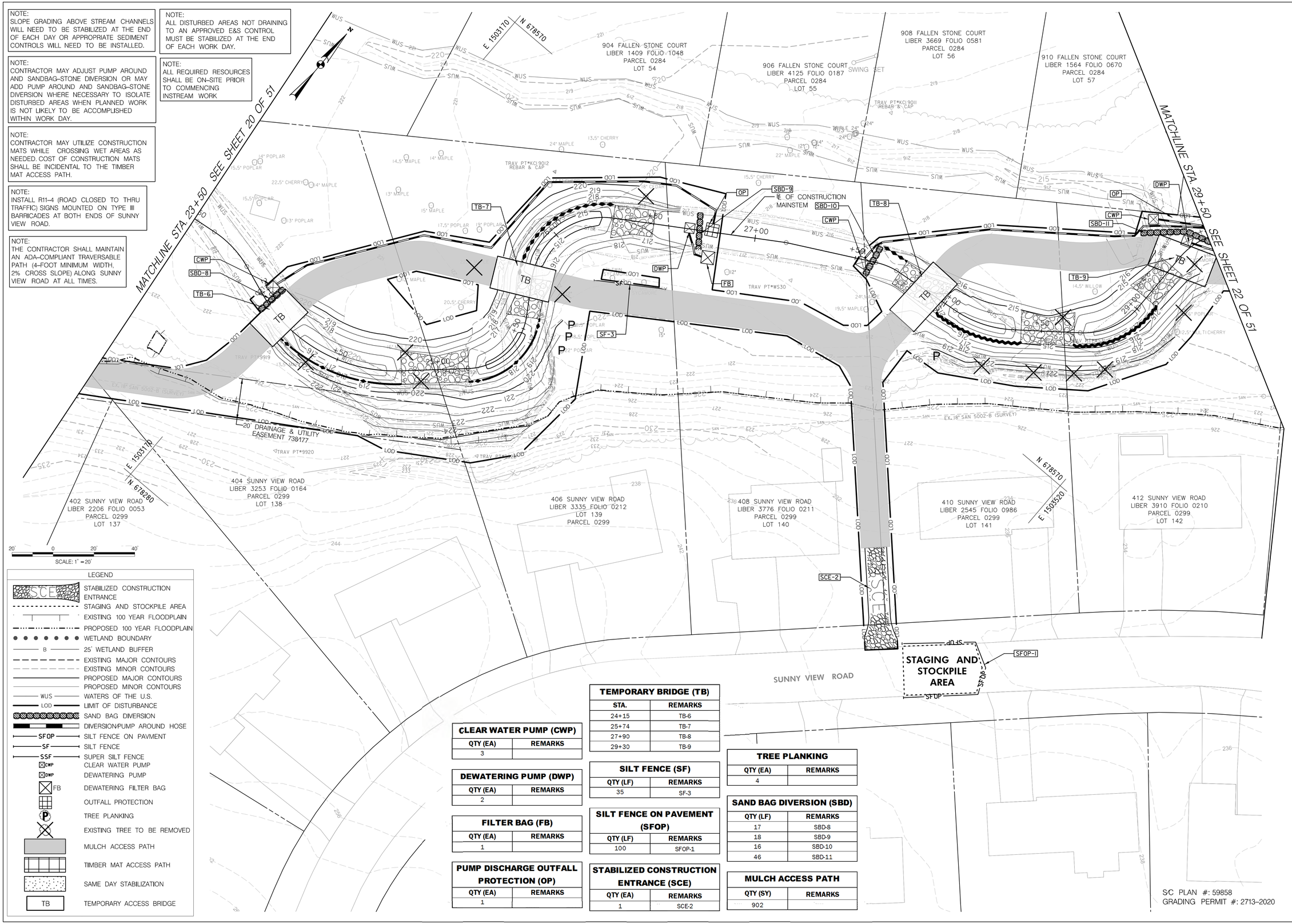

LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- STAGING AND STOCKPILE AREA
- EXISTING 100 YEAR FLOODPLAIN
- PROPOSED 100 YEAR FLOODPLAIN
- WETLAND BOUNDARY
- 25' WETLAND BUFFER
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- TREE PLANKING
- EXISTING TREE TO BE REMOVED
- MULCH ACCESS PATH
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- SAME DAY STABILIZATION
- TEMPORARY ACCESS BRIDGE

TEMPORARY BRIDGE (TB)

STA.	REMARKS
24+15	TB-6
25+74	TB-7
27+90	TB-8
29+30	TB-9

CLEAR WATER PUMP (CWP)

QTY (EA)	REMARKS
3	

DEWATERING PUMP (DWP)

QTY (EA)	REMARKS
2	

FILTER BAG (FB)

QTY (EA)	REMARKS
1	

PUMP DISCHARGE OUTFALL PROTECTION (OP)

QTY (EA)	REMARKS
1	

SILT FENCE (SF)

QTY (LF)	REMARKS
35	SF-3

SILT FENCE ON PAVEMENT (SFOP)

QTY (LF)	REMARKS
100	SFOP-1

STABILIZED CONSTRUCTION ENTRANCE (SCE)

QTY (EA)	REMARKS
1	SCE-2

TREE PLANKING

QTY (EA)	REMARKS
4	

SAND BAG DIVERSION (SBD)

QTY (LF)	REMARKS
17	SBD-8
18	SBD-9
16	SBD-10
46	SBD-11

MULCH ACCESS PATH

QTY (SY)	REMARKS
902	

S/C PLAN #: 59858
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SUNNY VIEW ROAD
STREAM REHABILITATION

EROSION AND SEDIMENT CONTROL PLAN

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 S. BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE 1" = 20'	
DESIGNED BY KRM/JBS	SHEET 21 OF 51
DRAWN BY WJW	FWA JOB NUMBER

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20' 0 20' 40'
SCALE: 1" = 20'

LEGEND

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- TIMBER MAT ACCESS PATH
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- TB — TEMPORARY ACCESS BRIDGE

CLEAR WATER PUMP (CWP)

QTY (EA)	REMARKS
1	

DEWATERING PUMP (DWP)

QTY (EA)	REMARKS
1	

FILTER BAG (FB)

QTY (EA)	REMARKS
2	

PUMP DISCHARGE OUTFALL PROTECTION (OP)

QTY (EA)	REMARKS
2	

TREE PLANKING

QTY (EA)	REMARKS
1	

SAND BAG DIVERSION (SBD)

QTY (LF)	REMARKS
46	SBD-11 (CONT'D)
22	SBD-12
24	SBD-13

MULCH ACCESS PATH

QTY (SY)	REMARKS
305	

SILT FENCE (SF)

QTY (LF)	REMARKS
39	SF-4

STABILIZED CONSTRUCTION ENTRANCE (SCE)

QTY (EA)	REMARKS
1	SCE-3

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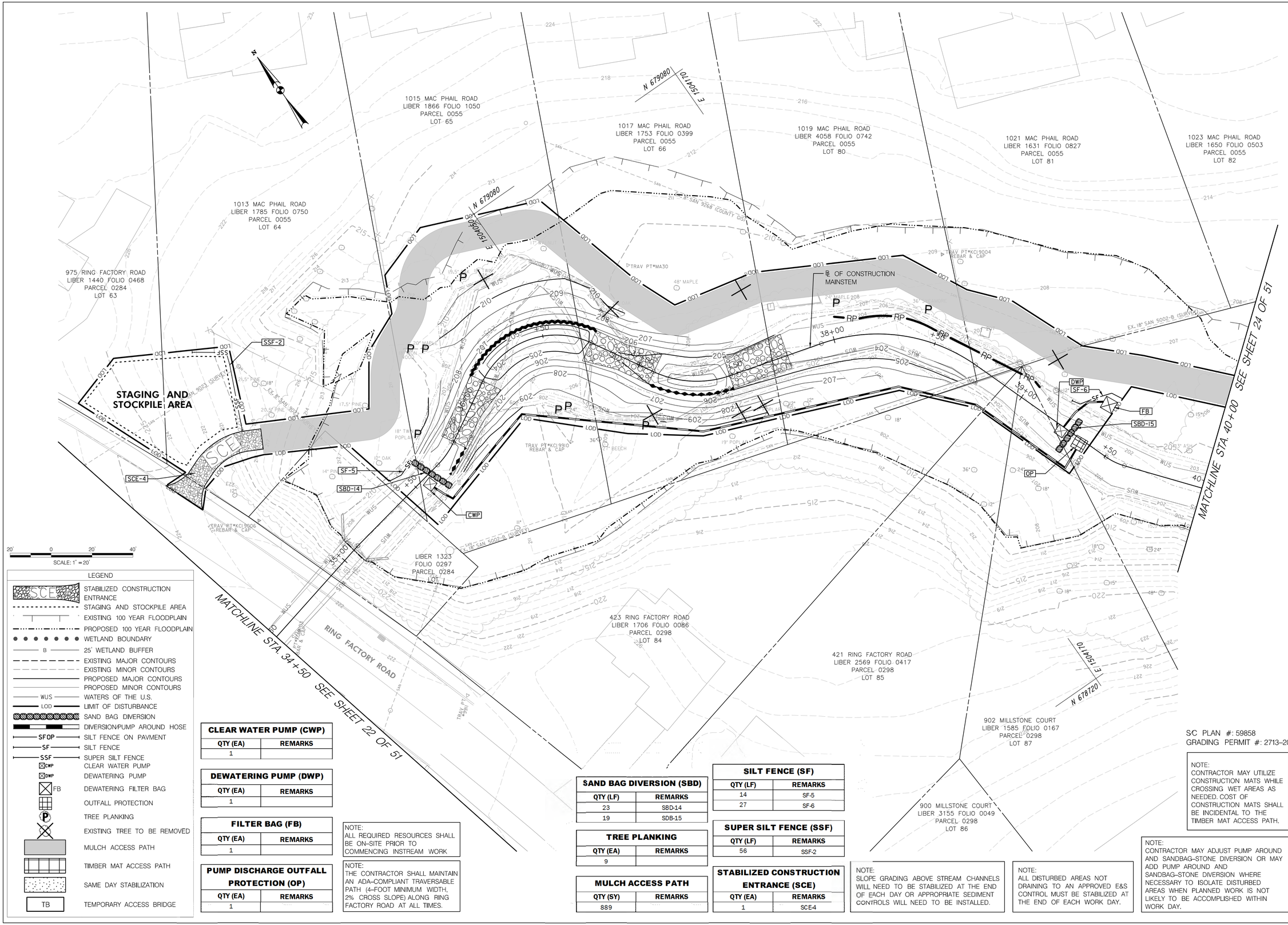

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CLEAR WATER PUMP (CWP)	
QTY (EA)	REMARKS
1	

DEWATERING PUMP (DWP)	
QTY (EA)	REMARKS
1	

FILTER BAG (FB)	
QTY (EA)	REMARKS
1	

PUMP DISCHARGE OUTFALL PROTECTION (OP)	
QTY (EA)	REMARKS
1	

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SAND BAG DIVERSION (SBD)	
QTY (LF)	REMARKS
23	SBD-14
19	SDB-15

TREE PLANKING	
QTY (EA)	REMARKS
9	

MULCH ACCESS PATH	
QTY (SY)	REMARKS
889	

SILT FENCE (SF)	
QTY (LF)	REMARKS
14	SF-5
27	SF-6

SUPER SILT FENCE (SSF)	
QTY (LF)	REMARKS
56	SSF-2

STABILIZED CONSTRUCTION ENTRANCE (SCE)	
QTY (EA)	REMARKS
1	SCE-4

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SUNNY VIEW ROAD
STREAM REHABILITATION

EROSION AND SEDIMENT CONTROL PLAN

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF PUBLIC WORKS

OFFICE OF WATERSHED PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

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09-01-20	
SCALE	
1" = 20'	
DESIGNED BY	SHEET 23 OF 51
KRM/JBS	
DRAWN BY	FWA JOB NUMBER
WJW	

MATCHLINE STA. 40+00 SEE SHEET 23 OF 51

904 MILLSTONE COURT
LIBER 2801 FOLIO 0304
PARCEL 0298
LOT 88

906 MILLSTONE COURT
LIBER 2218 FOLIO 0359
PARCEL 0298
LOT 89

908 MILLSTONE COURT
LIBER 4941 FOLIO 0559
PARCEL 0298
LOT 90

1023 MAC PHAIL ROAD
LIBER 1650 FOLIO 0503
PARCEL 0055
LOT 82

1025 MAC PHAIL ROAD
LIBER 3805 FOLIO 0107
PARCEL 0055
LOT 83

910 MILLSTONE COURT
LIBER 1588 FOLIO 1099
PARCEL 0298
LOT 91

LIBER 0992 FOLIO 0900
PARCEL 0057
LOT

LIBER 3919 FOLIO 0166
PARCEL 0227
LOT

MACPHAIL ROAD

E 1504460
N 678870

E 1504460
N 678590

N 678870
E 1504820

SBD-16
CWP
SF-7
DWP
SBD-17
FB
OP
SBD-18
SBD-19

+50
41+00
42+00
43+00
44+00

TRAV PT*KCL9002
REBAR & CAP

EX. 24" SAN SEWER (AS-BUILT)

EX. 8" SAN SEWER (AS-BUILT)

EX. 12" SAN SEWER (AS-BUILT)

18" CMP

℄ OF CONSTRUCTION
MAINSTEM

20' 0 20' 40'
SCALE: 1" = 20'

LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- STAGING AND STOCKPILE AREA
- EXISTING 100 YEAR FLOODPLAIN
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SAND BAG DIVERSION (SBD)

QTY (LF)	REMARKS
23	SBD-16
46	SBD-17
47	SBD-18
23	SBD-19

MULCH ACCESS PATH

QTY (SY)	REMARKS
527	

SILT FENCE (SF)

QTY (LF)	REMARKS
25	SF-7

CLEAR WATER PUMP (CWP)

QTY (EA)	REMARKS
2	

DEWATERING PUMP (DWP)

QTY (EA)	REMARKS
2	

FILTER BAG (FB)

QTY (EA)	REMARKS
2	

PUMP DISCHARGE OUTFALL PROTECTION (OP)

QTY (EA)	REMARKS
2	

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09-01-20	
SCALE	
1" = 20'	
DESIGNED BY	
KRM/JBS	SHEET 24 OF 51
DRAWN BY	FWA JOB NUMBER
WJW	

Planting Schedule

Zone	Quantity	Botanical Name	Common Name	Wetland Status	Size	Root	Comment
Live Stake	1522	*Cornus amomum*	Silky Dogwood	FACW	3' MIN. LENGTH	Live Stake	Varies. See Details
Live Stake	1522	*Salix nigra*	Black Willow	OBL	3' MIN. LENGTH	Live Stake	Varies. See Details
Live Stake	1522	*Platanus occidentalis*	American Sycamore	FACW	3' MIN. LENGTH	Live Stake	Varies. See Details
Riparian Tree & Shrub	175	*Quercus bicolor*	Swamp White Oak	FACW	6' HT MIN.; 1" CAL. MIN.	7 GAL. CONT.	Plant 12' O.C.
Riparian Tree & Shrub	175	*Populus deltoides*	Eastern Cottonwood	FAC	6' HT MIN.; 1" CAL. MIN.	7 GAL. CONT.	Plant 12' O.C.
Riparian Tree & Shrub	175	*Platanus occidentalis*	American Sycamore	FACW	6' HT MIN.; 1" CAL. MIN.	7 GAL. CONT.	Plant 12' O.C.
Riparian Tree & Shrub	175	*Carpinus carolinana*	American Hornbeam	FAC	6' HT MIN.; 1" CAL. MIN.	7 GAL. CONT.	Plant 12' O.C.
Riparian Tree & Shrub	118	*Viburnum dentatum*	Southern Arrowwood	FAC	2'-3' HT, 4 Canes MIN.	3 GAL. CONT.	Plant 8' O.C.
Riparian Tree & Shrub	118	*Hamamelis virginiana*	American Witchhazel	FACU	2'-3' HT, 4 Canes MIN.	3 GAL. CONT.	Plant 8' O.C.
Riparian Tree & Shrub	118	*Photinia melanocapra*	Black Chokeberry	FAC	2'-3' HT, 4 Canes MIN.	3 GAL. CONT.	Plant 8' O.C.
Riparian Tree & Shrub	118	*Ilex opaca*	American Holly	FACU	2'-3' HT, 4 Canes MIN.	3 GAL. CONT.	Plant 8' O.C.
Floodplain	13	*Betula nigra*	River Birch	FACW	6' HT MIN.; 1" CAL. MIN.	7 GAL. CONT.	Plant 12' O.C.
Floodplain	13	*Quercus palustris*	Pin Oak	FACW	6' HT MIN.; 1" CAL. MIN.	7 GAL. CONT.	Plant 12' O.C.
Floodplain	13	*Platanus occidentalis*	American Sycamore	FACW	6' HT MIN.; 1" CAL. MIN.	7 GAL. CONT.	Plant 12' O.C.
Floodplain	13	*Asimina triloba*	Common Pawpaw	FAC	6' HT MIN.; 1" CAL. MIN.	7 GAL. CONT.	Plant 12' O.C.
Floodplain	12	*Viburnum dentatum*	Southern Arrowwood	FAC	2'-3' HT, 4 Canes MIN.	3 GAL. CONT.	Plant 8' O.C.
Floodplain	12	*Sambucus nigra*	American Black Elderberry	FAC	2'-3' HT, 4 Canes MIN.	3 GAL. CONT.	Plant 8' O.C.
Floodplain	12	*Cornus sericea*	Red osier dogwood	FACW	2'-3' HT, 4 Canes MIN.	3 GAL. CONT.	Plant 8' O.C.
Wetland	9	*Betula nigra*	River Birch	FACW	6' HT MIN.; 1" CAL. MIN.	7 GAL. CONT.	Plant 12' O.C.
Wetland	9	*Quercus michauxii*	Swamp Chestnut Oak	FACW	6' HT MIN.; 1" CAL. MIN.	7 GAL. CONT.	Plant 12' O.C.
Wetland	9	*Magnolia virginiana*	Sweetbay	FACW	6' HT MIN.; 1" CAL. MIN.	7 GAL. CONT.	Plant 12' O.C.
Wetland	7	*Ilex verticillata*	Common Winterberry	FACW	2'-3' HT, 4 Canes MIN.	3 GAL. CONT.	Plant 8' O.C.
Wetland	7	*Cornus amomum*	Silky Dogwood	FACW	2'-3' HT, 4 Canes MIN.	3 GAL. CONT.	Plant 8' O.C.
Wetland	7	*Rhododendron viscosum*	Swamp Azalea	FACW	2'-3' HT, 4 Canes MIN.	3 GAL. CONT.	Plant 8' O.C.

RIPARIAN SEED MIX SCHEDULE

ZONE	BOTANICAL NAME	COMMON NAME	WETLAND STATUS	PERCENT MIX	TOTAL MIX (LBS)
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Panicum clandestinum*	Deertongue	FAC	30	44.25
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Elymus virginicus*	Virginia Wildrye	FACW	20	29.50
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Andropogon gerardii*	Big Bluestem	FAC	11.8	17.41
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Sorghastrum nutans*	Indiangrass	FACU	10.5	15.49
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Panicum virgatum*	Switchgrass	FAC	5	7.38
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Chamaecrista fasciculata*	Partridge Pea	FACU	4	5.90
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Verbena hastata*	Blue Vervain	FACW	4	5.90
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Juncus effusus*	Soft Rush	FACW	3	4.43
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Rudbeckia hirta*	Blackeyed Susan	FACU	3	4.43
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Heliopsis helianthoides*	Oxeye Sunflower	FACU	2	2.95
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Asclepias incarnata*	Swamp Milkweed	OBL	1	1.48
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Aster novae-angliae*	New England Aster	FACW	0.7	1.03
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Aster umbellatus*	Flat Topped White Aster	FACW	0.7	1.03
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Eupatorium perfoliatum*	Boneset	FACW	0.7	1.03
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Agrostis perennans*	Autumn Bentgrass	FACU	0.5	0.74
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Helenium autumnale*	Common Sneezeweed	FACW	0.5	0.74
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Monarda fistulosa*	Wild Bergmot	UPL	0.5	0.74
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Vernonia noveboracensis*	New York Ironweed	FACW	0.5	0.74
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Pycnanthemum tenuifolium*	Narrowleaf Mountainmint	FACW	0.4	0.59
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Solidago patula*	Roughleaf Goldenrod	OBL	0.4	0.59
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Eupatorium fistulosum*	Joe Pye Weed	FACW	0.3	0.44
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Lobelia siphilitica*	Great Blue Lobelia	FACW	0.3	0.44
RIPARIAN TREE AND SHRUB, RIPARIAN SEED MIX	*Aster puniceus*	Purplestem Aster	OBL	0.2	0.30
Total				100	147.5

* SEED SOWING RATE TO BE APPLIED AT 50 LBS/AC

WETLAND SEED MIX SCHEDULE

ZONE	BOTANICAL NAME	COMMON NAME	WETLAND STATUS	PERCENT MIX	TOTAL MIX (LBS)
LIVE STAKE, FLOODPLAIN, WETLAND	*Carex vulpinoidea*	Fox Sedge	OBL	33.2	12.65
LIVE STAKE, FLOODPLAIN, WETLAND	*Elymus virginicus*	Virginia Wildrye	FACW	20	7.62
LIVE STAKE, FLOODPLAIN, WETLAND	*Carex lupulina*	Hop Sedge	OBL	8	3.05
LIVE STAKE, FLOODPLAIN, WETLAND	*Carex lurida*	Lurid (Shallow) Sedge	OBL	8	3.05
LIVE STAKE, FLOODPLAIN, WETLAND	*Carex scoparia*	Blunt Broom Sedge	FACW	8	3.05
LIVE STAKE, FLOODPLAIN, WETLAND	*Verbena hastata*	Swamp Verbena	FACW	4	1.52
LIVE STAKE, FLOODPLAIN, WETLAND	*Cinna arundinacea*	Wood Reedgrass	FACW	3	1.14
LIVE STAKE, FLOODPLAIN, WETLAND	*Juncus effusus*	Soft Rush	FACW	3	1.14
LIVE STAKE, FLOODPLAIN, WETLAND	*Asclepias incarnata*	Swamp Milkweed	OBL	2.5	0.95
LIVE STAKE, FLOODPLAIN, WETLAND	*Heliopsis helianthoides*	Oxeye Sunflower	FACU	2	0.76
LIVE STAKE, FLOODPLAIN, WETLAND	*Aster puniceus*	Purplestem Aster	OBL	1.2	0.46
LIVE STAKE, FLOODPLAIN, WETLAND	*Aster umbellatus*	Flat Topped White Aster	FACW	1.2	0.46
LIVE STAKE, FLOODPLAIN, WETLAND	*Eupatorium perfoliatum*	Boneset	FACW	1	0.38
LIVE STAKE, FLOODPLAIN, WETLAND	*Helenium autumnale*	Common Sneezeweed	FACW	1	0.38
LIVE STAKE, FLOODPLAIN, WETLAND	*Aster novae-angliae*	New England Aster	FACW	0.6	0.23
LIVE STAKE, FLOODPLAIN, WETLAND	*Alisma subcordatum*	Mud Plantain	OBL	0.5	0.19
LIVE STAKE, FLOODPLAIN, WETLAND	*Lobelia siphilitica*	Great Blue Lobelia	FACW	0.5	0.19
LIVE STAKE, FLOODPLAIN, WETLAND	*Penthorum sedoides*	Ditch Stonecrop	OBL	0.5	0.19
LIVE STAKE, FLOODPLAIN, WETLAND	*Scirpus atrovirens*	Green Bulrush	OBL	0.5	0.19
LIVE STAKE, FLOODPLAIN, WETLAND	*Scirpus cyperinus*	Woolgrass	FACW	0.5	0.19
LIVE STAKE, FLOODPLAIN, WETLAND	*Eupatorium fistulosum*	Joe Pye Weed	FACW	0.3	0.11
LIVE STAKE, FLOODPLAIN, WETLAND	*Onoclea sensibilis*	Sensitive Fern	FACW	0.3	0.11
LIVE STAKE, FLOODPLAIN, WETLAND	*Chelone glabra*	Turtlehead	OBL	0.1	0.04
LIVE STAKE, FLOODPLAIN, WETLAND	*Mimulus ringens*	Square Stemmed Monkeyflower	OBL	0.1	0.04
Total				100	38.1

* SEED SOWING RATE TO BE APPLIED AT 50 LBS/AC

TURFGRASS ESTABLISHMENT SCHEDULE

ZONE	QUANTITY (SY)	REMARKS
TURFGRASS	1,638	TURF ESTABLISHMENT (SEED)

* SEED SOWING RATE TO BE APPLIED AT 200 LBS/AC

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

McCORMICK TAYLOR

REVISIONS

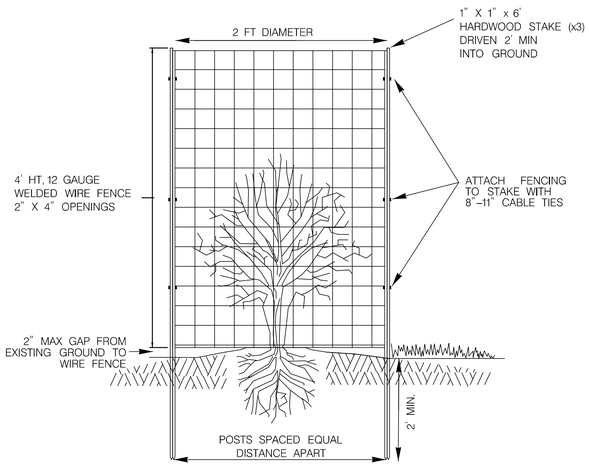
REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION
LANDSCAPE DETAIL SHEET

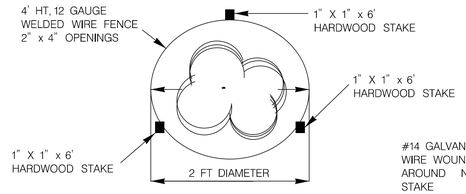
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
1ST FLOOR 2SOUTH BOND STREET
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 12-11-19	DRAWING NO.
SCALE NOT TO SCALE	
DESIGNED BY KRM/JBS	SHEET 25 OF 51
DRAWN BY WJW	FWA JOB NUMBER

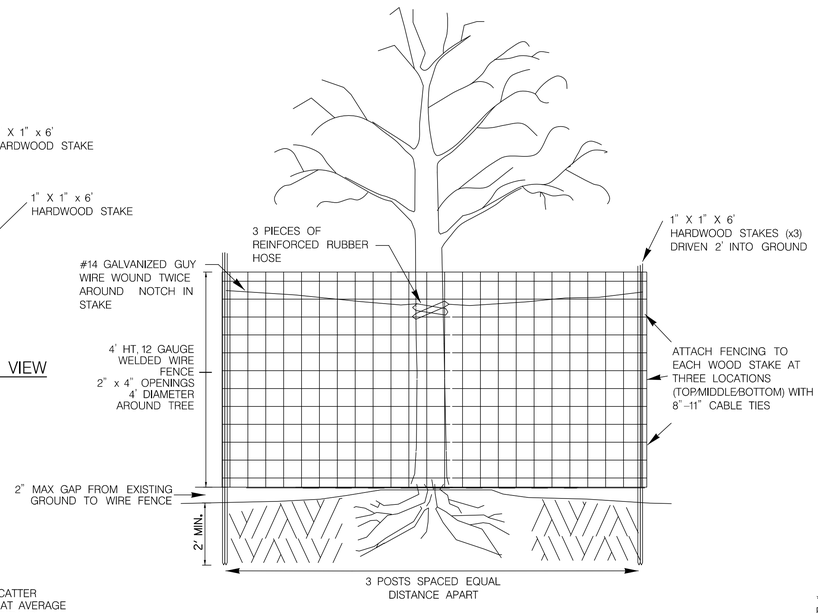


DEER PROTECTION DETAIL – SHRUB SECTION VIEW
NOT TO SCALE

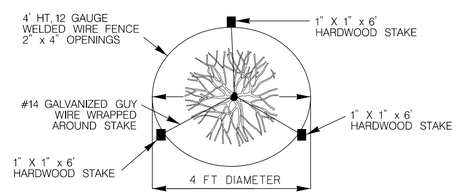


DEER PROTECTION – SHRUB TOP VIEW
NOT TO SCALE

NOTE:
1. INSTALL DEER PROTECTION ON ALL SHRUBS

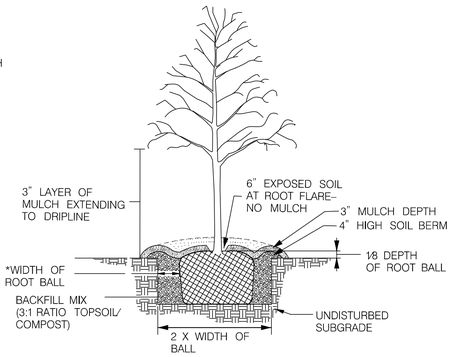


DEER PROTECTION DETAIL – TREE SECTION VIEW
NOT TO SCALE



DEER PROTECTION – TREE TOP VIEW
NOT TO SCALE

NOTE:
1. INSTALL DEER PROTECTION ON ALL TREES



DECIDUOUS TREE PLANTING DETAIL
CONTAINER GROWN
(NOT TO SCALE)

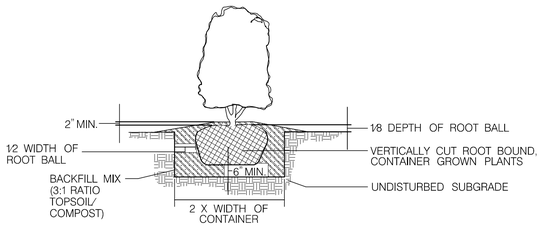
NOTE:
1. ALL TREES SHALL HAVE A MINIMUM OF TWO BRANCHES OF GROWTH AT TIME OF PLANTING

2. ONLY TREES WITH SINGLE LEADER ARE ACCEPTABLE (UNLESS THE NORMAL FORM IS MULTISTEM)

3. ACCOUNT FOR LOCATION OF EXISITNG TREES IN PLANT SPACING

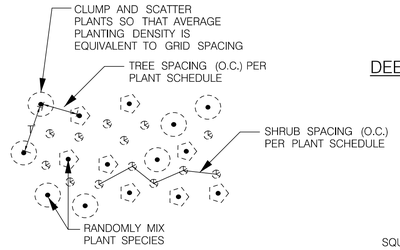
4. DO NOT PLANT TREES WITHIN 15' OF OVERHEAD UTILITIES

5. DO NOT PLANT TREES WITHIN 10' OF SEWERLINE



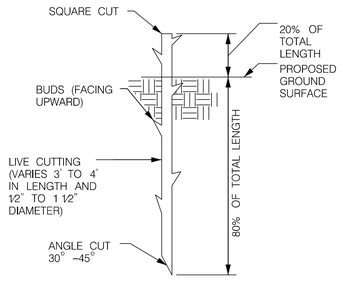
SHRUB PLANTING DETAIL
CONTAINER GROWN
(NOT TO SCALE)

NOTE:
1. ALL SHRUBS SHALL HAVE A MINIMUM OF TWO BRANCHES GROWTH AT TIME OF PLANTING



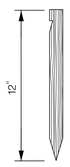
RANDOM PLANTING PATTERN
NOT TO SCALE

NOTES:
PLANTING IS TO MIMIC NATURAL SEED DISPERSAL. OFFSET PLANTS TO AVOID STRAIGHT ROWS



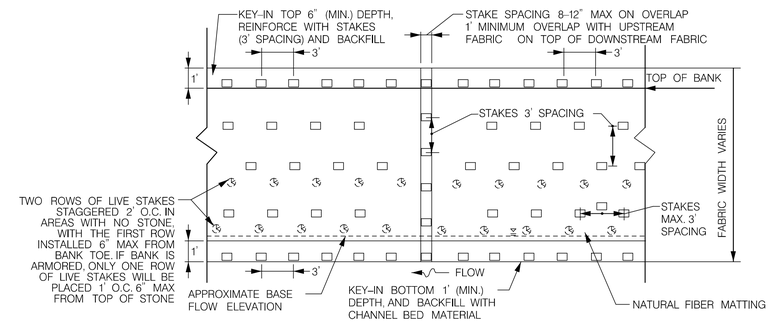
LIVE STAKE
NOT TO SCALE

NOTES:
1. LIVE STAKES INSTALLED A MAXIMUM OF 2' VERTICALLY FROM TOE OF BANK. WHERE BANK IS ARMORED WITH STONE, ONLY ONE ROW OF STAKES INSTALLED AT 1' O.C.
2. LIVE STAKES MUST BE INSTALLED WHILE DORMANT (LATE FALL TO EARLY SPRING). DO NOT ALLOW THEM TO DRY OUT.



1" X 2" NOTCHED WOOD GRADE STAKE OR EQUIVALENT

ANCHOR STAKE
NOT TO SCALE



NATURAL FIBER MATTING – PLAN VIEW
NOT TO SCALE

USE NEDIA KOIR MAT 700 TYPE MATTING, ECO MESH CM 700, GEOCOIR DEKOWE 900 TYPE MATTING, OR AN EQUIVALENT MATTING CONSISTING OF MACHINE PRODUCED MATTING MEETING THE FOLLOWING MINIMUM SPECIFICATIONS.

MATERIAL	WOVEN COIR MATTING
THICKNESS	0.3 IN.
WEIGHT	20 OZ/SY
WATER VELOCITY	12 FT/SEC
OPEN AREA	50%

GENERAL NOTES:

1. NURSERY GROWN PLANT MATERIAL SHOULD MEET OR EXCEED THE REQUIREMENTS OF THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION'S (A.N.L.A.) LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1) FOR SPECIFICATIONS, PARTICULARLY REGARDING THE SIZE, GROWTH, SIZE OF THE ROOT BALL, AND FORM & DENSITY OF BRANCH STRUCTURE.

2. PLANT MATERIAL SHALL BE INSPECTED TO DISPLAY VIGOR AND BE FREE OF DISEASE, DAMAGE, AND INSECT INFESTATION UPON DELIVERY TO THE SITE. ALL PLANTS SHOULD BE HEALTHY AND WELL STRUCTURED. NO HEELED-COLD STORAGE OR COLLECTED STOCK WILL BE ACCEPTED. PLANTS IN POOR CONDITION SHALL BE REJECTED, REMOVED FROM THE SITE AND REPLACED WITH APPROVED ACCEPTABLE MATERIALS.

3. AFTER INSTALLATION OF PLANTS, MONITOR SOIL MOISTURE AND WATER NEEDS OF PLANTS. APPLY WATER TO PLANTING PITS AS SPECIFIED IN MDSHA STANDARDS AND SPECIFICATIONS SECTION 710.03.04(C).

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

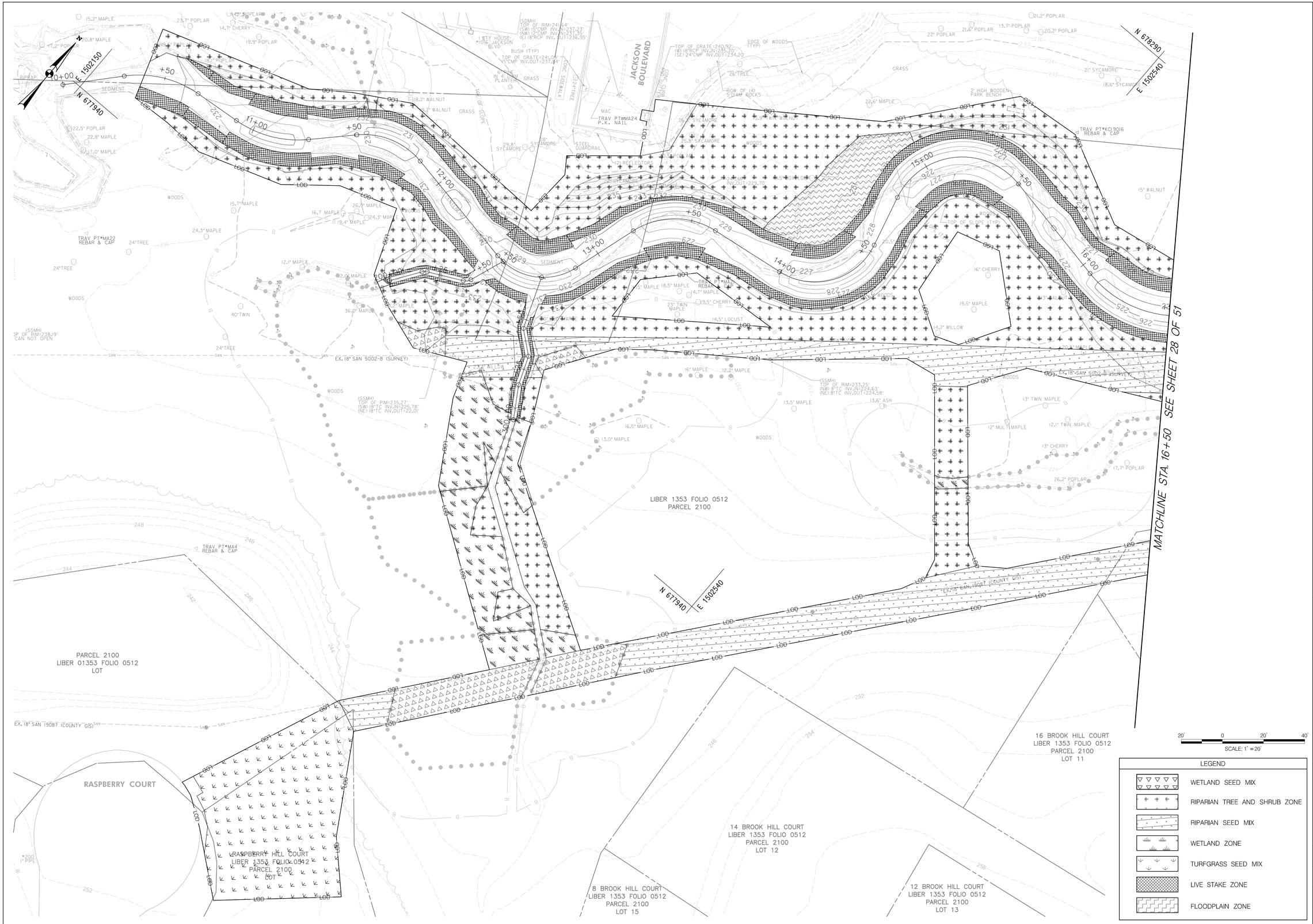
REV#	DATE	DESCRIPTION
		REVISIONS

SUNNY VIEW ROAD
STREAM REHABILITATION
LANDSCAPE DETAIL SHEET

HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTOPARTION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 12-11-19	DRAWING NO.
SCALE NOT TO SCALE	
DESIGNED BY KRM/JBS	SHEET 26 OF 51
DRAWN BY WJW	FWA JOB NUMBER



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SUNNY VIEW ROAD
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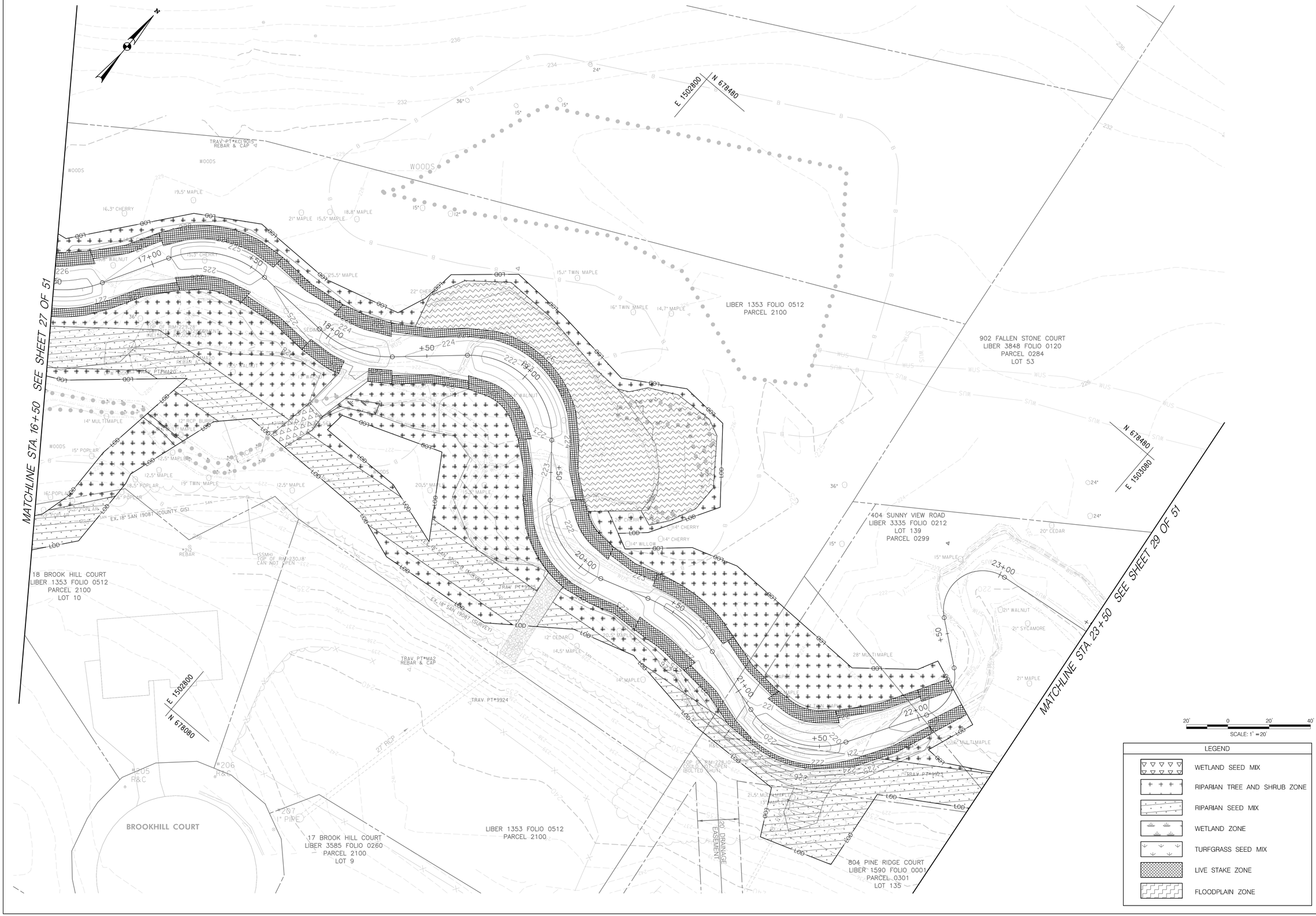
LANDSCAPING PLAN

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE 1"= 20'	
DESIGNED BY KRM/JBS	SHEET 27 OF 51
DRAWN BY WJW	FWA JOB NUMBER



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1ST FLOOR
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410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE 1"= 20'	
DESIGNED BY KRM/JBS	SHEET 28 OF 51
DRAWN BY WJW	FWA JOB NUMBER

MATCHLINE STA. 23+50 SEE SHEET 28 OF 51

MATCHLINE STA. 29+50 SEE SHEET 30 OF 51

E 1503170 N 678570

904 FALLEN STONE COURT
LIBER 1409 FOLIO 1048
PARCEL 0284
LOT 54

906 FALLEN STONE COURT
LIBER 4125 FOLIO 0187
PARCEL 0284
LOT 55

908 FALLEN STONE COURT
LIBER 3669 FOLIO 0581
PARCEL 0284
LOT 56

910 FALLEN STONE COURT
LIBER 1564 FOLIO 0670
PARCEL 0284
LOT 57

TOP OF SLOPE (TYP)

TRAV PT*KCI 9012 REBAR & CAP

TRAV PT*KCI 9011 REBAR & CAP

TRAV PT*9918

TRAV PT*9921

TRAV PT*9920

TRAV PT*WS30

TRAV PT*WS31

EX. 18" SAN 5002-B (SURVEY)

20' DRAINAGE & UTILITY EASEMENT 738177

STONE WALL

5' HIGH METAL FENCE

404 SUNNY VIEW ROAD
LIBER 3253 FOLIO 0164
PARCEL 0299
LOT 138

406 SUNNY VIEW ROAD
LIBER 3335 FOLIO 0212
LOT 139
PARCEL 0299

408 SUNNY VIEW ROAD
LIBER 3776 FOLIO 0211
PARCEL 0299
LOT 140

410 SUNNY VIEW ROAD
LIBER 2545 FOLIO 0986
PARCEL 0299
LOT 141

412 SUNNY VIEW ROAD
LIBER 3910 FOLIO 0210
PARCEL 0299
LOT 142

402 SUNNY VIEW ROAD
LIBER 2206 FOLIO 0053
PARCEL 0299
LOT 137

E 1503170 N 678230

N 678570 E 1503520

SUNNY VIEW ROAD

LIBER 1685 FOLIO 0824
PARCEL 0301
LOT 136

PARCEL 0299
LOT 151

SCALE: 1" = 20'

LEGEND

- WETLAND SEED MIX
- RIPARIAN TREE AND SHRUB ZONE
- RIPARIAN SEED MIX
- WETLAND ZONE
- TURFGRASS SEED MIX
- LIVE STAKE ZONE
- FLOODPLAIN ZONE

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DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
220 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE 1"= 20'	
DESIGNED BY KRM/JBS	SHEET 29 OF 51
DRAWN BY WJW	FWA JOB NUMBER

912 FALLEN STONE COURT
LIBER 2586 FOLIO 0242
PARCEL 0284
LOT 58

914 FALLEN STONE COURT
LIBER 2148 FOLIO 0192
PARCEL 0284
LOT 59

916 FALLEN STONE COURT
LIBER 2201 FOLIO 0209
PARCEL 0284
LOT 60

918 FALLEN STONE COURT
LIBER 3439 FOLIO 0645
PARCEL 0284
LOT 61

920 FALLEN STONE COURT
LIBER 2437 FOLIO 0909
PARCEL 0284
LOT 62

LIBER 1323
FOLIO 0297
PARCEL 0284
LOT

414 SUNNY VIEW ROAD
LIBER 1741 FOLIO 0676
PARCEL 0299
LOT 143

416 SUNNY VIEW ROAD
LIBER 1729 FOLIO 0283
PARCEL 0299
LOT 144

418 SUNNY VIEW ROAD
LIBER 2760 FOLIO 0651
PARCEL 0299
LOT 145

SUNNY VIEW ROAD

RING FACTORY ROAD

MATCHLINE STA. 29+50 SEE SHEET 29 OF 51

MATCHLINE STA. 34+50 SEE SHEET 31 OF 51

E 1503430
N 678750

E 1503840
N 679000

N 678750
E 1503840

TRAV PT*KC19010 REBAR & CAP

TRAV PT*WS32

TRAV PT*WS33

TRAV PT*WS34

TRAV PT*MA51

TRAV PT/MA50

TRAV PT*KC19914 REBAR & CAP

EX. DITCH

EX. 18" SAN 5002-B (SURVEY)

4" HPPE

TOP OF SLOPE (TYP)

EX. CL II RIPRAP

RIPRAP

INV. EL 207.34

CONC. HEADWALL

30"RCP AT OUTFALL 215.43

AT WINGWALL

DITCH

DOUBLE 10"

36" MAPLE

12" CHERRY

14" WILLOW

12" BOXELDER

12" MAPLE

14" POPLAR

14" CHERRY

DOUBLE 10"

30+00 +50 31+00 32+00 33+00 34+00

SCALE: 1" = 20'

LEGEND

- WETLAND SEED MIX
- RIPARIAN TREE AND SHRUB ZONE
- RIPARIAN SEED MIX
- WETLAND ZONE
- TURFGRASS SEED MIX
- LIVE STAKE ZONE
- FLOODPLAIN ZONE

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220 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
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410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE 1"= 20'	
DESIGNED BY KRM/JBS	SHEET 30 OF 51
DRAWN BY WJW	FWA JOB NUMBER

1015 MAC PHAIL ROAD
LIBER 1866 FOLIO 1050
PARCEL 0055
LOT 65

1017 MAC PHAIL ROAD
LIBER 1753 FOLIO 0399
PARCEL 0055
LOT 66

1019 MAC PHAIL ROAD
LIBER 4058 FOLIO 0742
PARCEL 0055
LOT 80

1021 MAC PHAIL ROAD
LIBER 1631 FOLIO 0827
PARCEL 0055
LOT 81

1023 MAC PHAIL ROAD
LIBER 1650 FOLIO 0503
PARCEL 0055
LOT 82

1013 MAC PHAIL ROAD
LIBER 1785 FOLIO 0750
PARCEL 0055
LOT 64

975 RING FACTORY ROAD
LIBER 1440 FOLIO 0468
PARCEL 0284
LOT 63

LIBER 1323
FOLIO 0297
PARCEL 0284
LOT

423 RING FACTORY ROAD
LIBER 1706 FOLIO 0086
PARCEL 0298
LOT 84

421 RING FACTORY ROAD
LIBER 2569 FOLIO 0417
PARCEL 0298
LOT 85

902 MILLSTONE COURT
LIBER 1585 FOLIO 0167
PARCEL 0298
LOT 87

900 MILLSTONE COURT
LIBER 3155 FOLIO 0049
PARCEL 0298
LOT 86

RING FACTORY ROAD

N 679080
E 1504170

N 679080
E 1504020

N 678720
E 1504170

EX. 8" SAN 9268 (COUNTY GIS)

EX. 8" SAN 9021 (SURVEY)

EX. 8" SAN 9024

EX. 18" SAN 5002-B (SURVEY)

TRAV PT*KCI9004
REBAR & CAP

TRAV PT*KCI9910
REBAR & CAP

TRAV PT*KCI9906
REBAR & CAP

TRAV PT*MA30

TRAV PT*MA31

35+00

36+00

37+00

38+00

39+00

40+00

MATCHLINE STA. 34+50 SEE SHEET 30 OF 51

MATCHLINE STA. 40+00 SEE SHEET 32 OF 51

LOD

TOP OF SLOPE (TYP)

BOTTOM OF SLOPE (TYP)

CENTERLINE

AT CONC WING WALL

AT CONC HEADWALL

AT CORNER OF WING WALL

48" MAPLE

36" BEECH

27" BEECH

19" POPLAR

15.5" POPLAR

21.5" PINE

20.5" PINE

17.5" PINE

14" PINE

13" ASH

20' 0 20' 40'
SCALE: 1" = 20'

LEGEND

- WETLAND SEED MIX
- RIPARIAN TREE AND SHRUB ZONE
- RIPARIAN SEED MIX
- WETLAND ZONE
- TURFGRASS SEED MIX
- LIVE STAKE ZONE
- FLOODPLAIN ZONE

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

REV#	DATE	DESCRIPTION

SUNNY VIEW ROAD
STREAM REHABILITATION

LANDSCAPING PLAN

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
220 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE: 09-01-20	DRAWING NO.
SCALE: 1" = 20'	
DESIGNED BY: KRM/JBS	SHEET 31 OF 51
DRAWN BY: WJW	FWA JOB NUMBER

MATCHLINE STA. 40+00 SEE SHEET 31 OF 51

904 MILLSTONE COURT
LIBER 2801 FOLIO 0304
PARCEL 0298
LOT 88

906 MILLSTONE COURT
LIBER 2218 FOLIO 0359
PARCEL 0298
LOT 89

908 MILLSTONE COURT
LIBER 4941 FOLIO 0559
PARCEL 0298
LOT 90

910 MILLSTONE COURT
LIBER 1588 FOLIO 1099
PARCEL 0298
LOT 91

1023 MAC PHAIL ROAD
LIBER 1650 FOLIO 0503
PARCEL 0055
LOT 82

1025 MAC PHAIL ROAD
LIBER 3805 FOLIO 0107
PARCEL 0055
LOT 83

LIBER 0992 FOLIO 0900
PARCEL 0057
LOT

LIBER 3919 FOLIO 0166
PARCEL 0227
LOT

MACPHAIL ROAD

E 1504460
N 678870

E 1504460
N 678560

N 678870
E 1504820

41+00
42+00
43+00
44+00
45+00
+50

EX. 24" SAN SHAFT 9002-B (ABANDONED) (AS-BUILT)
EX. 24" SAN SHAFT 9002-B (AS-BUILT)
EX. 24" SAN SHAFT 9446-D (AS-BUILT)
RAM FIXCI 9002 REBAR & CAP
18" CMP

20' 0 20' 40'
SCALE: 1" = 20'

LEGEND

- WETLAND SEED MIX
- RIPARIAN TREE AND SHRUB ZONE
- RIPARIAN SEED MIX
- WETLAND ZONE
- TURFGRASS SEED MIX
- LIVE STAKE ZONE
- FLOODPLAIN ZONE

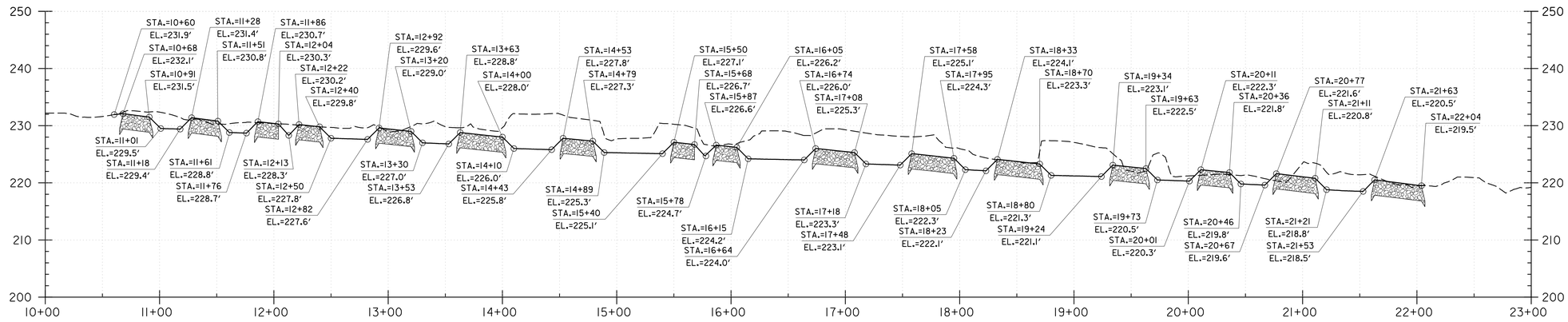
McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

REVISIONS		
REV#	DATE	DESCRIPTION

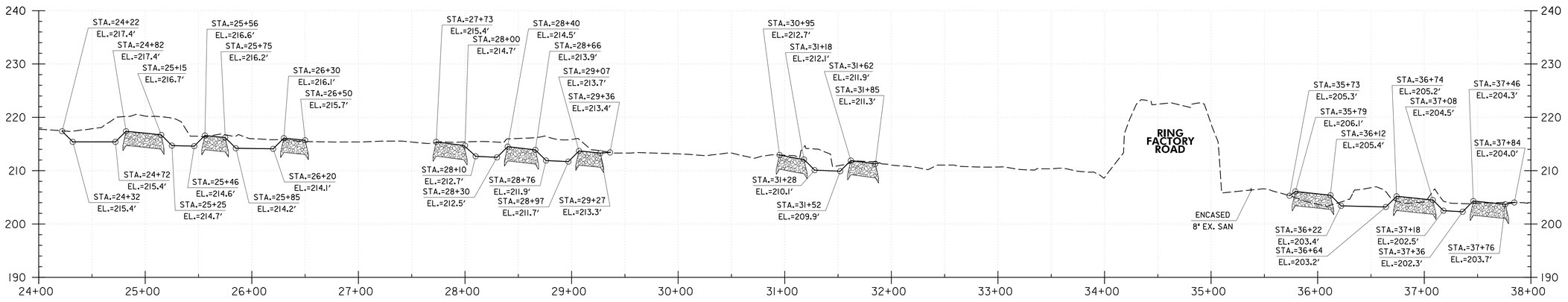
SUNNY VIEW ROAD
STREAM REHABILITATION
LANDSCAPING PLAN

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS
OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

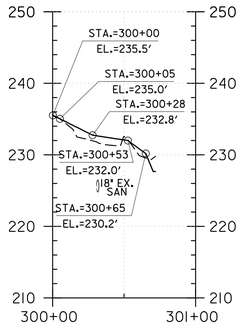
DATE 09-01-20	DRAWING NO.
SCALE 1"= 20'	
DESIGNED BY KRM/JBS	SHEET 32 OF 51
DRAWN BY WJW	FWA JOB NUMBER



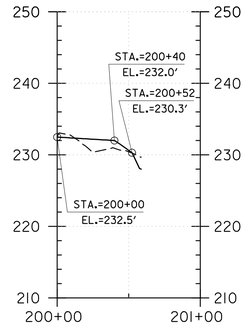
MAINSTEM



MAINSTEM CONTINUED



TRIB 2



TRIB 1

LEGEND

- EXISTING GROUND
- PROPOSED GRADE

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

REVISIONS		
REV#	DATE	DESCRIPTION

SUNNYVIEW ROAD
STREAM REHABILITATION

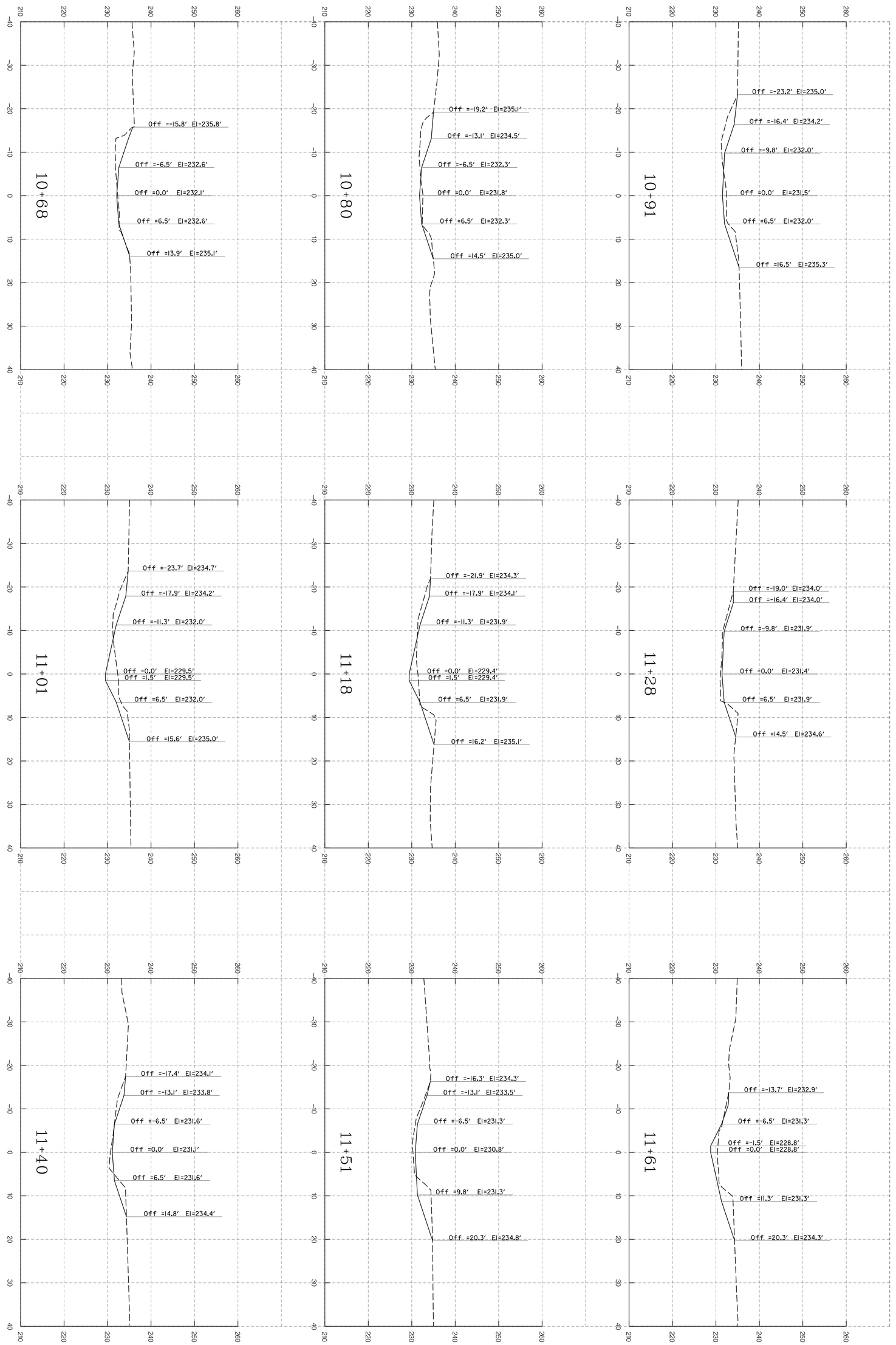
PROFILE SHEET

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE H: 1"= 50' V: 1"= 10'	
DESIGNED BY KRM/JBS	SHEET 33 OF 51
DRAWN BY WJW	FWA JOB NUMBER

SCALE
HORIZONTAL: 1"=10' VERTICAL: 1" = 10'



DESIGNED BY: KRM/JBS
DRAWN BY: WJW
SCALE
DATE: 09-01-00
DRAWING NO.
PROJECT NO.
SHEET 34 OF 51

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
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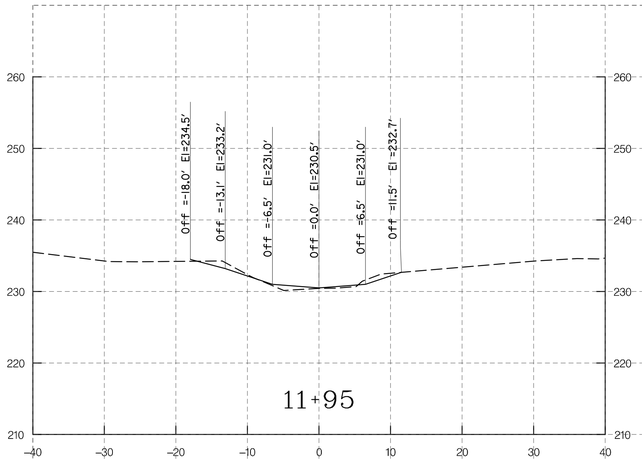
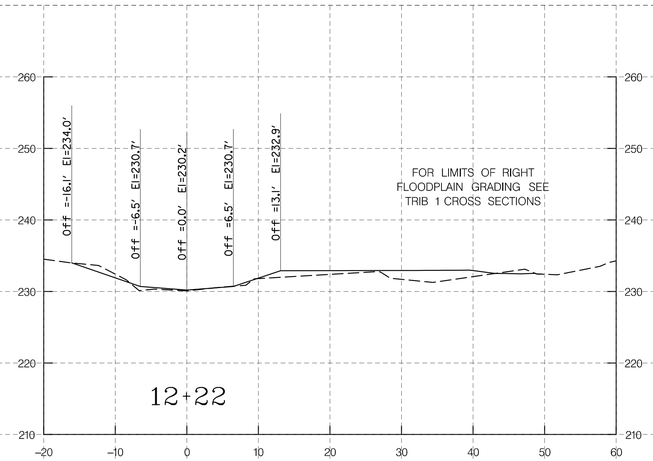
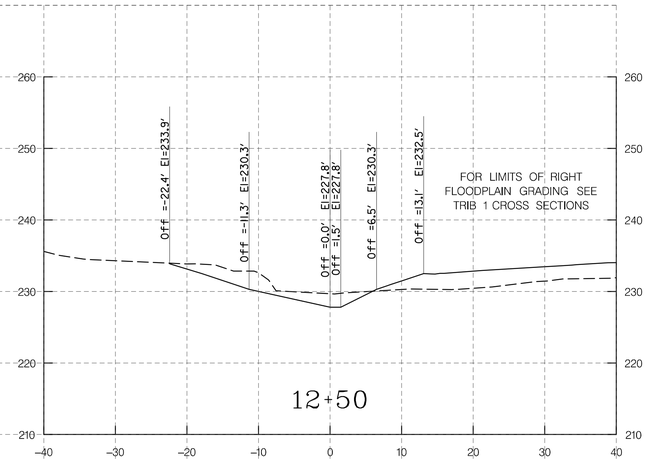
410-638-3217 EXT 1176

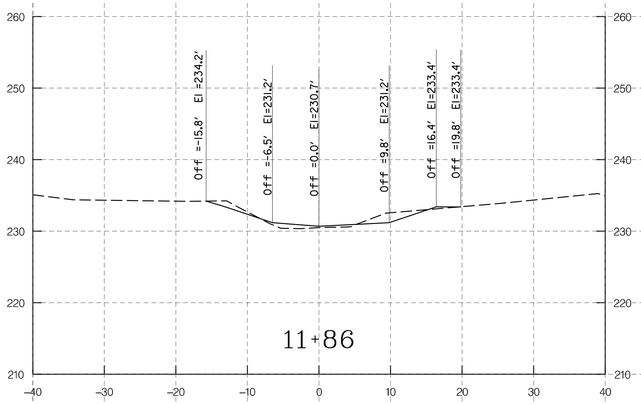
REVISIONS		
REV#	DATE	DESCRIPTION

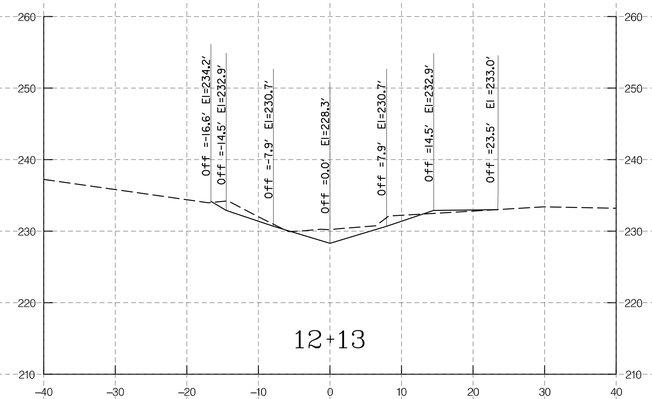
McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

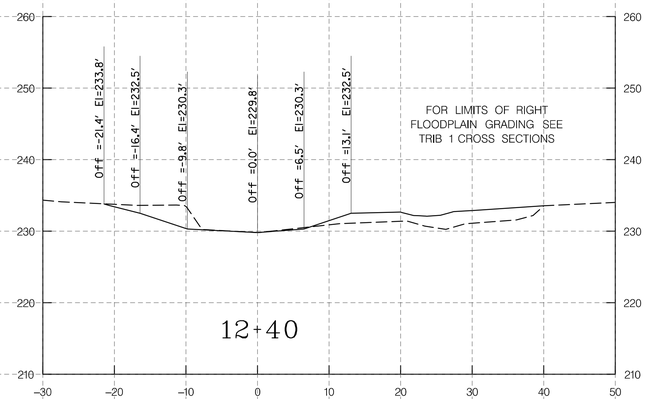


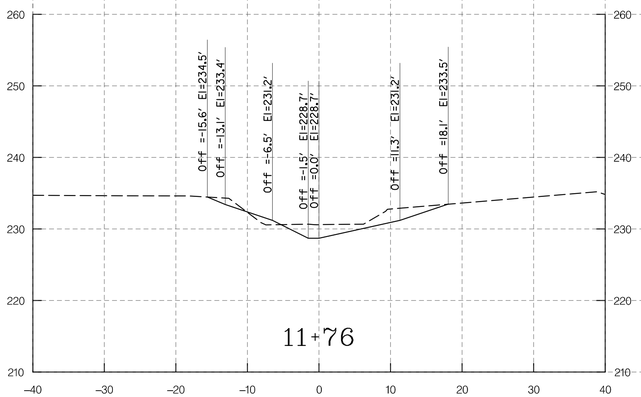


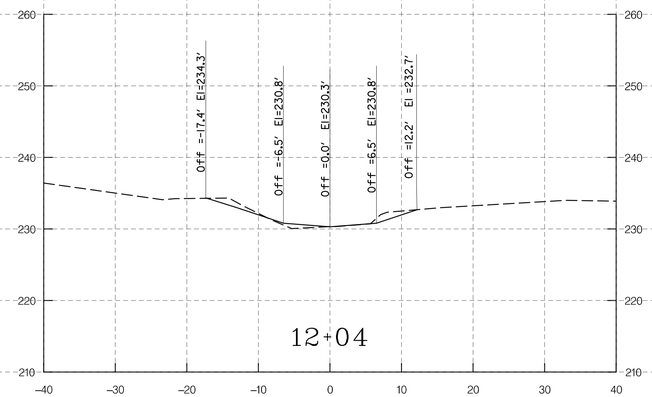


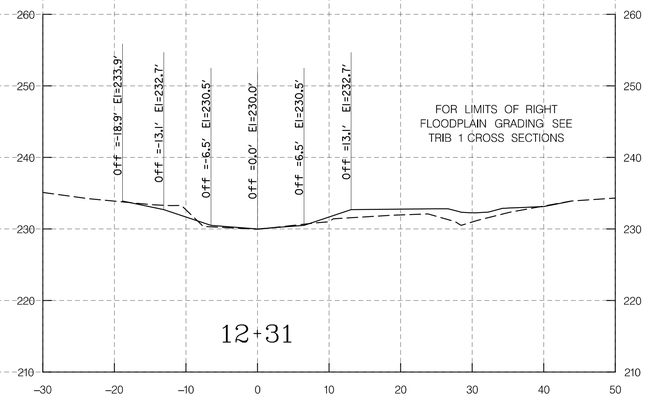












SCALE
HORIZONTAL: 1"=10' VERTICAL: 1" = 10'

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

McCORMICK TAYLOR

REVISIONS

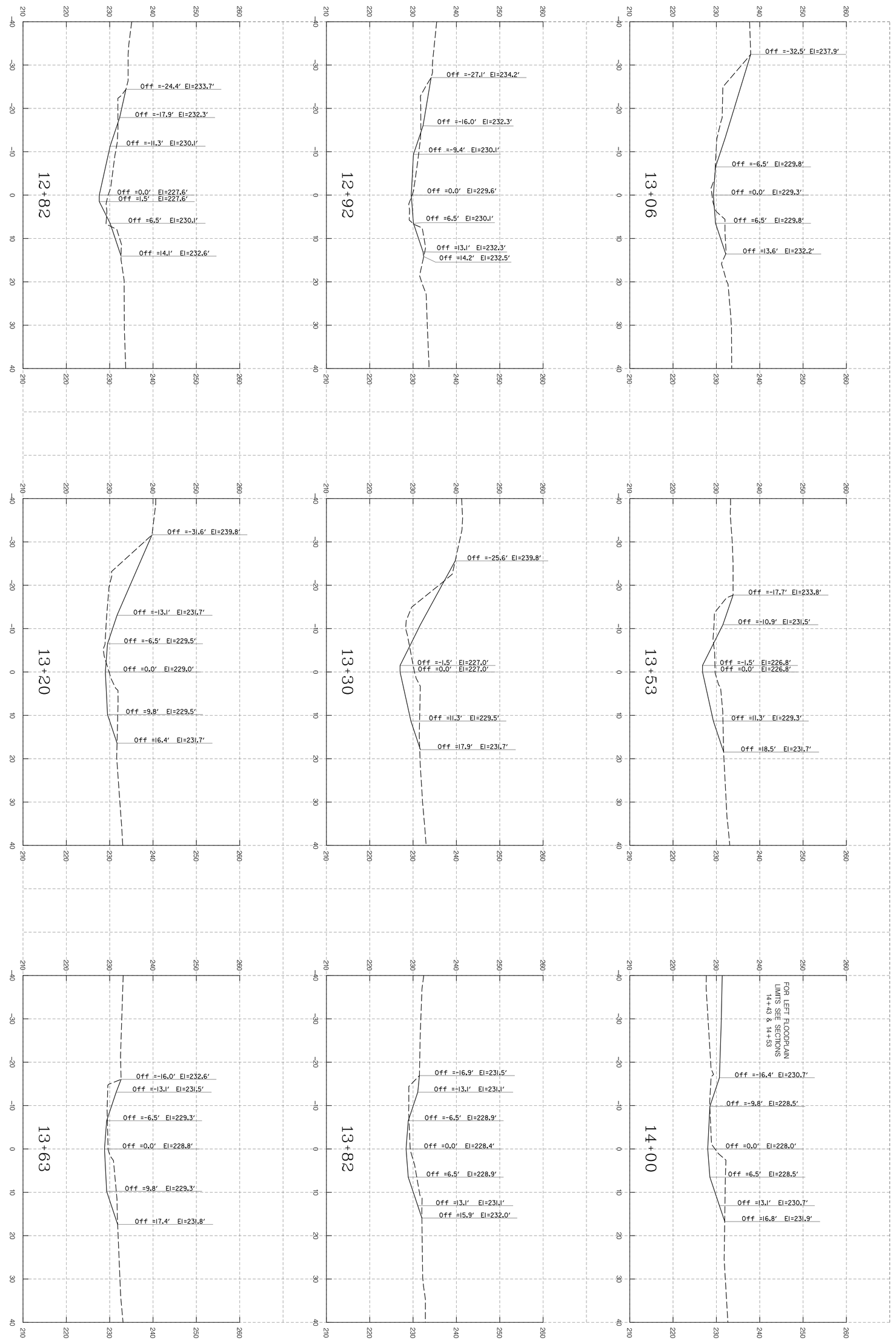
REV#	DATE	DESCRIPTION

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

DATE 09-01-20	DRAWING NO.
SCALE	
DESIGNED BY KRM/JBS	SHEET 35 OF 51
DRAWN BY WJW	FWA JOB NUMBER

SCALE
HORIZONTAL: 1"=10' VERTICAL: 1" = 10'



DRAWN BY: WJW
DESIGNED BY: KRM/JBS
SCALE:
DATE: 09-01-20
FINAL JOB NUMBER:
SHEET 36 OF 51
DRAWING NO.

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

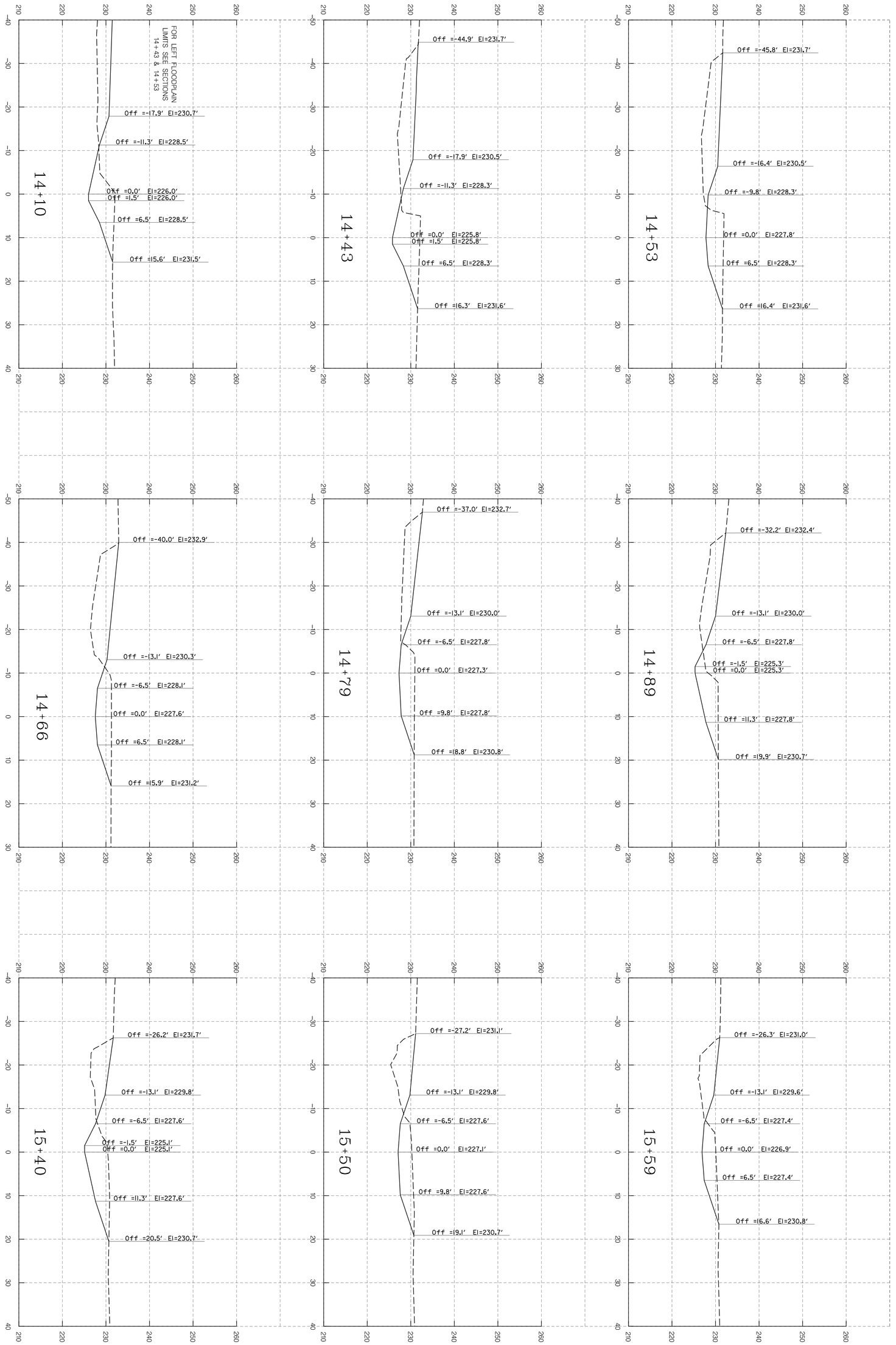
REVISIONS

REV#	DATE	DESCRIPTION

McCORMICK TAYLOR

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

SCALE
HORIZONTAL: 1"=10' VERTICAL: 1" = 10'



DRAWN BY	WJW
DESIGNED BY	KRM/JBS
SCALE	
DATE	09-01-20
SHEET	37 OF 51
FINAL ADD NUMBER	
DRAWING NO.	

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

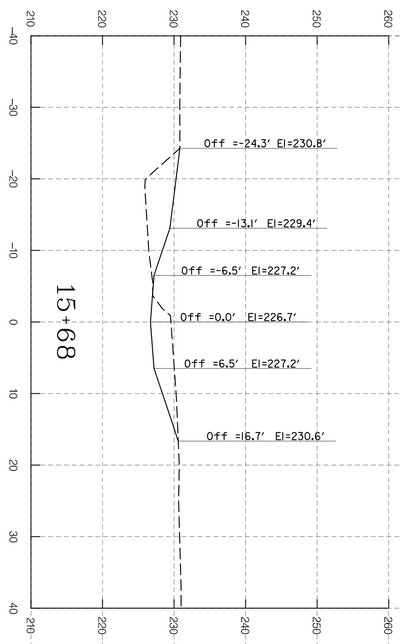
REVISIONS

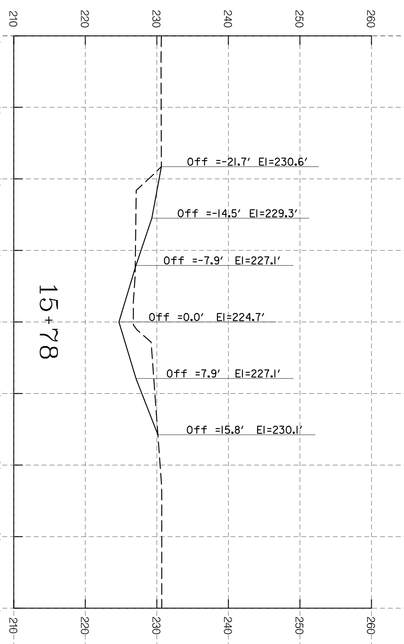
REV#	DATE	DESCRIPTION

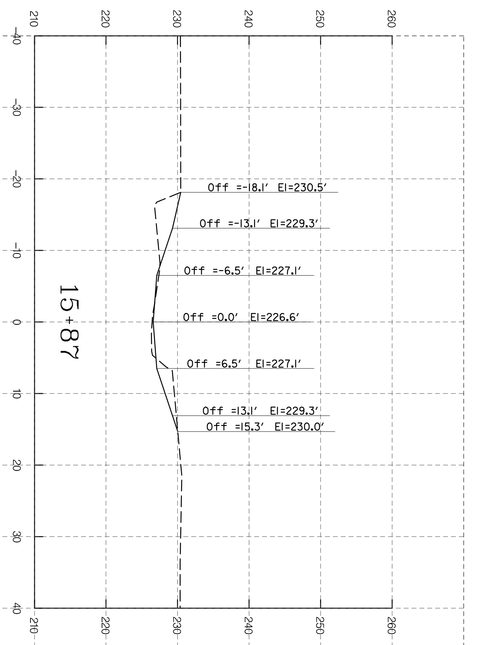
McCORMICK TAYLOR

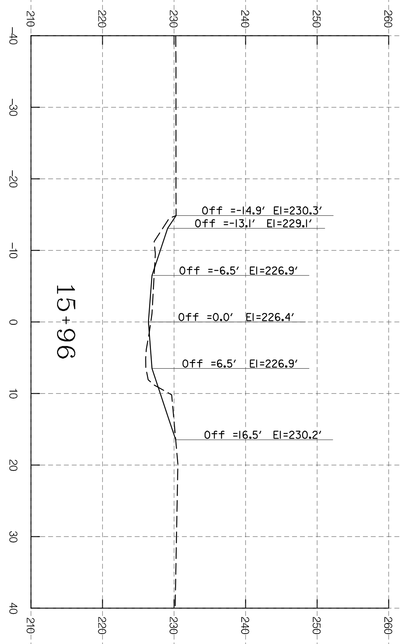
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

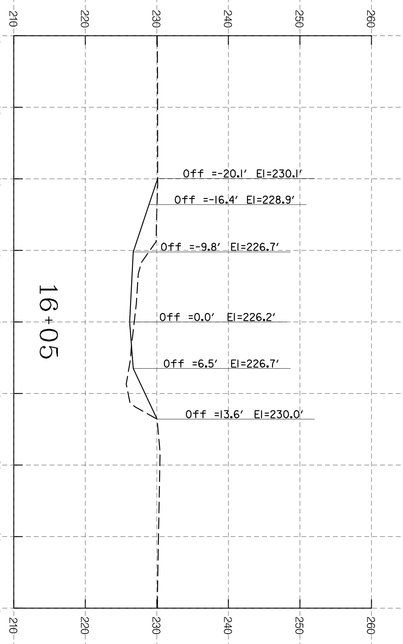
SCALE
HORIZONTAL: 1"=10' VERTICAL: 1" = 10'

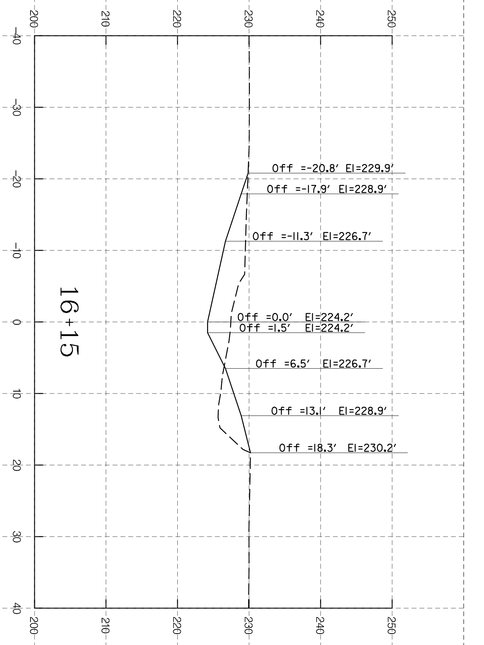


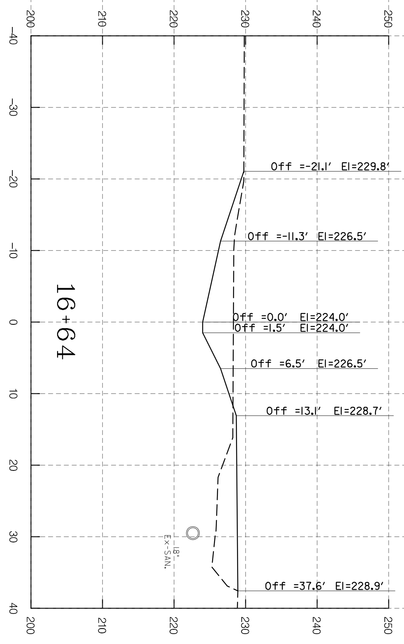


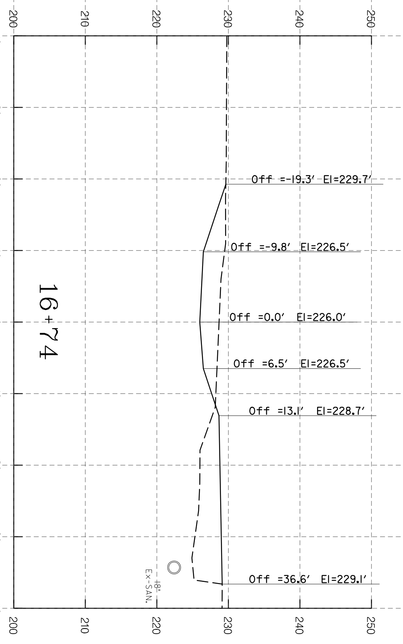


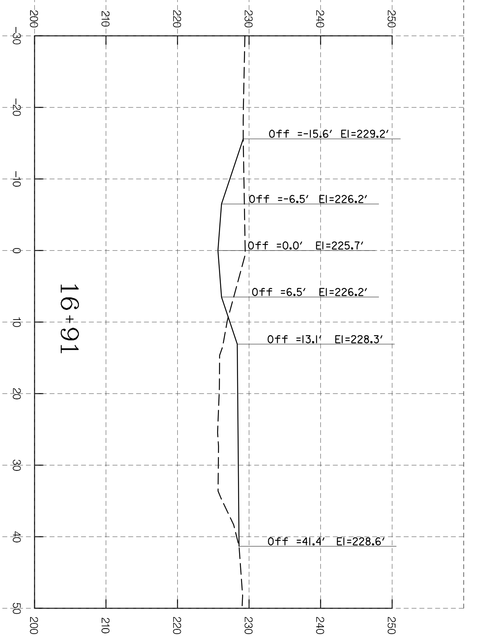












DRAWN BY: WJW
DESIGNED BY: KRM/JBS
SCALE
DATE: 09-01-20
PRJ. JOB NUMBER
SHEET 38 OF 51
DRAWING NO.

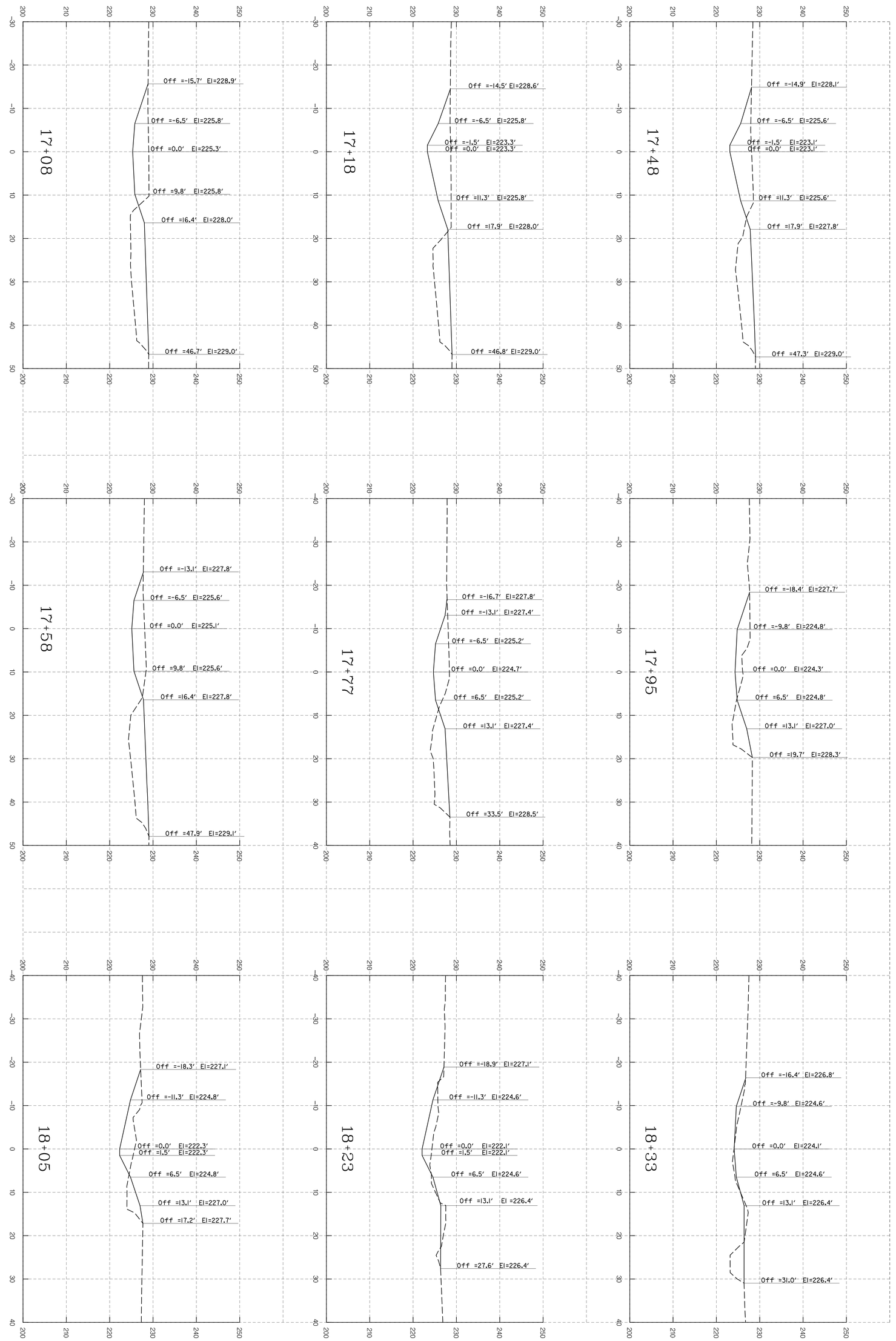
DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

REVISIONS		
REV#	DATE	DESCRIPTION

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

SCALE
HORIZONTAL: 1"=10' VERTICAL: 1" = 10'



DRAWN BY: WJW
DESIGNED BY: KRM/JBS
DATE: 09-01-20
SCALE:
DRAWING NO.
PRJ. JOB NUMBER
SHEET 39 OF 51

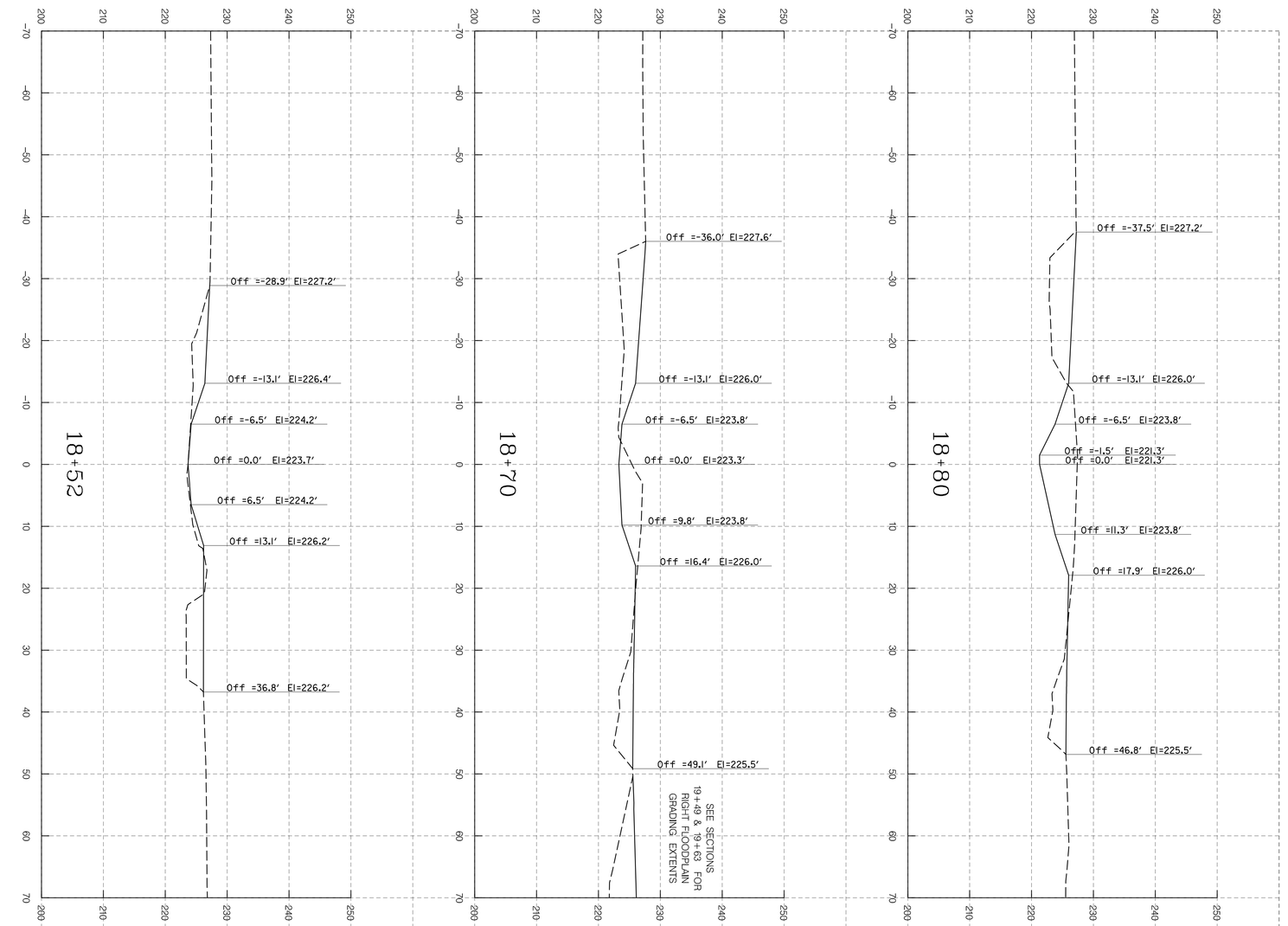
DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

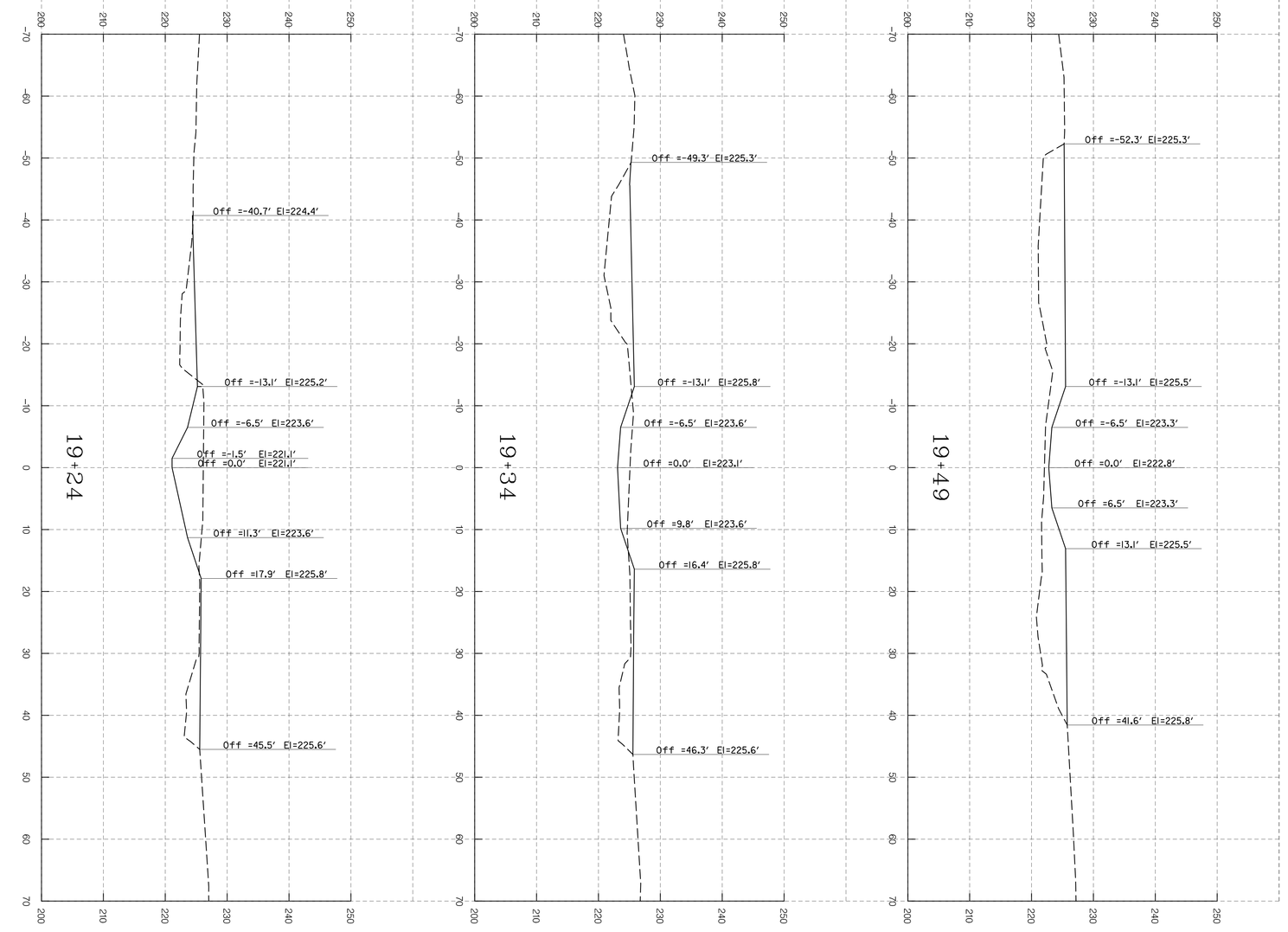
OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

REVISIONS		
REV#	DATE	DESCRIPTION

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

SCALE
HORIZONTAL: 1"=10' VERTICAL: 1" = 10'





DRAWN BY: WJW
DESIGNED BY: KRM/JBS
DATE: 09-01-20
SCALE:
DRAWING NO.
FINAL JOB NUMBER
SHEET 40 OF 51

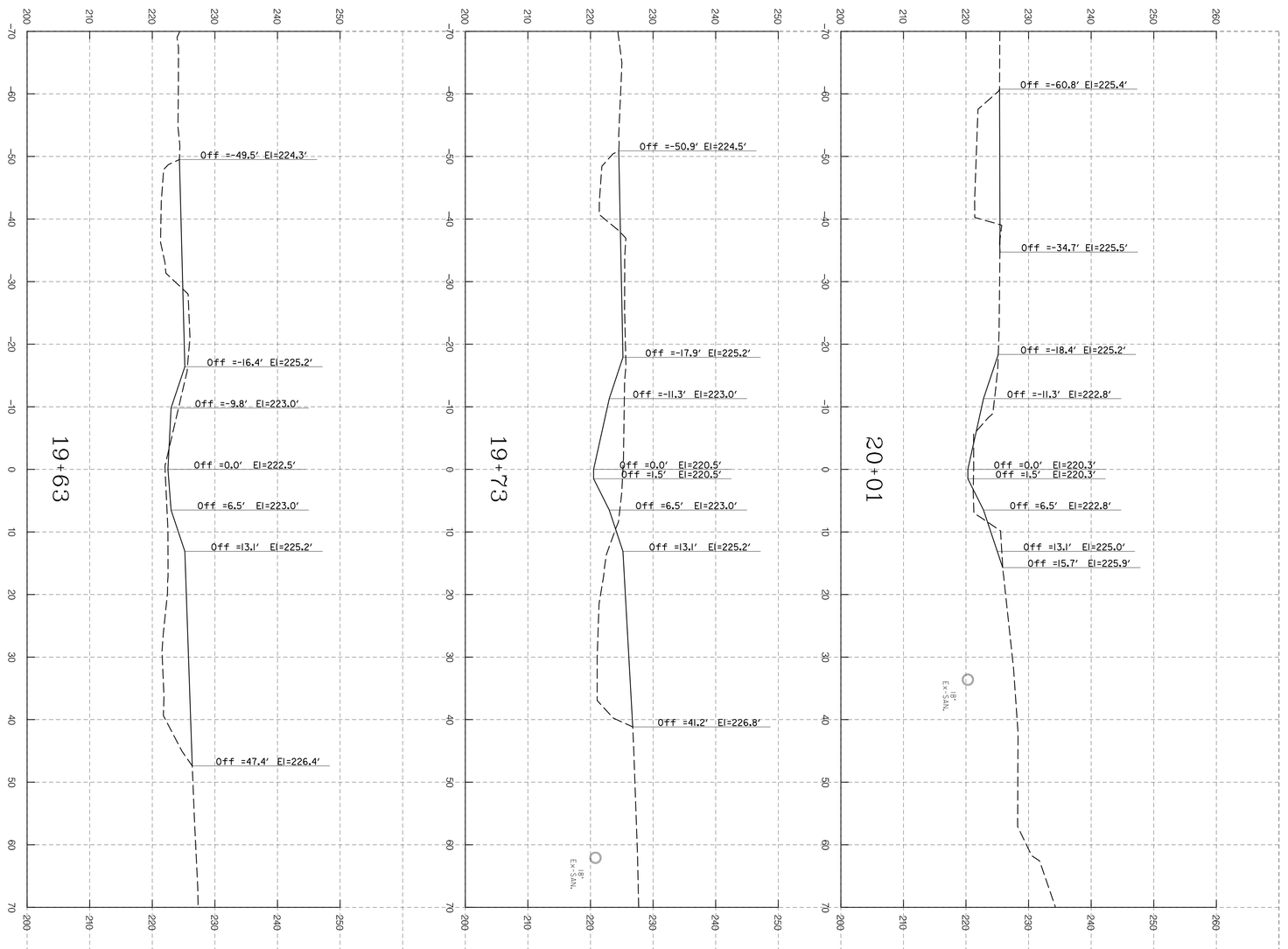
DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

REVISIONS		
REV#	DATE	DESCRIPTION

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

SCALE
HORIZONTAL: 1"=10' VERTICAL: 1" = 10'



DESIGNED BY: KRM/JBS
DRAWN BY: WJW
SCALE
DATE: 09-01-20
DRAWING NO.
PRJ. JOB NUMBER
SHEET 41 OF 51

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
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410-638-3217 EXT 1176

REVISIONS		
REV#	DATE	DESCRIPTION

McCORMICK TAYLOR
509 South Exeter Street
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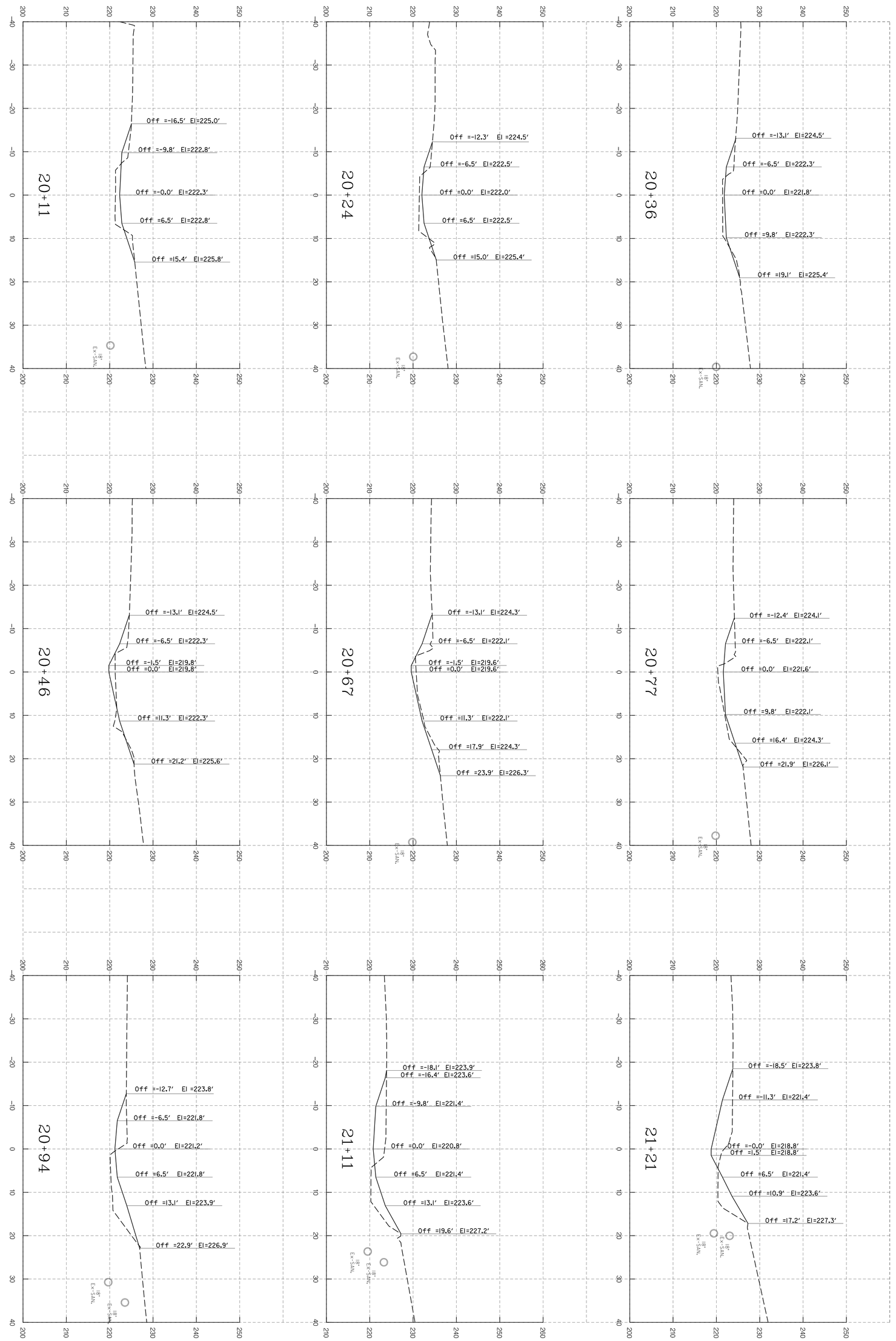
(410) 662-7400

SCALE
HORIZONTAL: 1"=10' VERTICAL: 1" = 10'



DESIGNED BY: KRM/JBS
DRAWN BY: WJW
SCALE
DATE: 09-01-20
DRAWING NO.
FINAL ADP NUMBER
SHEET 42 OF 51

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
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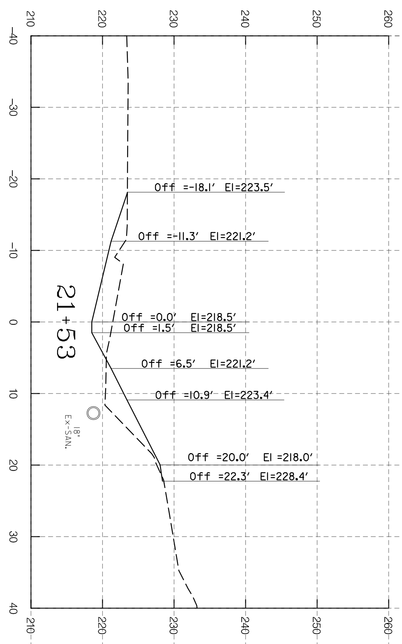
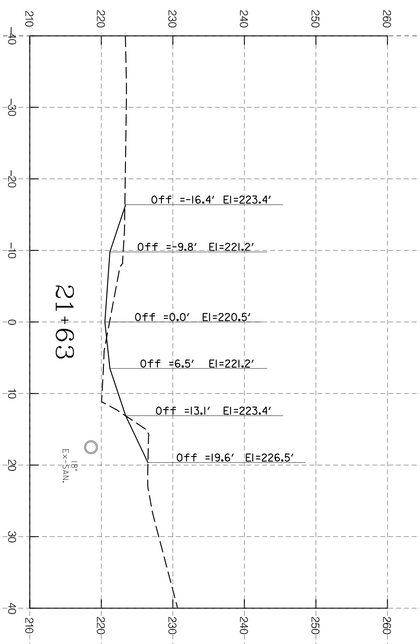
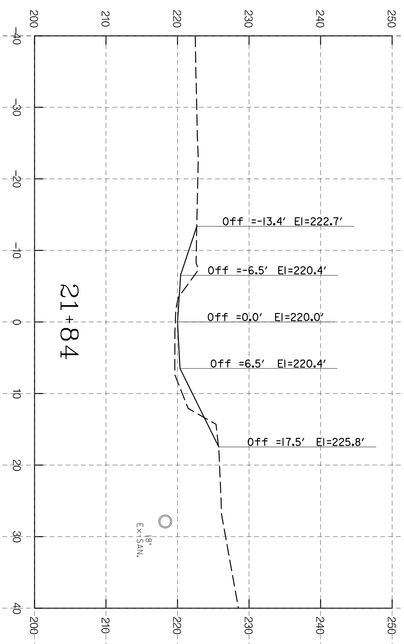
REVISIONS		
REV#	DATE	DESCRIPTION

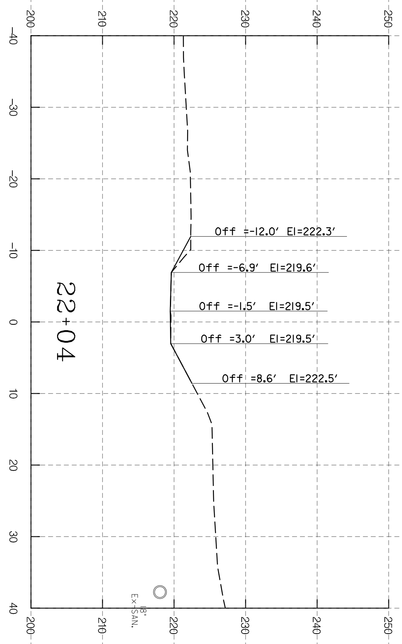
McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

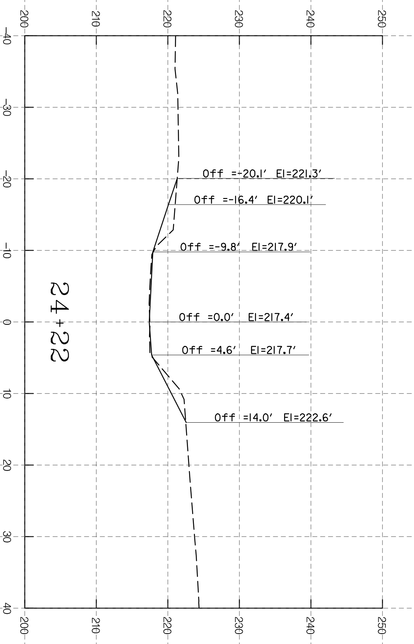
SCALE
HORIZONTAL: 1"=10' VERTICAL: 1" = 10'

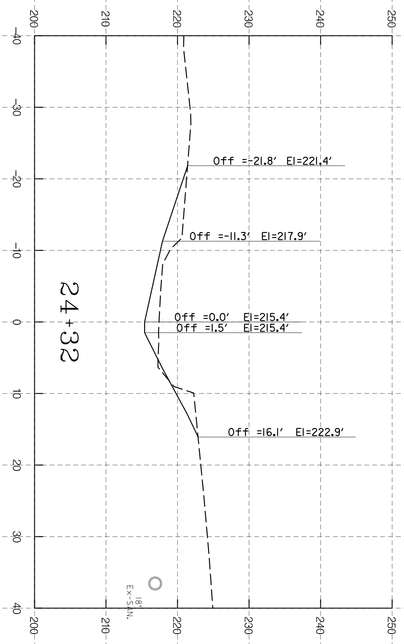


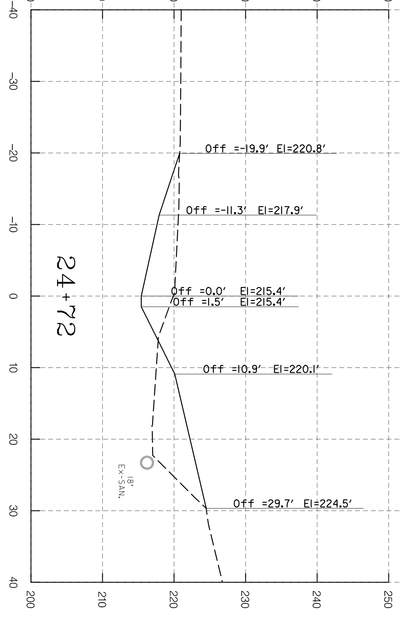


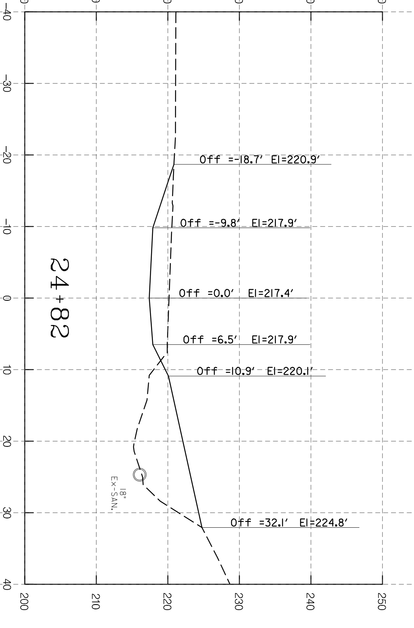


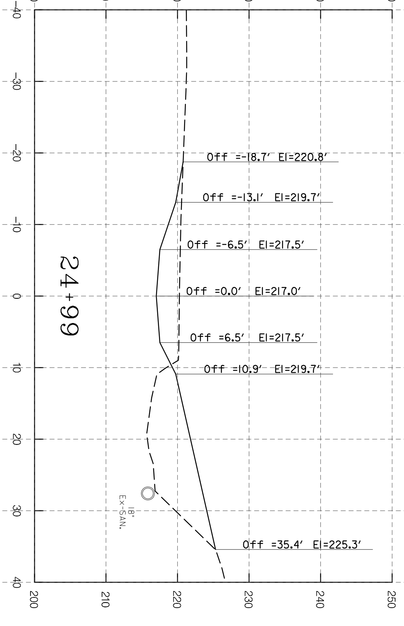












DESIGNED BY	KRM/JBS
DRAWN BY	WJW
CHECKED BY	
DATE	09-01-20
SCALE	
DRAWING NO.	
PROJECT NUMBER	
SHEET	43 OF 51

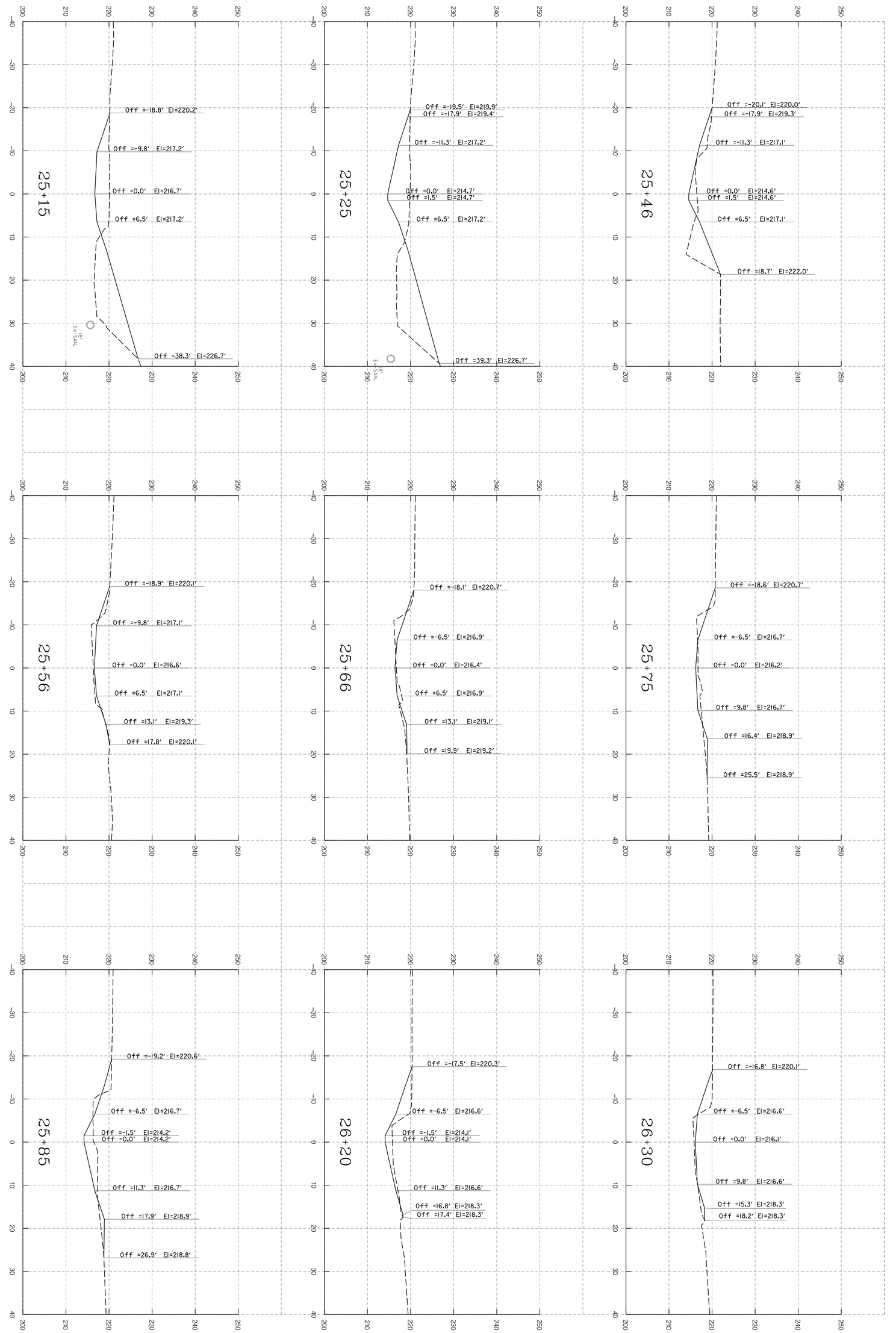
DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

REVISIONS		
REV#	DATE	DESCRIPTION

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

SCALE
HORIZONTAL: 1"=10' VERTICAL: 1" = 10'



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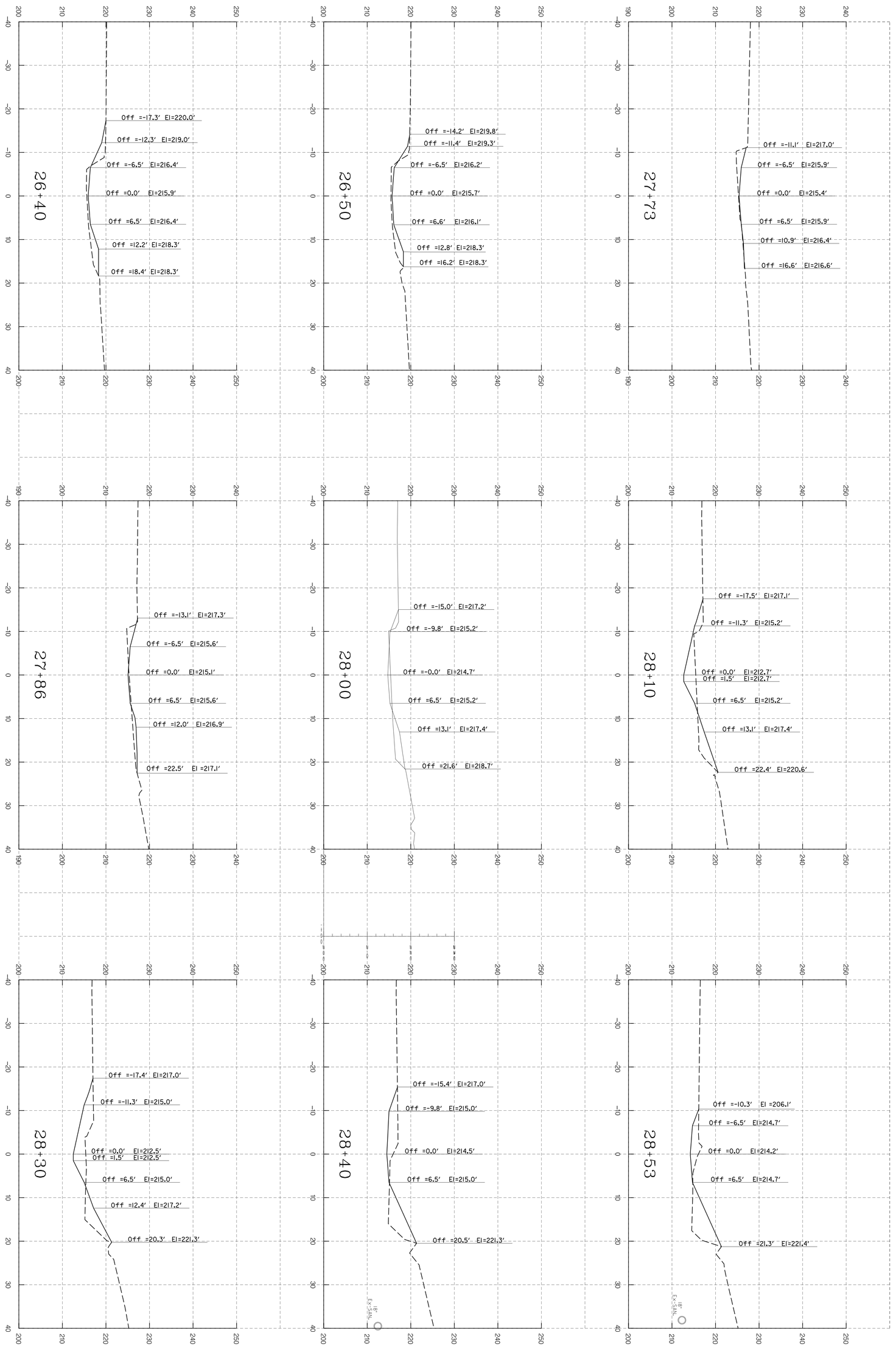

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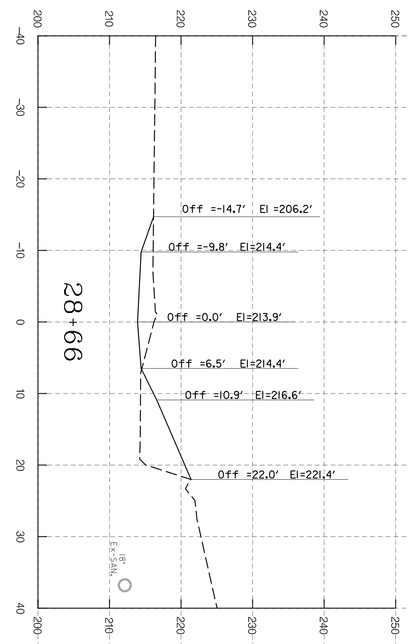

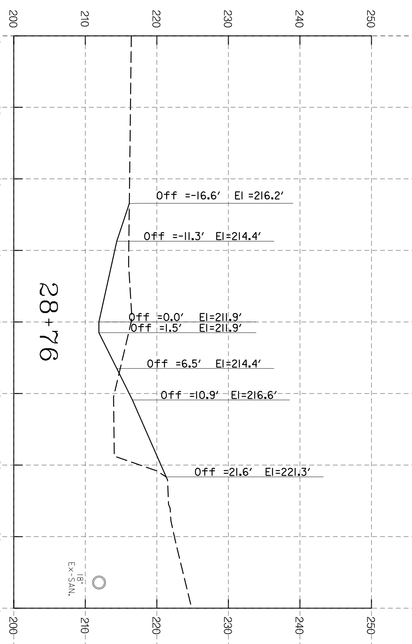

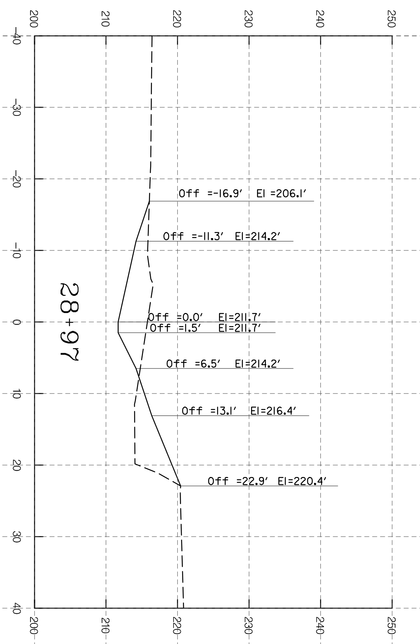

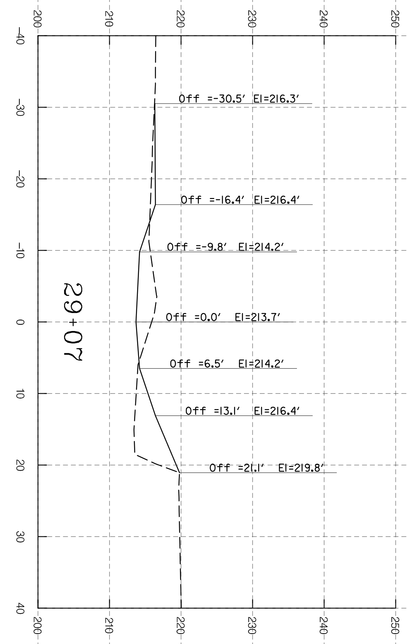

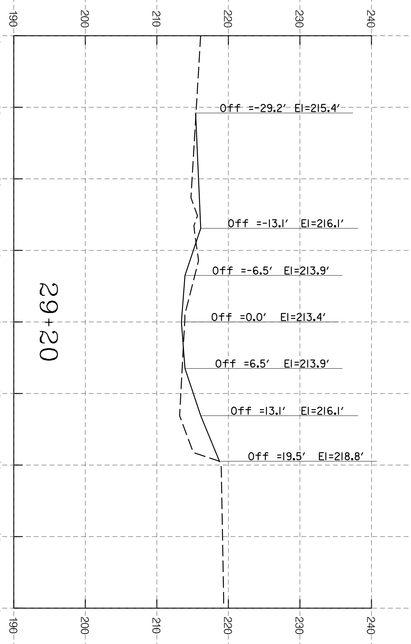

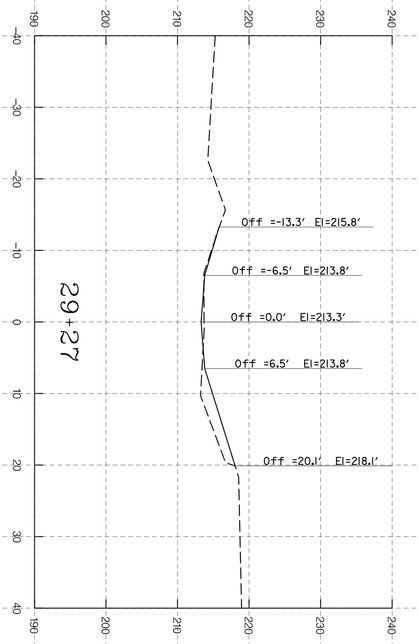

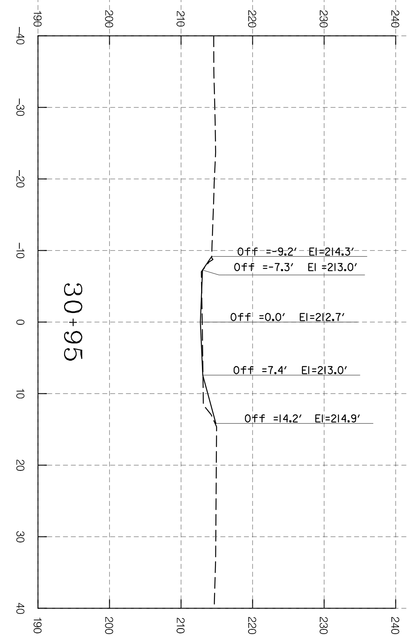

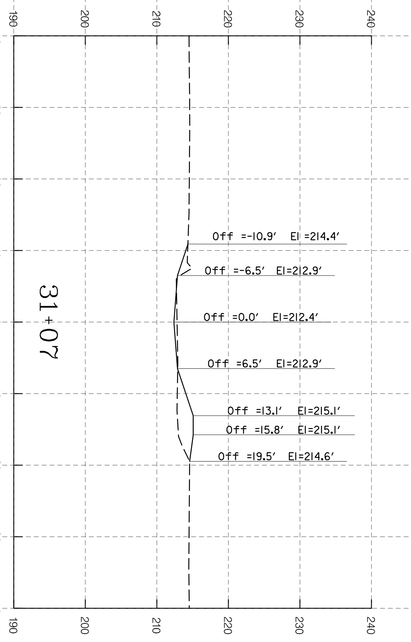

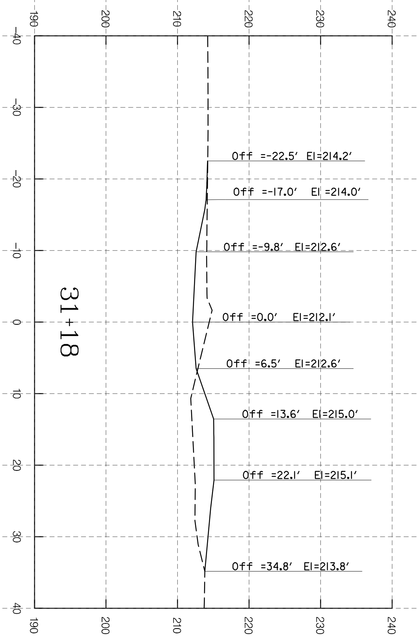

DESIGNED BY: KRM/JBS
DRAWN BY: WJW
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SCALE:
DATE: 09-01-20
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FINAL JOB NUMBER:
SHEET 46 OF 51

DEVELOPER
HARFORD COUNTY
DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 SOUTH BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
CONTACT: CHRISTINE BUCKLEY
410-638-3217 EXT 1176

REVISIONS		
REV#	DATE	DESCRIPTION

McCORMICK TAYLOR
509 South Exeter Street
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Baltimore, Maryland 21202
(410) 662-7400

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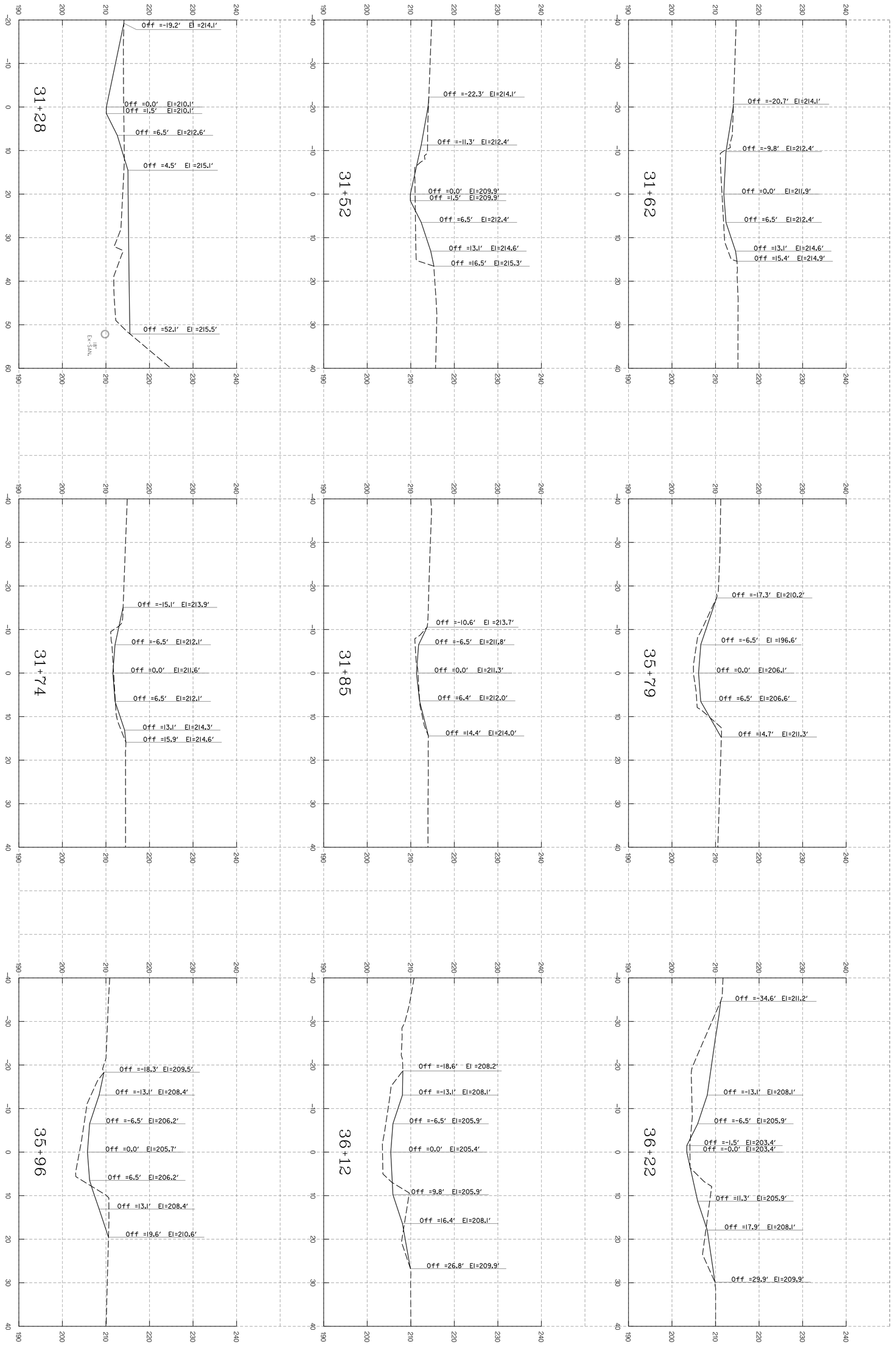

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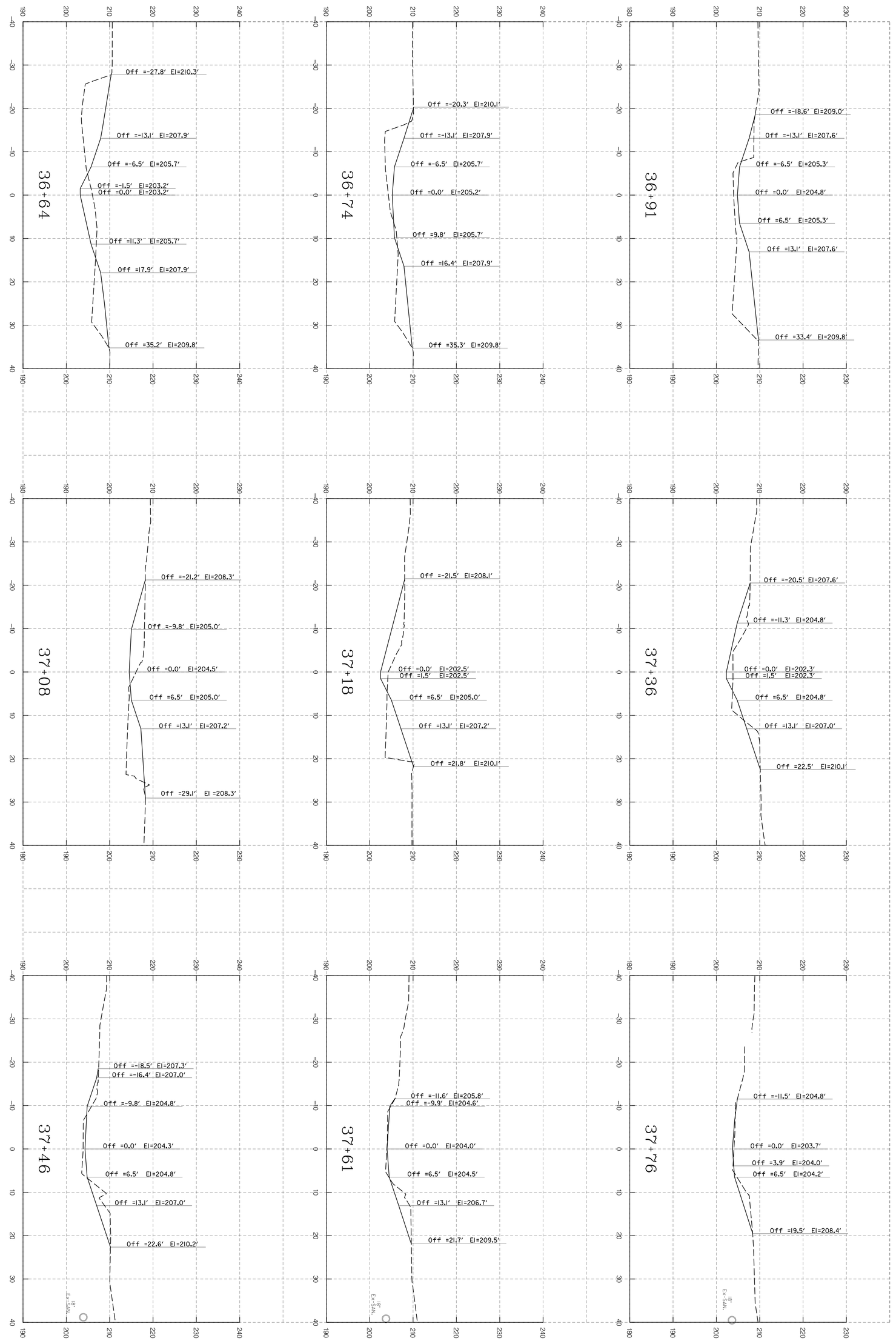

DESIGNED BY	KRM/JBS
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PRJ. JOB NUMBER	
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SHEET	48 OF 51

DEVELOPER
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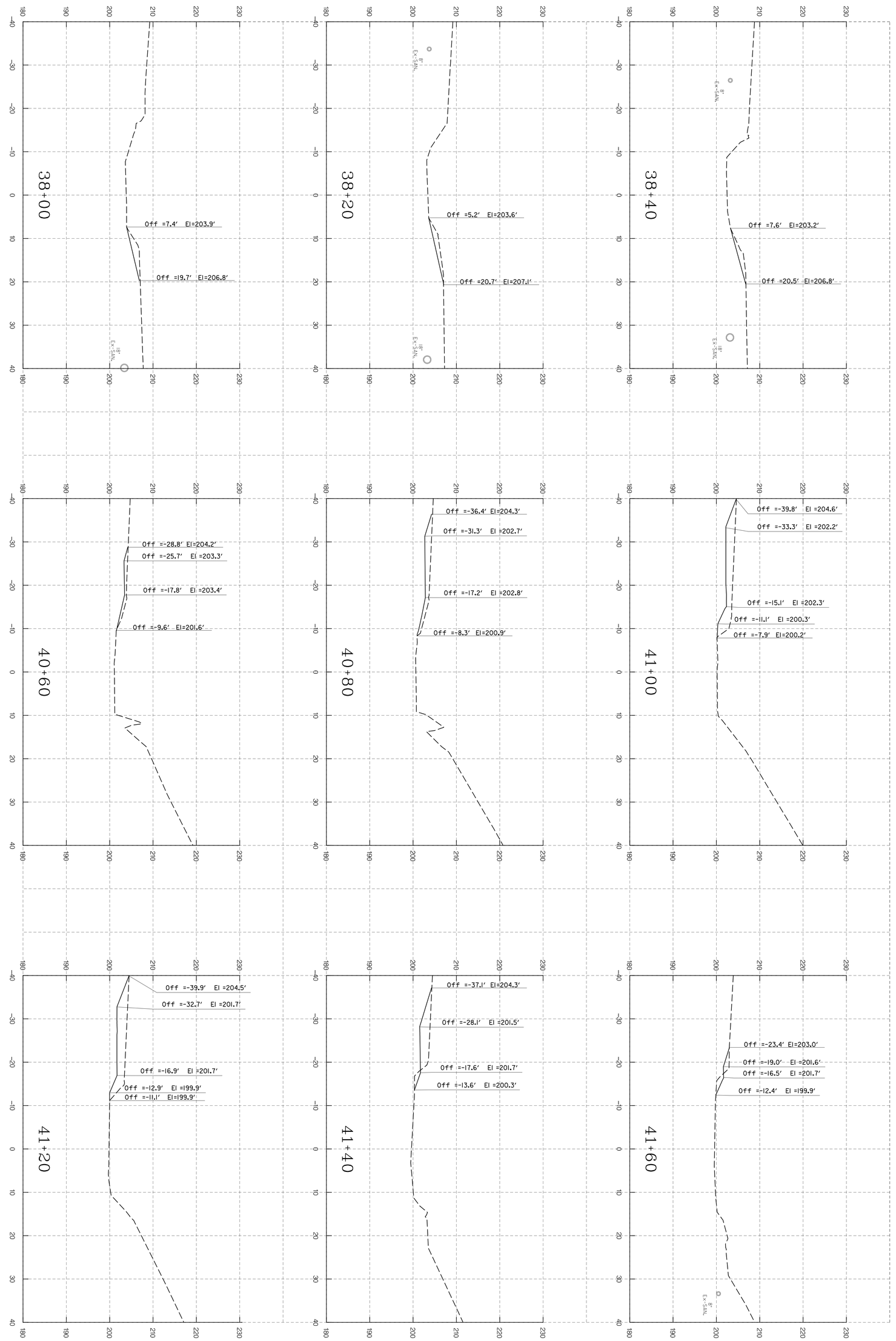

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SCALE:
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SHEET 49 OF 51

DEVELOPER
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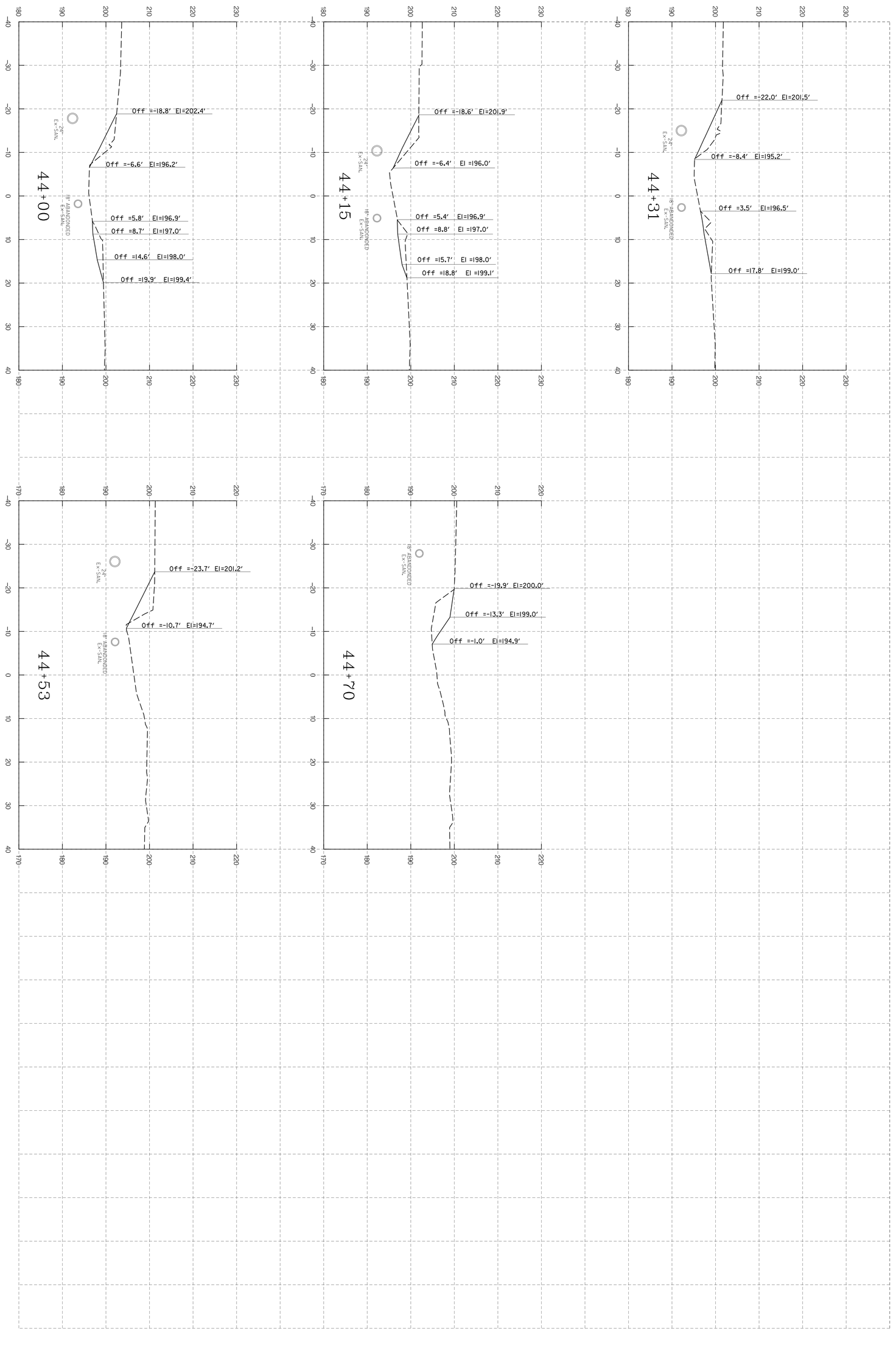

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DATE: 09-01-20
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SHEET 50 OF 51
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DEVELOPER
HARFORD COUNTY
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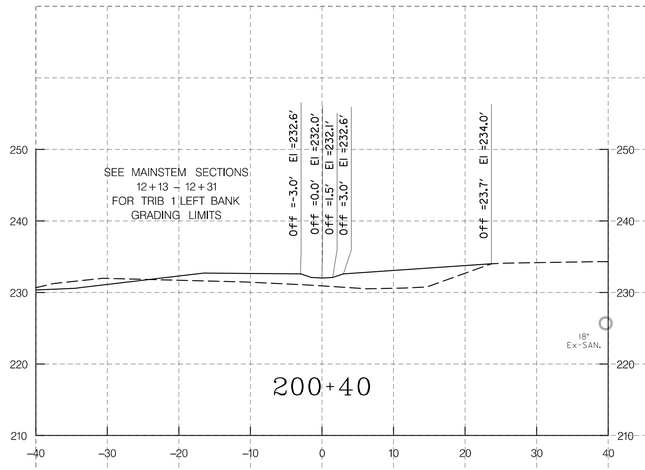

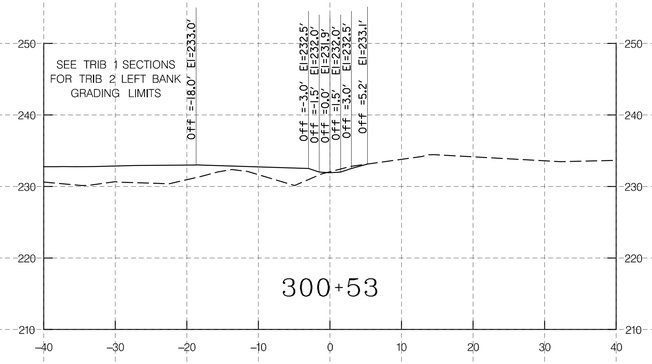

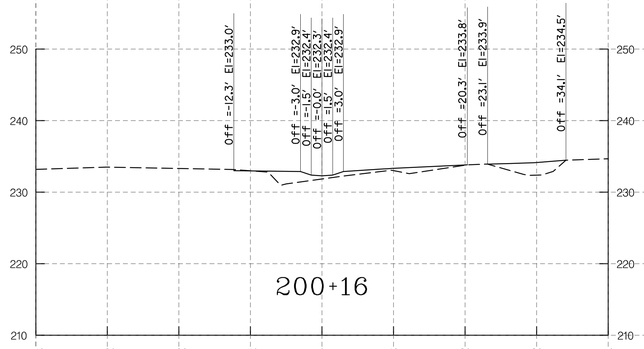

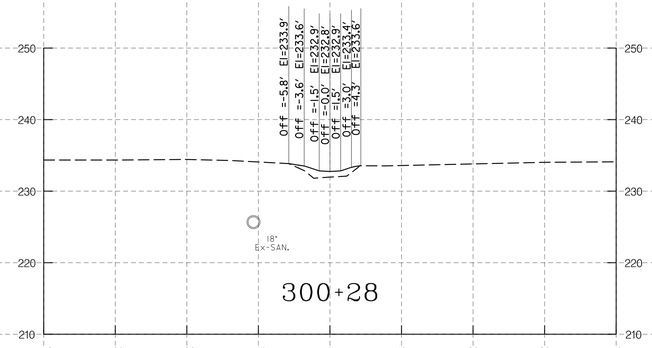

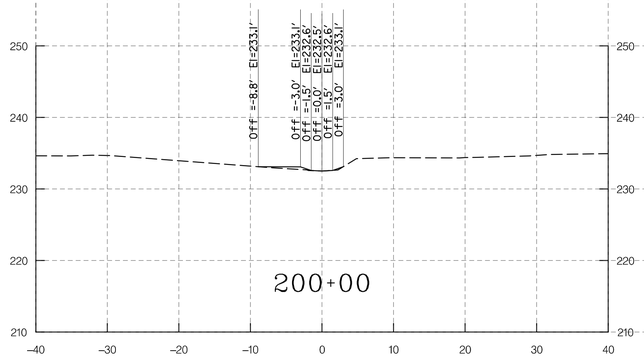

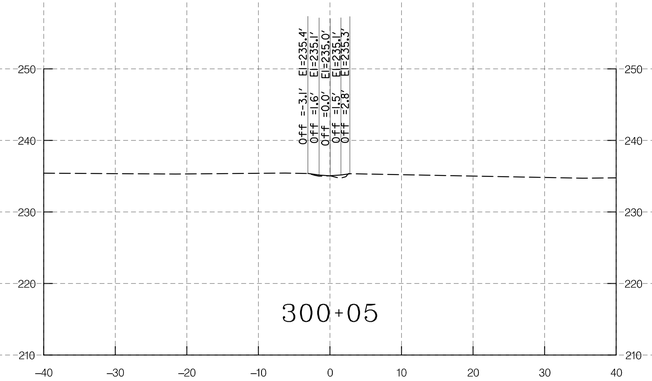

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DEVELOPER
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DEPARTMENT OF
PUBLIC WORKS

OFFICE OF WATERSHED
PROTECTION AND RESTORATION
212 S. TOLLGATE BOND STREET
1ST FLOOR
BEL AIR, MARYLAND 21014
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DATE 09-01-20	DRAWING NO.
SCALE	
DESIGNED BY KRM/JBS	SHEET 51 OF 51
DRAWN BY WJW	FWA JOB NUMBER