

HOWARD COUNTY

Capital Project #D-1158

Wheatfield Way

Stream Rehabilitation Project

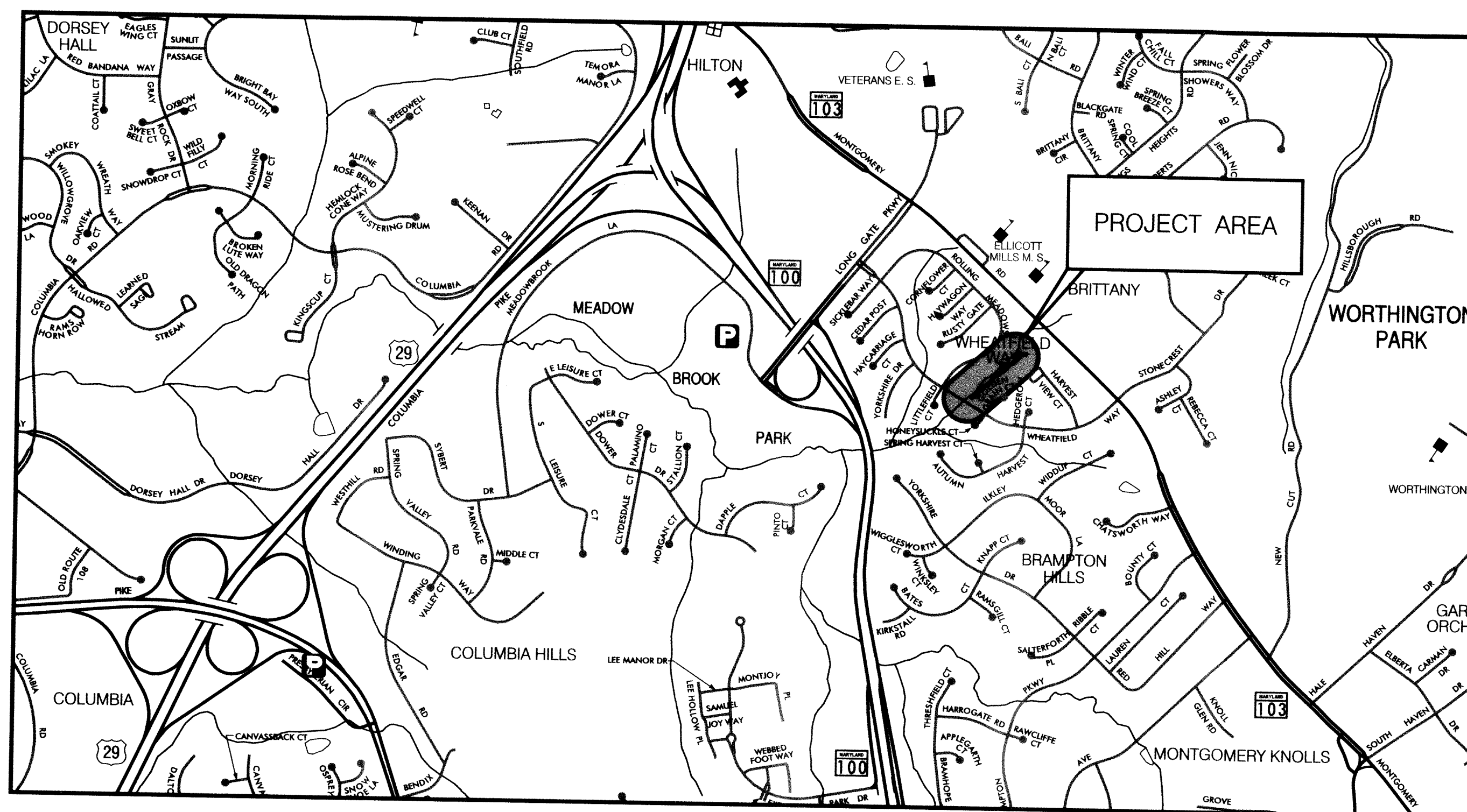
Storm Water Management Division
Bureau Of Environmental Services

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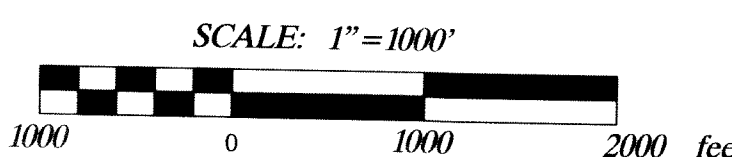
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HORIZONTAL DATUM NAD 83 /91
VERTICAL DATUM NAVD 88



GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FIVE (5) WORKING DAYS PRIOR TO ANY WORK BEING DONE.
- THIS PLAN IS PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS /BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- SURVEY OF THIS SITE WAS PERFORMED BY AB CONSULTANTS, INC-OCTOBER 2011.
- THE COORDINATES SHOWN HEREON ARE BASED ON HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM BENCHMARKS SHOWN HEREON WERE PROVIDED BY AB CONSULTANTS INC.
- WATERS OF THE US WERE DELINEATED BY MCCORMICK TAYLOR SEPTEMBER 2011.
- OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND MCCORMICK TAYLOR DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTOR MUST VERIFY SUCH INFORMATION TO HIS OWN SATISFACTION.
- THE EXISTING INFORMATION SHOWN ON THESE PLANS WAS TAKEN FROM THE BEST AVAILABLE SOURCES AND SHALL BE VERIFIED BEFORE STARTING CONSTRUCTION. HOWARD COUNTY DOES NOT GUARANTEE THE COMPLETENESS OR THE CORRECTNESS OF THE SHOWN INFORMATION.
- THE CONTRACTORS SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE ANY DAMAGE INCURRED DUE TO THE CONTRACTORS'S OPERATION SHALL BE REPAIRED IMMEDIATELY. ALL UTILITIES SHALL HAVE A CLEARANCE BY A MINIMUM OF 6 INCHES VERTICALLY AND A MINIMUM OF 5 FEET HORIZONTALLY.
- SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY MCCORMICK TAYLOR IMMEDIATELY TO RESOLVE THE SITUATION.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- SITE DEVELOPMENT DETAILS ARE REFERENCED FROM THE AS-BUILT PLANS FOR LONG GATE SECTION 2 AREA 1 (F-87-195), SECTION 1 AREA 2 (F-86-095), SECTION 1 AREA 4 (F-87-050).
- A JOINT PERMIT APPLICATION HAS BEEN SUBMITTED TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR THIS PROJECT. (TRACKING NUMBER 201260617)
- STORMWATER MANAGEMENT IS NOT REQUIRED FOR THIS PROJECT SINCE THIS PROJECT WILL NOT ADD IMPERVIOUS AREA.
- WAIVER PETITION WP-13-013 HAS BEEN APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING FOR THIS PROJECT, SUBJECT TO THE FOLLOWING CONDITIONS:
 - PETITIONER SHALL SUBMIT TO THE DEPARTMENT OF PLANNING AND ZONING A COPY OF THE MEMORANDUM AUTHORIZING THE DEPARTMENT OF FINANCE, BUREAU OF ACCOUNTING, TO TRANSFER \$12,741.00 TO THE FOREST CONSERVATION FUND- SECTION 16.1211, SAP ACCT. #2060000000-3000-3000000000-PWPW0000000000-432521.
 - PETITIONER SHALL SUBMIT A COMPLETED FOREST CONSERVATION DATA SUMMARY TO THE DPZ, DIVISION OF LAND DEVELOPMENT, ATTN: DAVE BOELLNER.

DEPARTMENT OF RECREATION AND PARKS, HOWARD COUNTY, MD

[Signature]
DIRECTOR OF RECREATION AND PARKS
DATE: 9/27/12

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature]
HOWARD SOIL CONSERVATION DISTRICT
DATE: 10/1/12

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 25819, EXPIRATION DATE: 2/5/2013

DESIGN CERTIFICATION

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

9-27-12
DATE

[Signature]
DESIGNER'S SIGNATURE

MARYLAND REGISTRATION NUMBER 25819

CHRIS J. BROOKS
PRINTED NAME

OWNER'S/DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

9/27/12
DATE

[Signature]
OWNER/DEVELOPER SIGNATURE

Howard E. Sattner
Chief, Stormwater Management Division
PRINTED NAME AND TITLE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

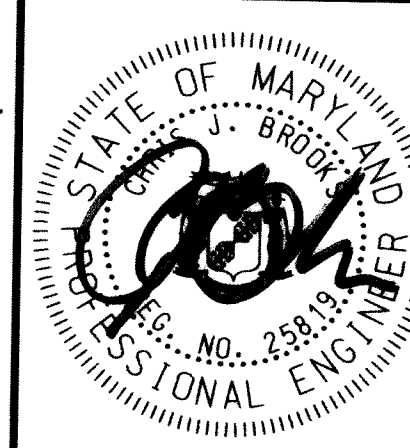
[Signature] 9/26/12
DIRECTOR OF PUBLIC WORKS DATE
[Signature] 9/28/12
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE
[Signature] 9/27/12
CHIEF, STORMWATER MANAGEMENT DIVISION DATE

McCormick Taylor
Engineers & Planners
Since 1946

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

Howard County
MARYLAND

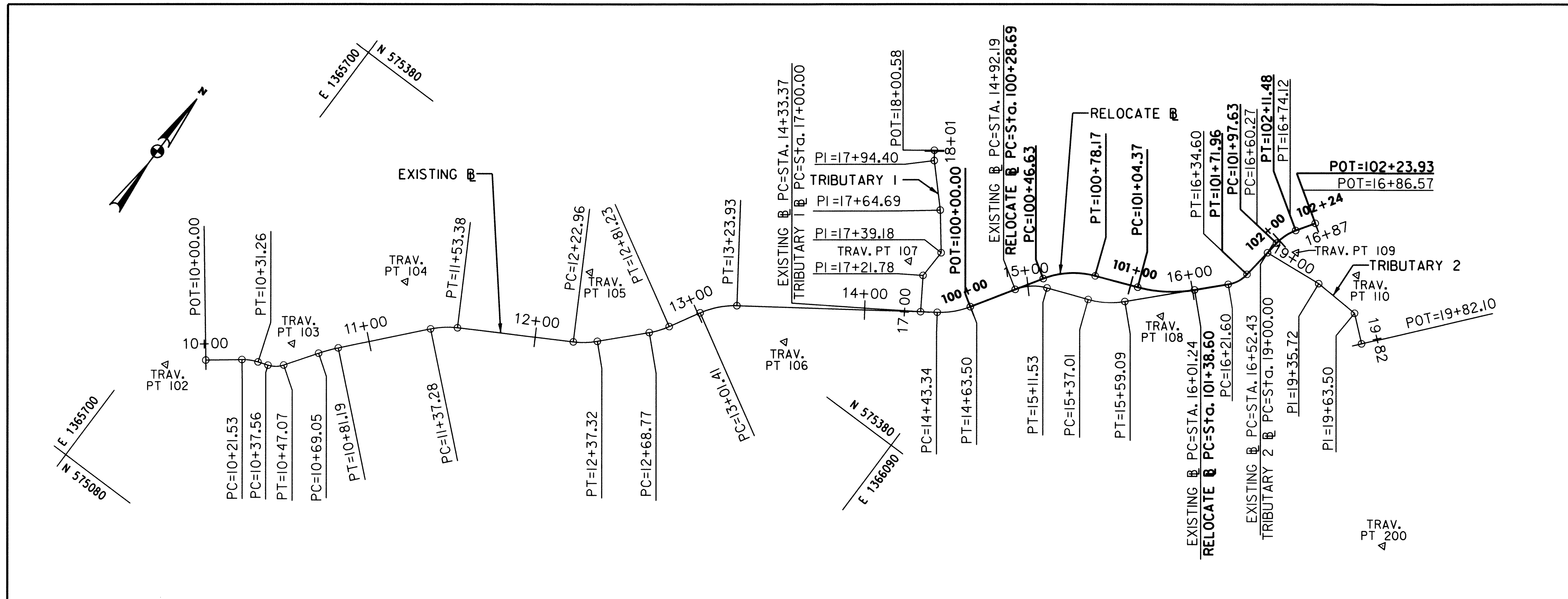
Storm Water Management Division
Bureau of Environmental Services
6751 Columbia Gateway Drive, Suite 514
Columbia, Maryland 21046-3143
(410) 313-6444



DES:	DF	LEN	AS-BUILT	3/26/13
DRN:	WW			
CHK:	LN			
DATE:	9/26/12			
BY	NO.	REVISION	DATE	

HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
WHEATFIELD WAY STREAM REHABILITATION PROJECT
CAPITAL PROJECT# D-1158
ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION WP-13-013
TITLE SHEET

SCALE AS SHOWN
SHEET 1 OF 23



BASELINE CONTROL COORDINATES

CONSTRUCTION	POINT	NORTHING	EASTING	STATION	BEARING AH	RADIUS
	POT=	575175.1406	1365732.9329	10+00.00	N 52° 15'34" E	
	PC=	575188.3204	1365749.9607	10+21.53		
	PC=	575188.3204	1365749.9607	10+21.53	N 52° 15'34" E	
	PI=	575191.3230	1365753.8399	10+26.44		
	CC =	575164.5967	1365768.3233			30.00'
	PT=	575192.9336	1365758.4735	10+31.26	N 70° 49'57" E	
	PC=	575195.0015	1365764.4225	10+37.56		
	PC=	575195.0015	1365764.4225	10+37.56	N 70° 49'57" E	
	PI=	575196.6172	1365769.0707	10+42.48		
	CC =	575209.1700	1365759.4975			15.00'
	PT=	575200.6724	1365771.8584	10+47.07	N 34° 30'25" E	
	PC=	575218.7905	1365784.3139	10+69.05		
	PC=	575218.7905	1365784.3139	10+69.05	N 34° 30'25" E	
	PI=	575223.7980	1365787.7563	10+75.13		
	CC =	575162.1399	1365866.7197			100.00'
	PT=	575228.3518	1365791.7797	10+81.19	N 41° 27'42" E	
	PC=	575270.3815	1365828.9144	11+37.28		
	PC=	575270.3815	1365828.9144	11+37.28	N 41° 27'42" E	
	PI=	575276.4706	1365834.2942	11+45.40		
	CC =	575237.2756	1365866.3844			50.00'
	PT=	575280.5428	1365841.3254	11+53.38	N 59° 55'19" E	
	PC=	575315.4147	1365901.5356	12+22.96		
	PC=	575315.4147	1365901.5356	12+22.96	N 59° 55'19" E	
	PI=	575319.0382	1365907.7920	12+30.19		
	CC =	575358.6818	1365876.4766			50.00'
	PT=	575324.2856	1365912.7657	12+37.32	N 43° 27'58" E	
	PC=	575347.1067	1365934.3964	12+68.77		
	PC=	575347.1067	1365934.3964	12+68.77	N 43° 27'58" E	
	PI=	575351.6507	1365938.7034	12+75.03		
	CC =	575381.5029	1365898.1073			50.00'
	PT=	575357.1164	1365941.7570	12+81.23	N 29° 11'29" E	
	PC=	575374.7386	1365951.6023	13+01.41		
	PC=	575374.7386	1365951.6023	13+01.41	N 29° 11'29" E	
	PI=	575384.7389	1365957.1893	13+12.87		
	CC =	575350.3521	1365995.2520			50.00'
	PT=	575391.3094	1365966.5728	13+23.93	N 54° 59'58" E	
	PC=	575459.7987	1366064.3839	14+43.34		
	PC=	575459.7987	1366064.3839	14+43.34	N 54° 59'58" E	
	PI=	575465.6606	1366072.7553	14+53.56		
	CC =	575500.7561	1366035.7047			50.00'
	PT=	575474.3373	1366078.1552	14+63.50	N 31° 53'45" E	
	PC=	575498.6966	1366093.3151	14+92.19		
	PC=	575498.6966	1366093.3151	14+92.19	N 31° 53'45" E	
	PI=	575507.2008	1366098.6076	15+02.21		
	CC =	575482.8453	1366118.7854			30.00'
	PT=	575510.8194	1366107.9478	15+11.53	N 68° 49'23" E	
	PC=	575520.0241	1366131.7072	15+37.01		
	PC=	575520.0241	1366131.7072	15+37.01	N 68° 49'23" E	
	PI=	575524.0787	1366142.1732	15+48.23		
	CC =	575566.6475	1366113.6447			50.00'
	PT=	575532.2178	1366149.9020	15+59.09	N 43° 31'08" E	
	PC=	575577.5502	1366192.9494	16+21.60		
	PC=	575577.5502	1366192.9494	16+21.60	N 43° 31'08" E	
	PI=	575582.4365	1366197.5894	16+28.34		
	CC =	575591.3221	1366178.4465			20.00'
	PT=	575589.1344	1366198.3265	16+34.60	N 6° 16'47" E	
	PC=	575614.6502	1366201.1343	16+60.27		
	PC=	575614.6502	1366201.1343	16+60.27	N 6° 16'47" E	
	PI=	575621.6582	1366201.9055	16+67.32		
	CC =	575611.3686	1366230.9543			30.00'
	PT=	575627.5892	1366205.7175	16+74.12	N 32° 43'49" E	
	POT=	575638.0614	1366212.4484	16+86.57		

TRAVERSE CONTROL COORDINATES

POINT	NORTHING	EASTING	ELEVATION
102	575158.7505	1365715.3043	384.50
103	575213.9993	1365768.2559	379.91
104	575284.0341	1365799.9742	380.83
105	575354.6783	1365884.5649	383.30
106	575391.1709	1366002.2352	388.45
107	575474.2927	1366032.4350	387.30
108	575538.2346	1366172.4106	393.09
109	575617.2403	1366213.9381	391.80
110	575628.1179	1366250.9227	395.79
200	575508.3660	1366360.1137	401.84

BASELINE CONTROL COORDINATES

CONSTRUCTION	POINT	NORTHING	EASTING	STATION	BEARING AH	RADIUS
Tributary 1	POT=	575454.0806	1366056.2177	17+00.00	N 33° 01'47" W	
	PI=	575472.3438	1366044.3439	17+21.78		
	PI=	575472.3438	1366044.3439	17+21.78	N 1° 25'50" E	
	PI=	575489.7379	1366044.7783	17+39.18		
	PI=	575489.7379	1366044.7783	17+39.18	N 38° 06'41" W	
	PI=	575509.8084	1366029.0345	17+64.69		
	PI=	575509.8084	1366029.0345	17+64.69	N 43° 52'30" W	
	PI=	575531.2234	1366008.4443	17+94.40		
PI=	575531.2234	1366008.4443	17+94.40	N 36° 31'40" W		
POT=	575536.1874	1366004.7674	18+00.58			

BASELINE CONTROL COORDINATES

CONSTRUCTION	POINT	NORTHING	EASTING	STATION	BEARING AH	RADIUS
Relocate	POT=	575474.3373	1366078.1552	100+00.00	N 31° 53'45" E	
	PC=	575513.9280	1366102.7943	100+46.63		
	PC=	575513.9280	1366102.7943	100+46.63	N 31° 53'45" E	
	PI=	575527.7772	1366111.4132	100+62.94		
	CC =	575487.5092	1366145.2448			50.00'
	PT=	575533.8791	1366126.5410	100+78.17	N 68° 01'58" E	
	PC=	575543.6821	1366150.8441	101+04.37		
	PC=	575543.6821	1366150.8441	101+04.37	N 68° 01'58" E	
	PI=	575550.1835	1366166.9621	101+21.75		
	CC =	575617.8739	1366120.9180			80.00'
	PT=	575562.7864	1366178.9297	101+38.60	N 43° 31'08" E	
	PC=	575577.5502	1366192.9494	101+58.96		
	PC=	575577.5502	1366192.9494	101+58.96	N 43° 31'08" E	
	PI=	575582.4365	1366197.5894	101+65.70		
	CC =	575591.3221	1366178.4465			20.00'
	PT=	575589.1345	1366198.3265	101+71.96	N 6° 16'47" E	
	PC=	575614.6502	1366201.1343	101+97.63		
	PC=	575614.6502	1366201.1343	101+97.63	N 6° 16'47" E	
PI=	575621.6582	1366201.9055	102+04.68			
CC =	575611.3686	1366230.9543			30.00'	
PT=	575627.5892	1366205.7176	102+11.48	N 32° 43'49" E		
POT=	575638.0614	1366212.4484	102+23.93			

BASELINE CONTROL COORDINATES

CONSTRUCTION	POINT	NORTHING	EASTING	STATION	BEARING AH	RADIUS
Tributary 2	POT=	575606.8524	1366200.2762	19+00.00	N 84° 19'28" E	
	PI=	575610.3852	1366235.8232	19+35.72		
	PI=	575610.3852	1366235.8232	19+35.72	S 87° 12'42" E	
	PI=	575609.0341	1366263.5651	19+63.50		
	PI=	575609.0341	1366263.5651	19+63.50	S 49° 54'14" E	
POT=	575597.0497	1366277.7990	19+82.10			

EXISTING CURVE DATA

CURVE NO.	DELTA	Dc	R	T	L	E	CENTER OF CURVE
C-1	18° 34'24"	190° 59'09"	30.00'	4.91'	9.72'	0.4	575164.5967 1365768.3233
C-2	36° 19'33"	381° 58'19"	15.00'	4.92'	9.51'	0.79	575209.1700 1365759.4975
C-3	6° 57'17"	57° 17'45"	100.00'	6.08'	12.14'	0.18	575162.1399 1365866.7197
C-4	18° 27'37"	114° 35'30"	50.00'	8.13'	16.11'	0.66	575237.2756 1365866.3844
C-5	16° 27'21"	114° 35'30"	50.00'	7.23'	14.36'	0.52	575358.6818 1365876.4766
C-6	14° 16'28"	114° 35'30"	50.00'	6.26'	12.46'	0.39	575381.5029 1365898.1073
C-7	25° 48'29"	114° 35'30"	50.00'	11.46'	22.52'	1.3	575350.3521 1365995.2520
C-8	23° 06'13"	114° 35'30"	50.00'	10.22'	20.16'	1.03	575500.7561 1366035.7047
C-9	36° 55'38"	190° 59'09"	30.00'	10.02'	19.34'	1.63	575482.8453 1366118.7854
C-10	25° 18'14"	114° 35'30"	50.00'	11.22'	22.08'	1.24	575566.6475 1366113.6447
C-11	37° 14'21"	286° 28'44"	20.00'	6.74'	13.00'	1.1	575591.3221 1366178.4465
C-12	26° 27'01"	190° 59'09"	30.00'	7.05'	13.85'	0.82	575611.3686 1366230.9543

RELOCATE CURVE DATA

CURVE NO.	DELTA	Dc	R	T	L	E	CENTER OF CURVE
C-13	36° 08'13"	114° 35'30"	50.00'	16.31'	31.54'	2.59	575487.5092 1366145.2448
C-14	24° 30'50"	71° 37'11"	80.00'	17.38'	34.23'	1.87	575617.8739 1366120.9180
C-15	37° 14'21"	286° 28'44"	20.00'	6.74'	13.00'	1.1	575591.3221 1366178.4465
C-16	26° 27'01"	190° 59'09"	30.00'	7.05'	13.85'	0.82	575611.3686 1366230.9543

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

9/28/12
DATE

McCormick Taylor
Engineers & Planners
Since 1946

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

Howard County
MARYLAND

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

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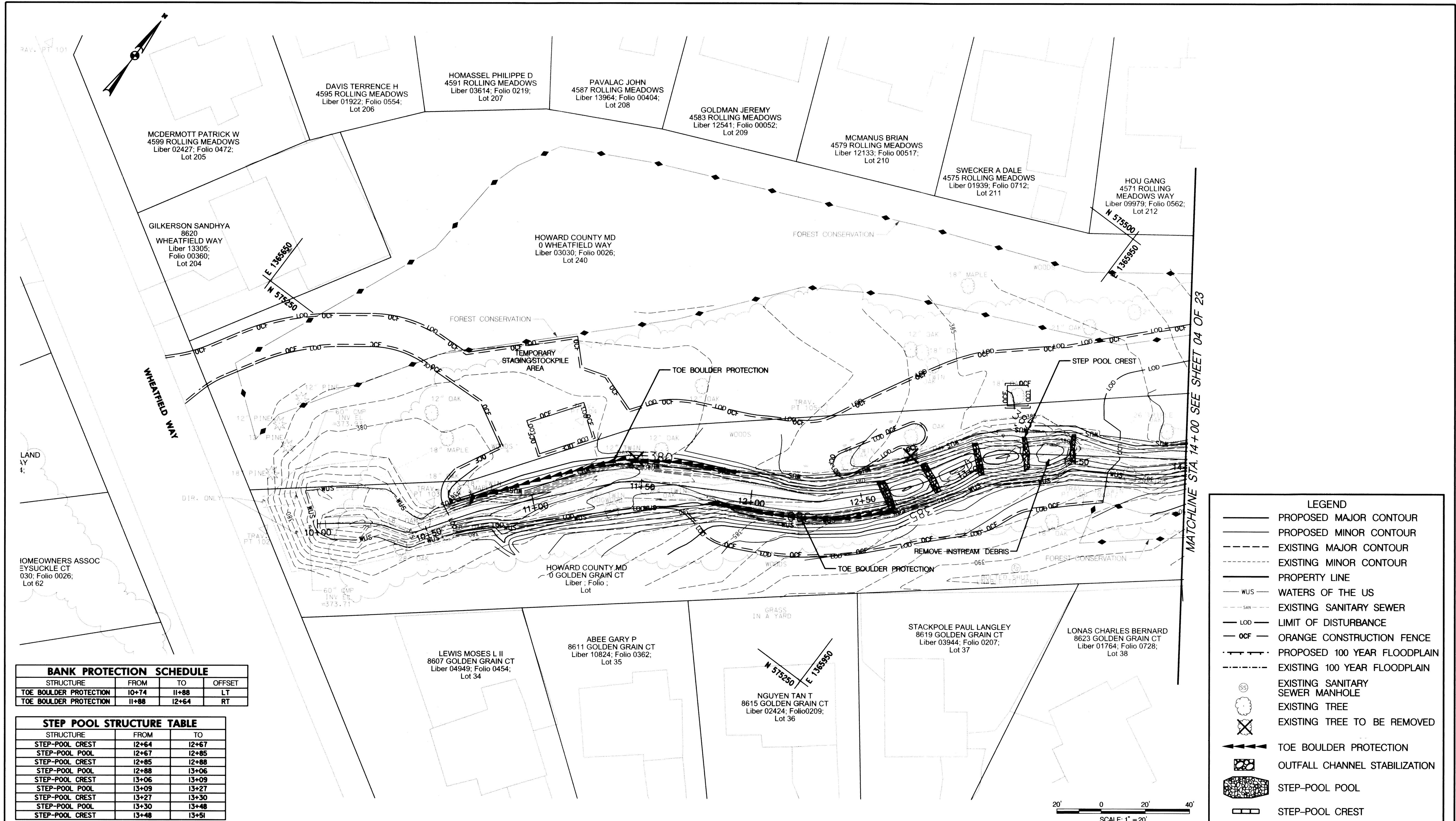
BY NO. REVISION DATE

HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
WHEATFIELD WAY STREAM REHABILITATION PROJECT
CAPITAL PROJECT #D-1158
ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013

SCALE
1" = 40'

SHEET
2 OF 23

GEOMETRY SHEET



MATCHLINE STA. 14+00 SEE SHEET 04 OF 23

BANK PROTECTION SCHEDULE

STRUCTURE	FROM	TO	OFFSET
TOE BOULDER PROTECTION	10+74	11+88	LT
TOE BOULDER PROTECTION	11+88	12+64	RT

STEP POOL STRUCTURE TABLE

STRUCTURE	FROM	TO
STEP-POOL CREST	12+64	12+67
STEP-POOL POOL	12+67	12+85
STEP-POOL CREST	12+85	12+88
STEP-POOL POOL	12+88	13+06
STEP-POOL CREST	13+06	13+09
STEP-POOL POOL	13+09	13+27
STEP-POOL CREST	13+27	13+30
STEP-POOL POOL	13+30	13+48
STEP-POOL CREST	13+48	13+51

LEGEND

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE
- WUS - WATERS OF THE US
- EXISTING SANITARY SEWER
- LOD - LIMIT OF DISTURBANCE
- OCF - ORANGE CONSTRUCTION FENCE
- PROPOSED 100 YEAR FLOODPLAIN
- EXISTING 100 YEAR FLOODPLAIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- TOE BOULDER PROTECTION
- OUTFALL CHANNEL STABILIZATION
- STEP-POOL POOL
- STEP-POOL CREST



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Mark D. Luca
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

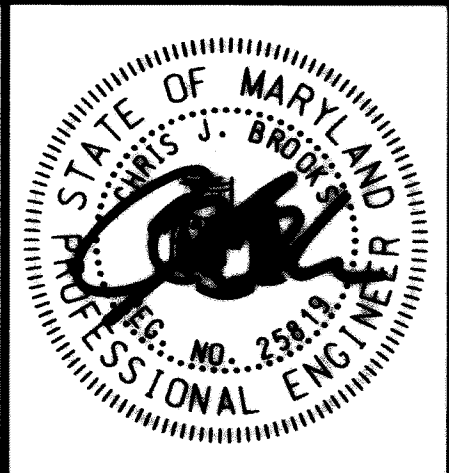
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McCormick Taylor
Engineers & Planners
Since 1946

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Howard County
MARYLAND

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Bureau of Environmental Services
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(410) 313-6444

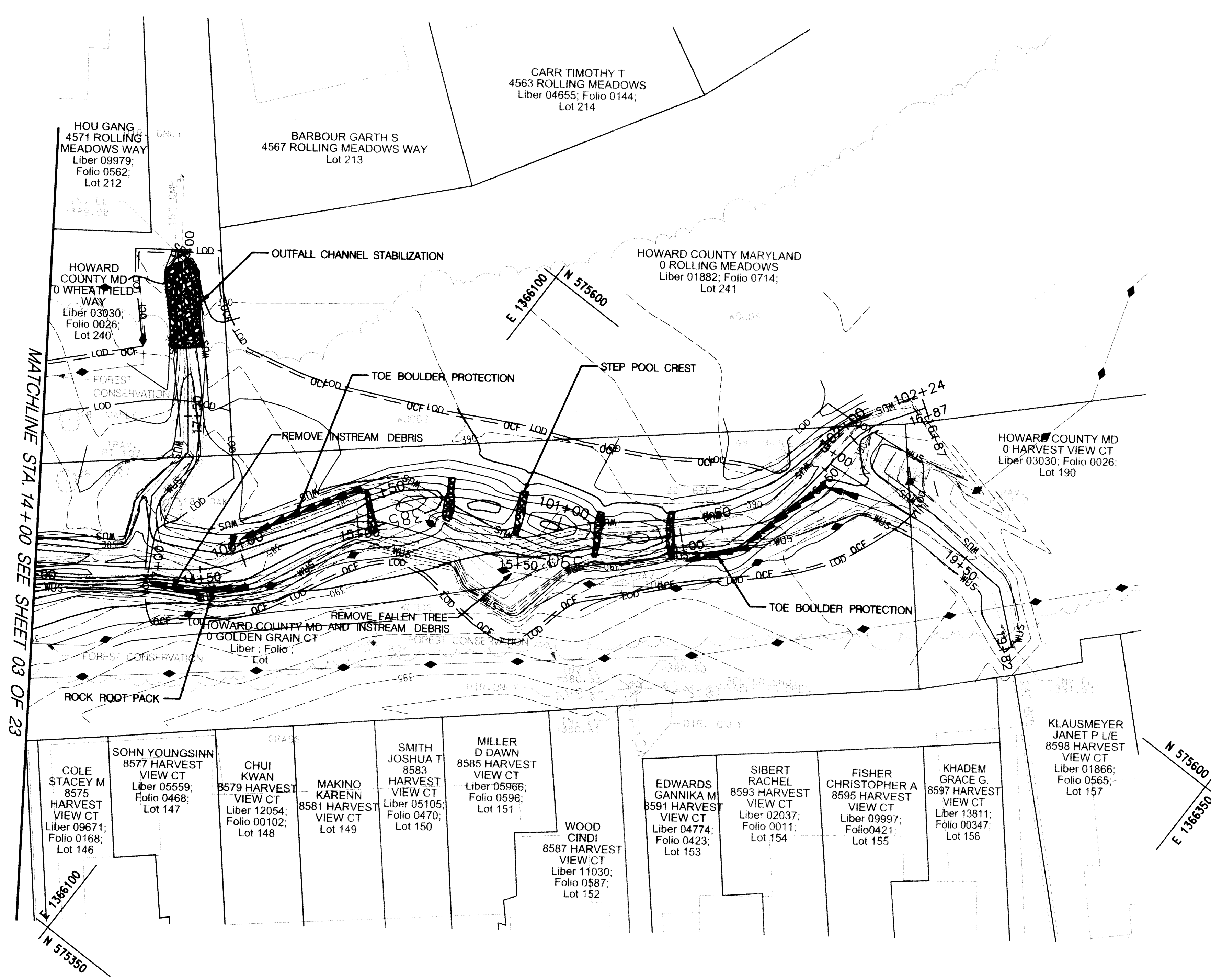
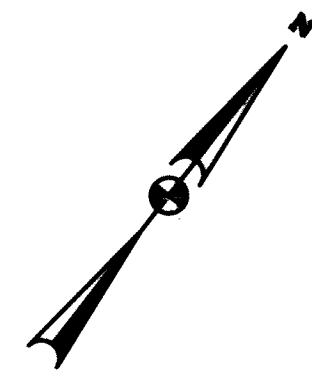


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DF			
DRN:			
WW			
CHK:			
LN			
DATE:	9/26/12		
BY	NO.	REVISION	DATE

HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
WHEATFIELD WAY STREAM REHABILITATION PROJECT
CAPITAL PROJECT #D-1158
ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013

SITE PLAN

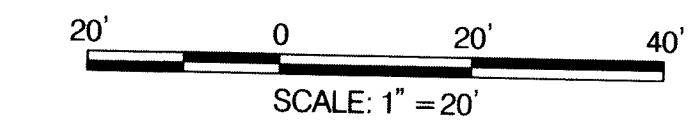
SCALE
1" = 20'
SHEET
3 OF 23



MATCHLINE STA. 14+00 SEE SHEET 03 OF 23

LEGEND

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE
- WATERS OF THE US
- EXISTING SANITARY SEWER
- LIMIT OF DISTURBANCE
- ORANGE CONSTRUCTION FENCE
- PROPOSED 100 YEAR FLOODPLAIN
- EXISTING 100 YEAR FLOODPLAIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- TOE BOULDER PROTECTION
- OUTFALL CHANNEL STABILIZATION
- STEP-POOL POOL
- STEP-POOL CREST



BANK PROTECTION SCHEDULE

STRUCTURE	FROM	TO	OFFSET
TOE BOULDER PROTECTION	100+00	100+40	LT
TOE BOULDER PROTECTION	101+39	101+86	RT

STEP POOL STRUCTURE TABLE

STRUCTURE	FROM	TO
STEP-POOL CREST	100+40	100+43
STEP-POOL POOL	100+43	100+64
STEP-POOL CREST	100+64	100+67
STEP-POOL POOL	100+67	100+88
STEP-POOL CREST	100+88	100+91
STEP-POOL POOL	100+91	101+12
STEP-POOL CREST	101+12	101+15
STEP-POOL POOL	101+15	101+36
STEP-POOL CREST	101+36	101+39

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Mark D. Luna
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

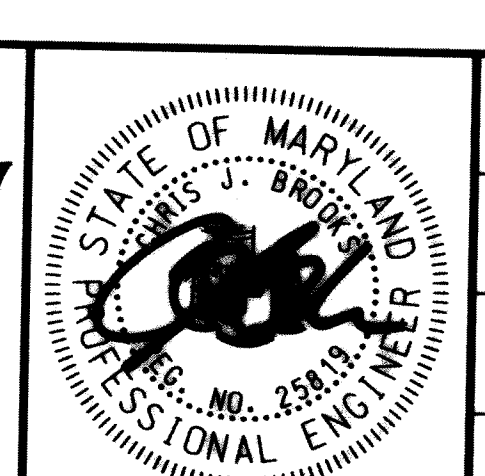
8/28/12
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Since 1946

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(410) 662-7400

Howard County
MARYLAND

Storm Water Management Division
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(410) 313-6444



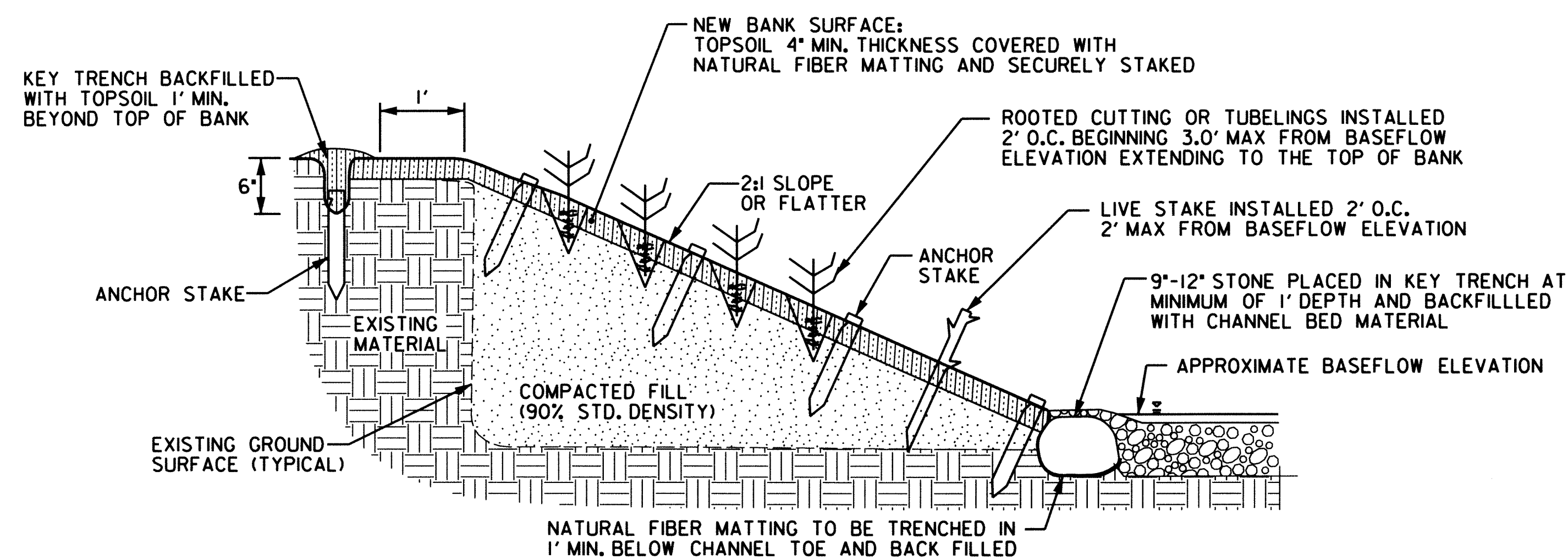
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DRN: WW			
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DATE: 9/26/12	BY	NO.	REVISION
			DATE

HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
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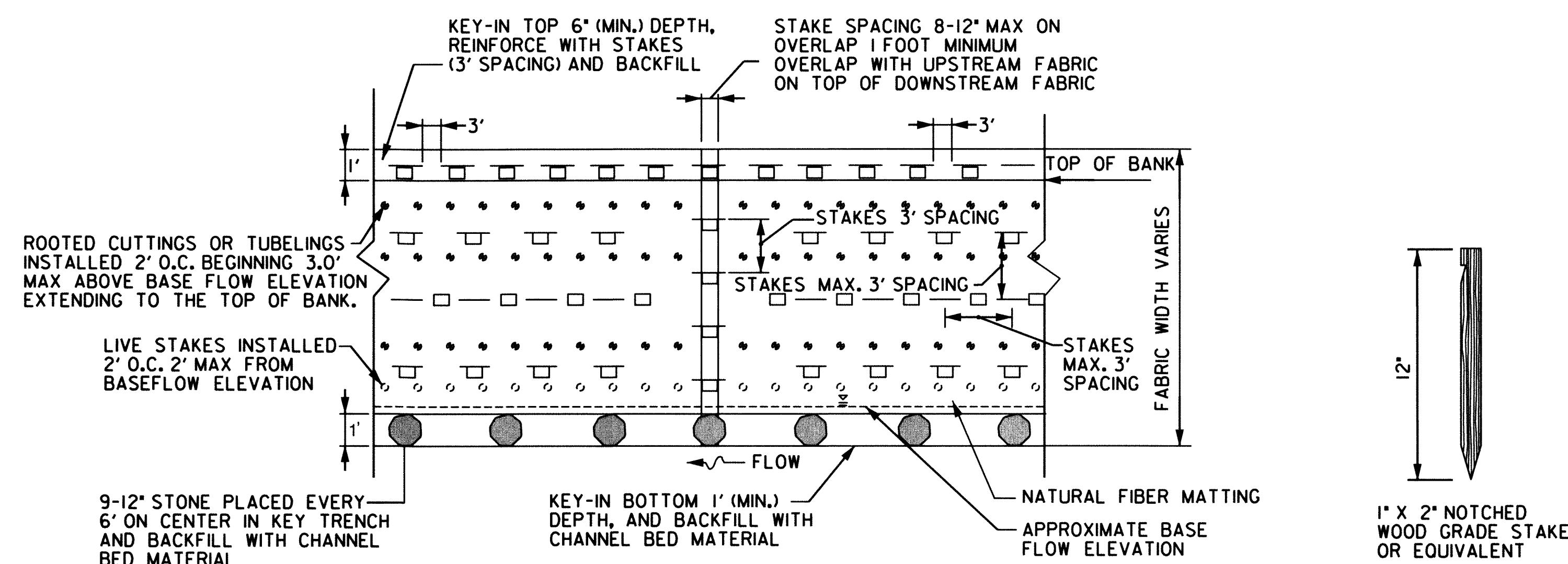
SITE PLAN

SCALE
1" = 20'

SHEET
4 OF 23

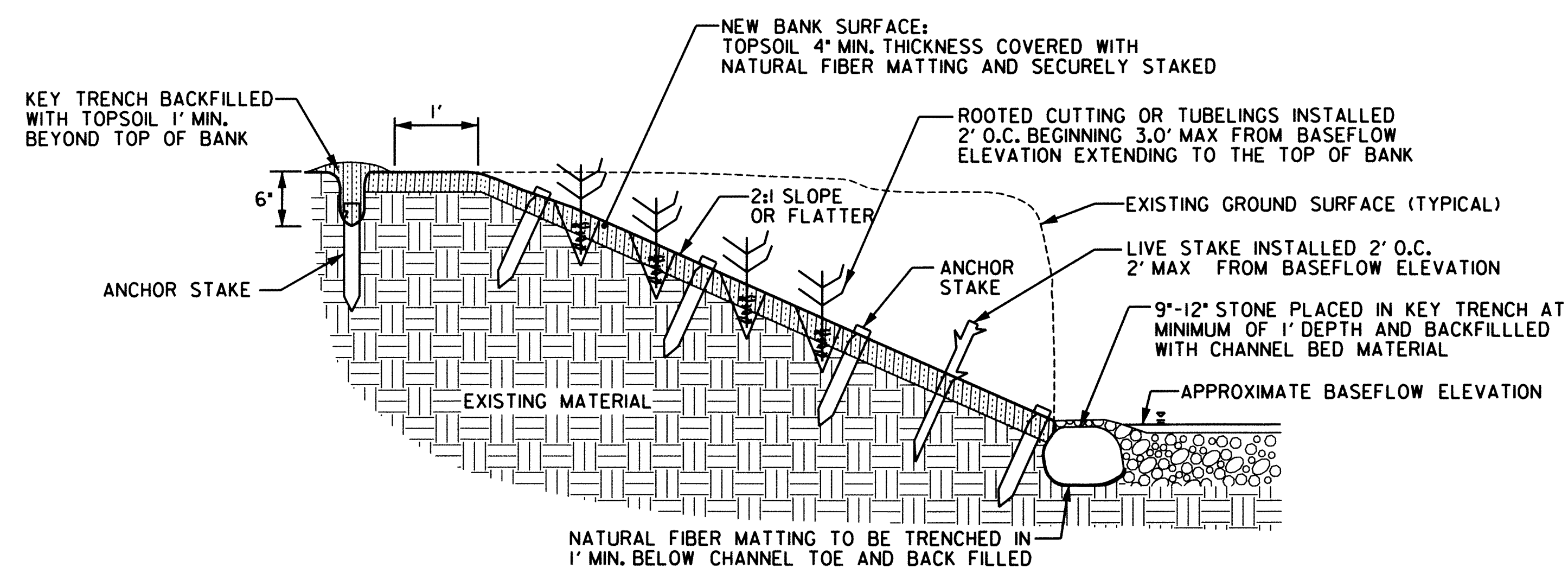


TYPICAL STREAMBANK STABILIZATION IN FILL WITH STONE KEY
NOT TO SCALE

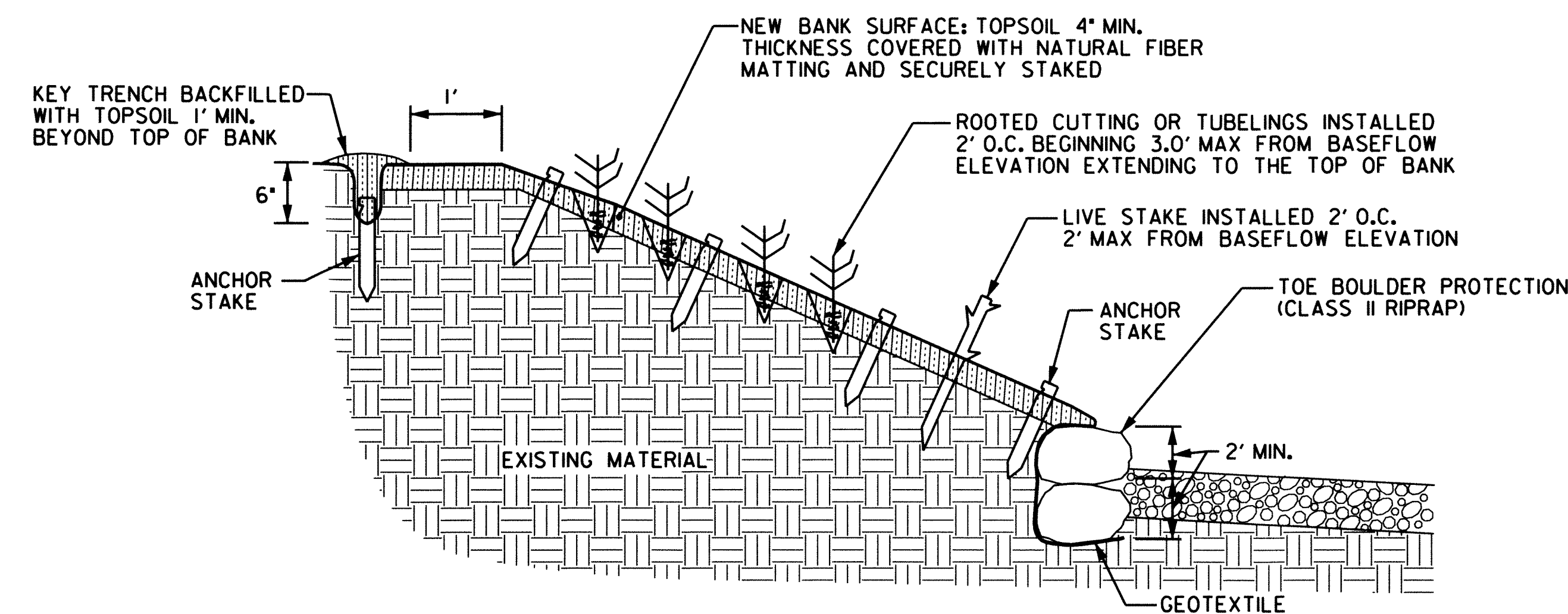


NATURAL FIBER MATTING - PLAN VIEW
NOT TO SCALE

ANCHOR STAKE
NOT TO SCALE



TYPICAL STREAMBANK STABILIZATION IN CUT WITH STONE KEY
NOT TO SCALE



TOE BOULDER PROTECTION TYPICAL
NOT TO SCALE

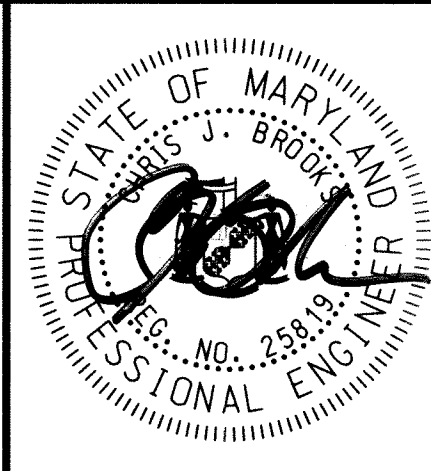
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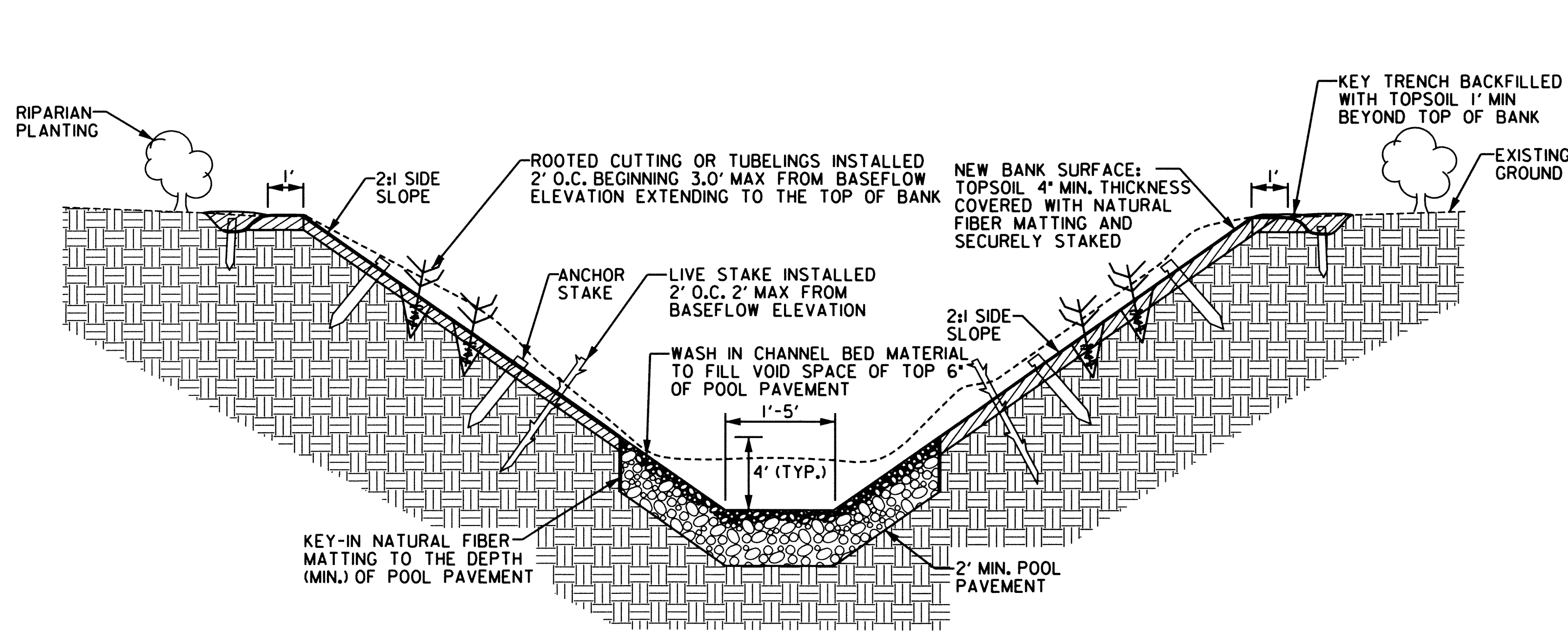
HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
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STREAM STABILIZATION DETAILS

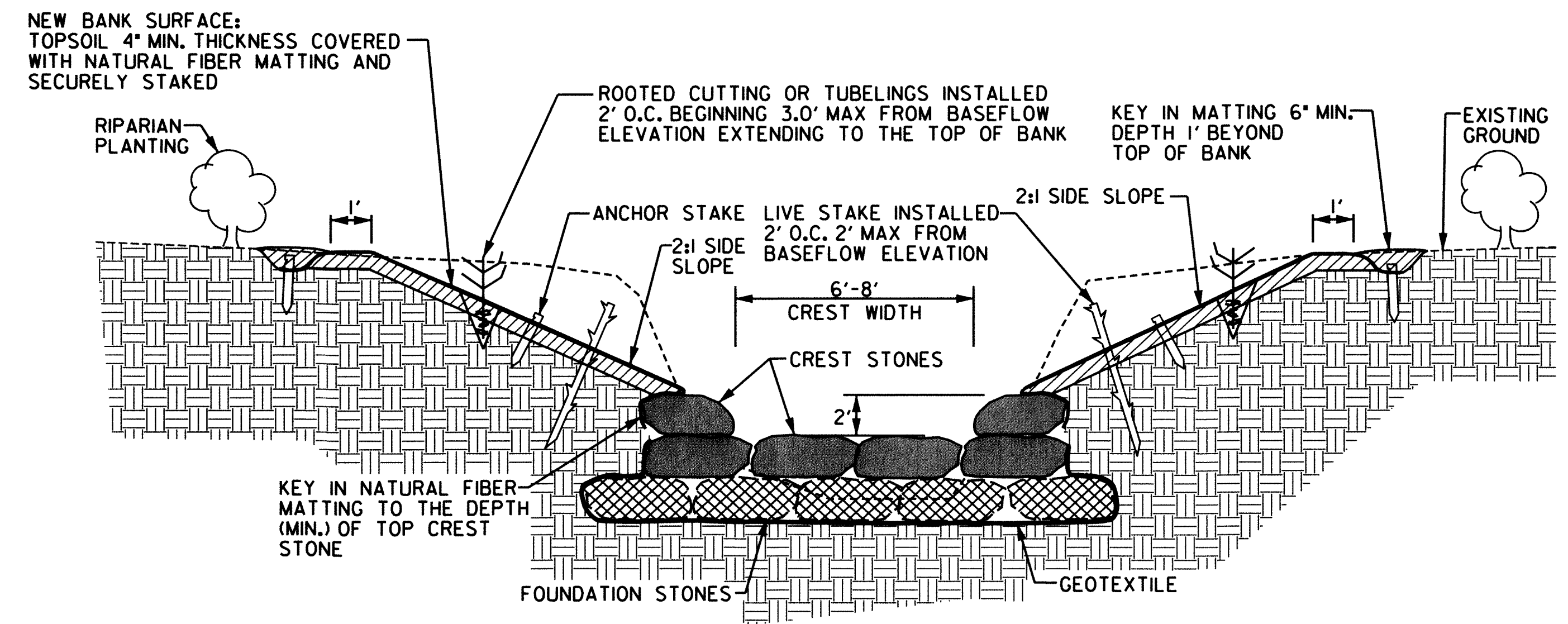
SCALE
AS NOTED
SHEET
5 OF 23

William L. Lewis
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

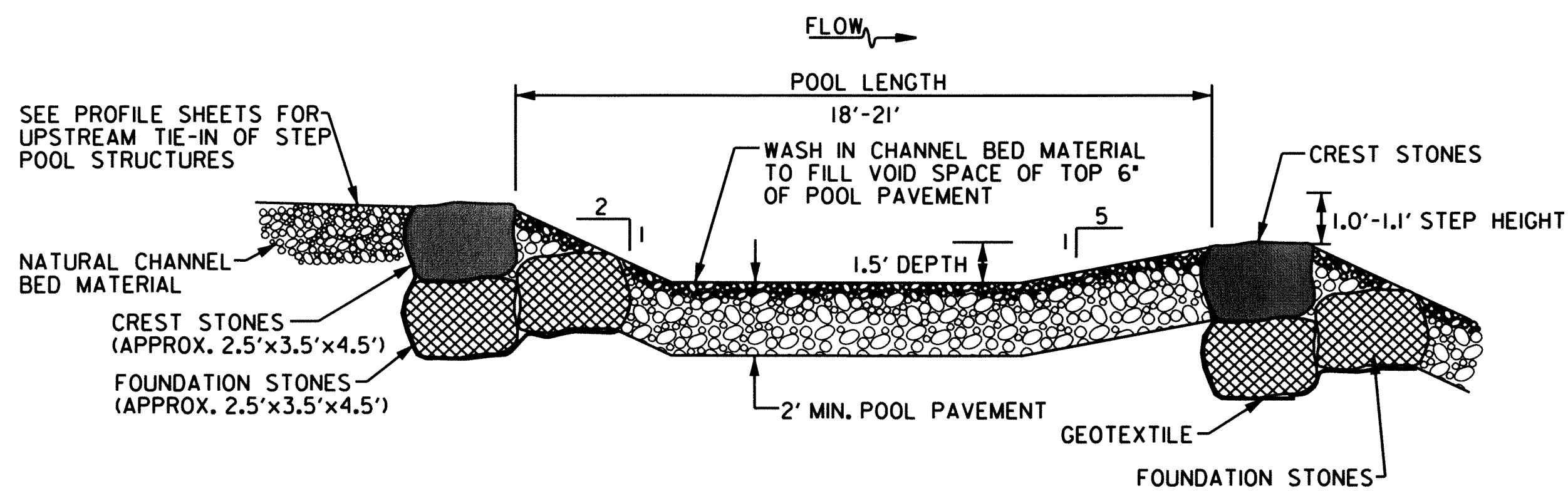
9/28/12
DATE



TYPICAL CROSS SECTION OF STEP-POOL POOL
NOT TO SCALE

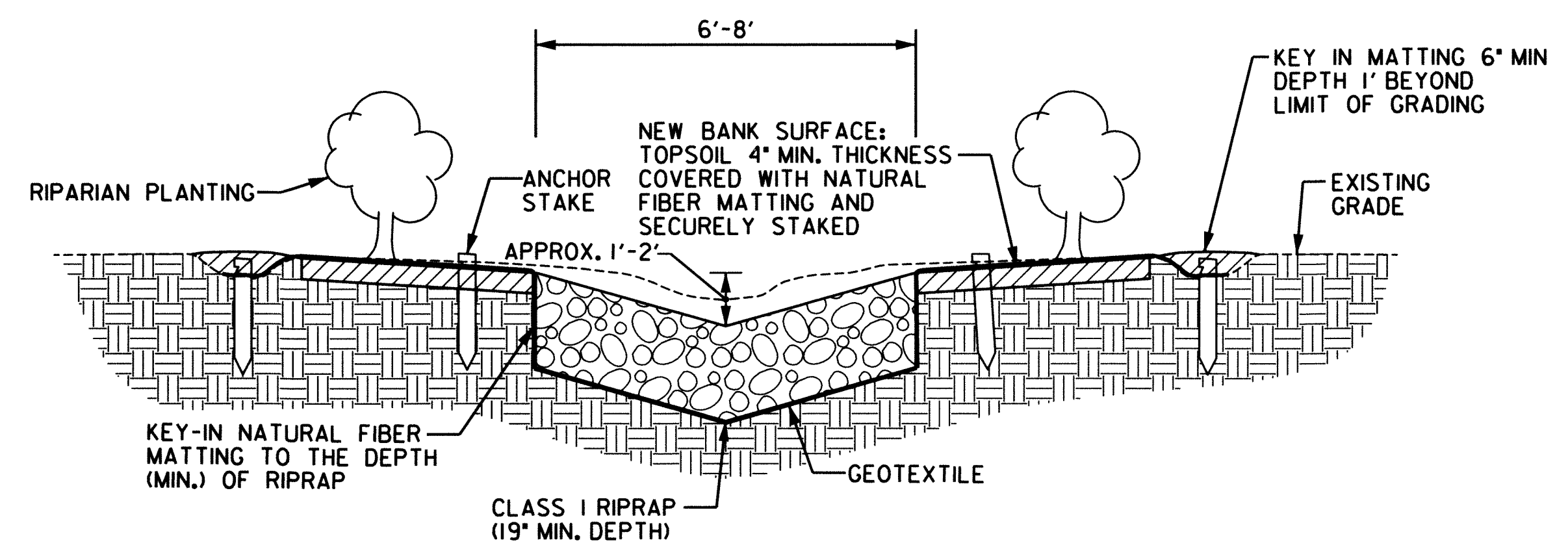


TYPICAL CROSS SECTION OF STEP-POOL CREST
NOT TO SCALE



TYPICAL PROFILE THROUGH STEP-POOL
NOT TO SCALE

POOL PAVEMENT MIX	
AMOUNT OF STONE (%)	TYPE
20	57 STONE
50	SHA CLASS 0
30	SHA CLASS 1
100	TOTAL



OUTFALL CHANNEL STABILIZATION
NOT TO SCALE

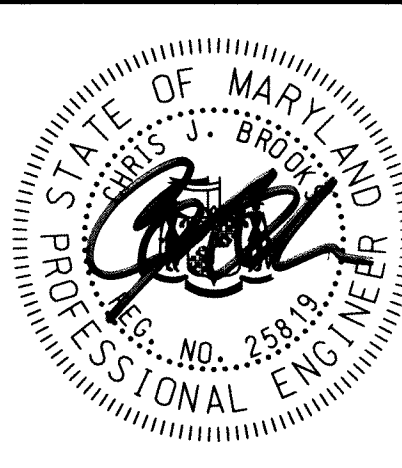
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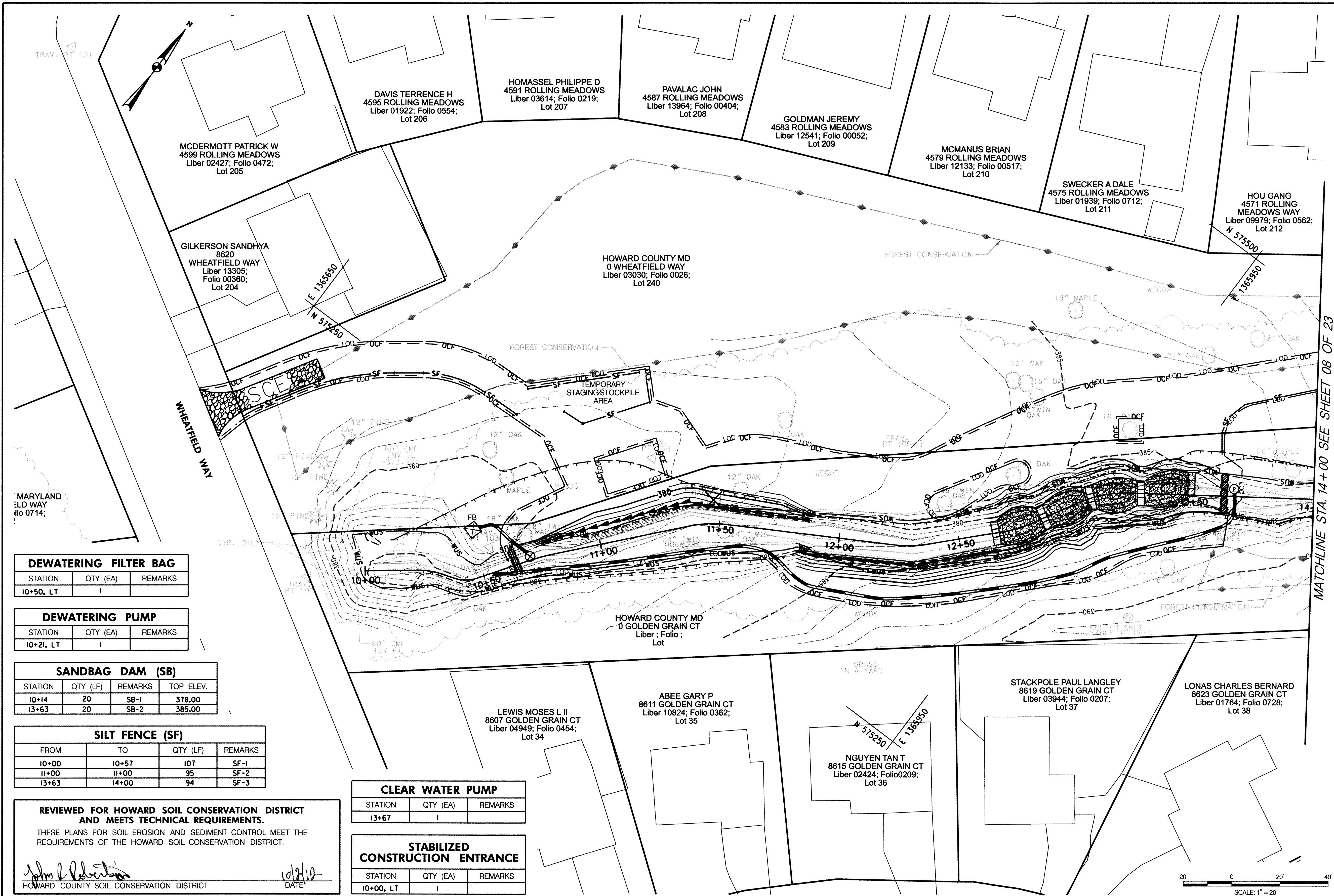
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CAPITAL PROJECT #D-1158
ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
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WAIVER PETITION #WP-13-013

STREAM STABILIZATION DETAILS

SCALE
AS NOTED
SHEET
6 OF 23

Wade H. ...
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

9/28/12
DATE



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

- NOTE:**
1. EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED.
 2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS SOON AS PRACTICABLE FOR EACH PHASE OF CONSTRUCTION AND CAN ONLY BE REMOVED UPON THE APPROVAL OF THE ENGINEER AND THE SEDIMENT CONTROL INSPECTOR. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.
 3. CONTRACTOR SHALL STABILIZE DISTURBED AREAS WITHIN THE WORK AREA AT THE END OF EACH WORK DAY.
 4. ANY STOCKPILE OF MATERIALS MUST REMAIN OUTSIDE THE 100 YEAR FLOODPLAIN.

DEWATERING FILTER BAG

STATION	QTY (EA)	REMARKS
10+50, LT	1	

DEWATERING PUMP

STATION	QTY (EA)	REMARKS
10+21, LT	1	

SANDBAG DAM (SB)

STATION	QTY (LF)	REMARKS	TOP ELEV.
10+14	20	SB-1	378.00
13+63	20	SB-2	385.00

SILT FENCE (SF)

FROM	TO	QTY (LF)	REMARKS
10+00	10+57	107	SF-1
11+00	11+00	95	SF-2
13+63	14+00	94	SF-3

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John M. Robertson
 HOWARD COUNTY SOIL CONSERVATION DISTRICT
 DATE: 10/28/12

CLEAR WATER PUMP

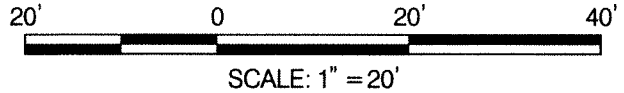
STATION	QTY (EA)	REMARKS
13+67	1	

STABILIZED CONSTRUCTION ENTRANCE

STATION	QTY (EA)	REMARKS
10+00, LT	1	

LEGEND

- PROPOSED MAJOR CONTOUR
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- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE
- WATERS OF THE US
- PROPOSED 100 YEAR FLOODPLAIN
- EXISTING 100 YEAR FLOODPLAIN
- SILT FENCE
- LIMIT OF DISTURBANCE
- ORANGE CONSTRUCTION FENCE
- EXISTING TREE
- SANDBAG DAM
- DEWATERING FILTER BAG
- DEWATERING PUMP
- CLEAR WATER PUMP
- TEMPORARY ACCESS BRIDGE
- STABILIZED CONSTRUCTION ENTRANCE
- DIVERSION/DEWATERING HOSE



MATCHLINE STA. 14+00 SEE SHEET 08 OF 23

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Mark Kowalski
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
 DATE: 9/28/12

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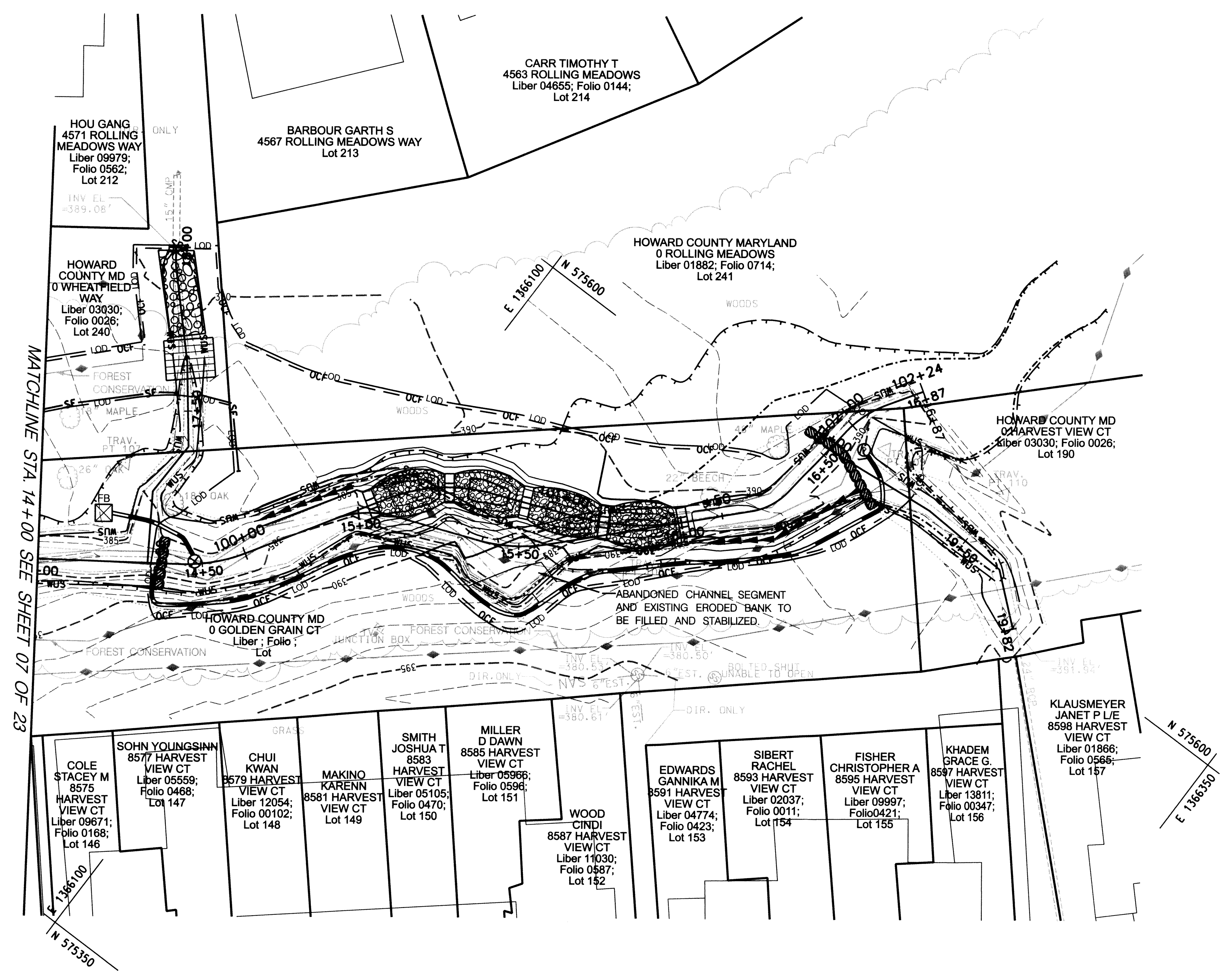
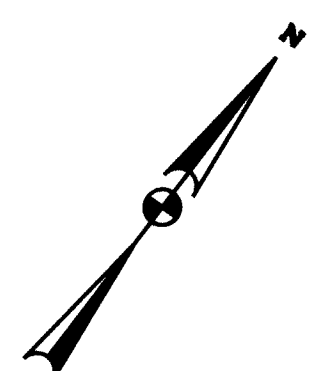


DES: DF				
DRN: WW				
CHK: LN				
DATE: 9/26/12	BY	NO.	REVISION	DATE

HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
WHEATFIELD WAY STREAM REHABILITATION PROJECT
CAPITAL PROJECT #D-1158
ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013

EROSION AND SEDIMENT CONTROL PLAN

SCALE
 1" = 20'
 SHEET
 7 OF 23



- TIME RESTRICTION NOTES:**
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- NOTE:**
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 2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS SOON AS PRACTICABLE FOR EACH PHASE OF CONSTRUCTION AND CAN ONLY BE REMOVED UPON THE APPROVAL OF THE ENGINEER AND THE SEDIMENT CONTROL INSPECTOR. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.
 3. CONTRACTOR SHALL STABILIZE DISTURBED AREAS WITHIN THE WORK AREA AT THE END OF EACH WORK DAY.
 4. ANY STOCKPILE OF MATERIALS MUST REMAIN OUTSIDE THE 100 YEAR FLOODPLAIN.

SANDBAG DAM (SB)

STATION	QTY (LF)	REMARKS	TOP ELEV.
14+37	16	SB-3	386.00
16+54	33	SB-4	392.00

SILT FENCE (SF)

FROM	TO	QTY (LF)	REMARKS
10+00, 64' LT	10+74, 62' LT	107	SF-1
10+91, 47' LT	10+91, 63' LT	95	SF-2
13+61, 19' LT	14+40, 52' LT	94	SF-3
17+68, 50' LT	14+70, 24' LT	31	SF-4

DEWATERING FILTER BAG

STATION	QTY (EA)	REMARKS
14+20, LT	1	

DEWATERING PUMP

STATION	QTY (EA)	REMARKS
14+50	1	

CLEAR WATER PUMP

STATION	QTY (EA)	REMARKS
102+00	1	

TEMPORARY ACCESS BRIDGE

STATION	QTY (EA)	REMARKS
14+51, LT	1	TB-1

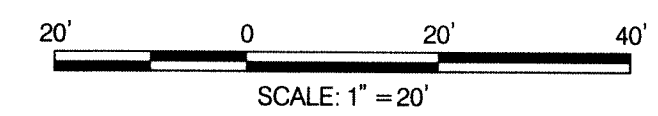
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John C. [Signature] 10/2/19
 HOWARD COUNTY SOIL CONSERVATION DISTRICT DATE

LEGEND

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- - - EXISTING MAJOR CONTOUR
- - - EXISTING MINOR CONTOUR
- PROPERTY LINE
- WUS
- WATERS OF THE US
- PROPOSED 100 YEAR FLOODPLAIN
- - - EXISTING 100 YEAR FLOODPLAIN
- SF
- LOD
- OCF
- EXISTING TREE
- ▣ SANDBAG DAM
- ⊗ DEWATERING FILTER BAG
- ⊕ DEWATERING PUMP
- ⊙ CLEAR WATER PUMP
- ▭ TEMPORARY ACCESS BRIDGE
- SCE
- STABILIZED CONSTRUCTION ENTRANCE
- DIVERSION/DEWATERING HOSE



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature]
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

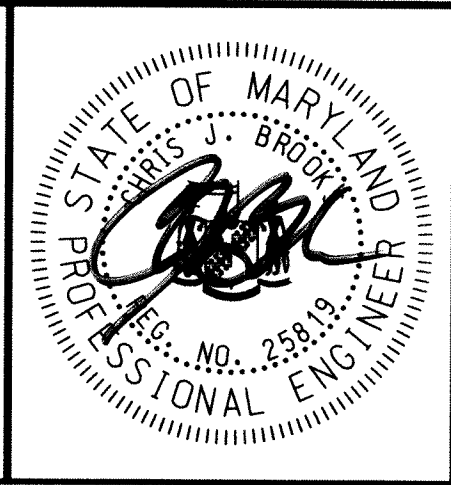
DATE: 9/28/19

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DES: DF				
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BY	NO.	REVISION	DATE	

HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
WHEATFIELD WAY STREAM REHABILITATION PROJECT
 CAPITAL PROJECT #D-1158
 ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
 TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
 WAIVER PETITION #WP-13-013

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 20'
 SHEET: 8 OF 23

EROSION AND SEDIMENT CONTROL – GENERAL NOTES

HOWARD SOIL CONSERVATION DISTRICT TEMPORARY SEEDING NOTES

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

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

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

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

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

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

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT AND MDE PERMIT (TRACKING NUMBER 201260617).
2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (410) 313-1880 A MINIMUM OF 5 DAYS PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY THE HOWARD COUNTY BUREAU OF UTILITIES (410) 313-4900 AND 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. THIS SHALL BE COMPLETED BY AND INSPECTED AT THE PRECONSTRUCTION MEETING. (1 DAY)
4. THE CONTRACTOR SHALL COORDINATE AN ON-SITE PRE-CONSTRUCTION MEETING WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, THE COUNTY PROJECT MANAGER, THE ENGINEER, A REPRESENTATIVE FROM THE DEPARTMENT OF RECREATION AND PARKS, A REPRESENTATIVE FROM THE BUREAU OF UTILITIES AND A REPRESENTATIVE FROM HOWARD COUNTY CONSTRUCTION INSPECTION. (1 DAY)

PHASE 1

5. CONSTRUCT THE FOLLOWING PERIMETER CONTROLS AS SHOWN ON THE PLAN: STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCE, CLEARING ONLY THE AREA NEEDED TO INSTALL THE EAS CONTROLS. (1 DAY)
6. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, INSTALL THE TEMPORARY ACCESS BRIDGE AND STREAM DIVERSION/PUMP AROUND WHICH INCLUDES THE SANDBAG, PUMP AND DIVERSION HOSES FOR THE UPSTREAM/NORTHERN STREAM REACH. DEWATER ALL WORK AREAS AS NEEDED TO A DEWATERING FILTER BAG. (1 DAY)
7. REMOVE IN CHANNEL DEBRIS. COMMENCE IN STREAM CONSTRUCTION AND GRADING. STABILIZE ALL DISTURBED AREAS AT THE END OF EACH WORK DAY AND REMOVE THE STREAM DIVERSION/PUMP AROUND. COMPLETE CHANNEL GRADING FROM UPSTREAM TO DOWNSTREAM. (5 DAYS)
8. CONSTRUCT OUTFALL CHANNEL STABILIZATION. CONTRACTOR SHALL BE AWARE OF WEATHER FORECAST FOR RAIN PREDICTION AND SHALL ONLY PERFORM WORK WITHIN OUTFALL CHANNEL UNDER DRY WEATHER FORECAST. (1 DAY)
9. INSTALL LANDSCAPING PER PLAN. (1 DAY)
10. STABILIZE TEMPORARY CONSTRUCTION ACCESS AND GRADE TO FINAL ELEVATIONS REMOVING ALL RUTS. (1 DAY)

PHASE 2

11. WHEN AREAS ARE FULLY STABILIZED, AND UPON PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, RESET THE REMAINING SEDIMENT CONTROL DEVICES FOR PHASE 2. (1 DAY)
12. COMMENCE IN STREAM CONSTRUCTION AND GRADING. REMOVE IN CHANNEL DEBRIS. STABILIZE ALL DISTURBED AREAS AT THE END OF EACH WORK DAY AND REMOVE THE STREAM DIVERSION/PUMP AROUND. COMPLETE CHANNEL GRADING FROM UPSTREAM TO DOWNSTREAM. (10 DAYS)
13. INSTALL LANDSCAPING PER PLAN. (1 DAY)
14. STABILIZE TEMPORARY CONSTRUCTION ACCESS AND GRADE TO FINAL ELEVATIONS REMOVING ALL RUTS. (1 DAY)
15. WHEN AREAS ARE FULLY STABILIZED, AND UPON PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE THE REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE ANY DISTURBED AREAS. (1 DAY)

IN-CHANNEL PUMPING NOTES

1. AT THE END OF EACH WORK DAY, THE WORK AREA MUST BE STABILIZED AND THE PUMP AROUND REMOVED FROM THE CHANNEL. REFER TO THE DETAILS AND SPECIFICATIONS FOR MCWC 1.2: PUMP-AROUND PRACTICE INCLUDED ON THE PLANS.
2. THE CONTRACTOR SHALL USE A PUMP AND DIVERSION HOSES TO ACCOMMODATE A 3 INCH DISCHARGE DIAMETER AND THE FLOWS ANTICIPATED DURING CONSTRUCTION IN THE CHANNEL SECTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING A CONSTRUCTION PHASE DEWATERING SYSTEM, INCLUDING A TEMPORARY SYSTEM OF PUMPS, DRAINAGE DITCHES AND, SANDBAG/ STONE DIVERSIONS, AS REQUIRED TO REMOVE WATER FROM ANY SOURCE, INCLUDING GROUND WATER, AND MAINTAIN WORKABLE, DRY CONDITIONS IN THE WORK AREA.
4. THE CONTRACTOR SHALL NOTE THAT THE WATERWAY LOCATED WITHIN THE PROJECT LIMITS IS CLASSIFIED AS USE IV-P WATERS. INSTREAM WORK IS PROHIBITED MARCH 1 THROUGH MAY 31, INCLUSIVE DURING ANY YEAR.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.


HOWARD COUNTY SOIL CONSERVATION DISTRICT

10/2/18
DATE

HOWARD SOIL CONSERVATION DISTRICT PERMANANT SEEDING NOTES

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

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

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

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

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

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

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

HOWARD COUNTY CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

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

TOTAL AREA OF SITE	0.80 ACRES
AREA DISTURBED	0.80 ACRES
AREA TO BE ROOFED OR PAVED	0 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.80 ACRES
TOTAL CUT	319.36 CU. YDS.
TOTAL FILL	259.96 CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	SEE NOTE 12
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTH OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.
12. OFFSITE WASTE / BORROW SITE SHALL HAVE AN APPROVED SEDIMENT CONTROL PLAN AND PERMIT.

STANDARD AND SPECIFICATIONS FOR TOPSOIL

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


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

CONDITIONS WHERE PRACTICE APPLIES

- I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
 - II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.
- CONSTRUCTION AND MATERIAL SPECIFICATIONS**
- I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
 - II. TOPSOIL SPECIFICATIONS – SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
 - A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDEERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1-1/2" IN DIAMETER.
 - B. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - C. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTURBED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

- III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
 - A. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION – SECTION – VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
 - A. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 1. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
 2. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
 3. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
 4. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME AS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
 - NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST, AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
 - B. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION – SECTION VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- V. TOPSOIL APPLICATION
 - A. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
 - B. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" – 8" HIGHER IN ELEVATION.
 - C. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" – 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 - D. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

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HOWARD COUNTY, MARYLAND**


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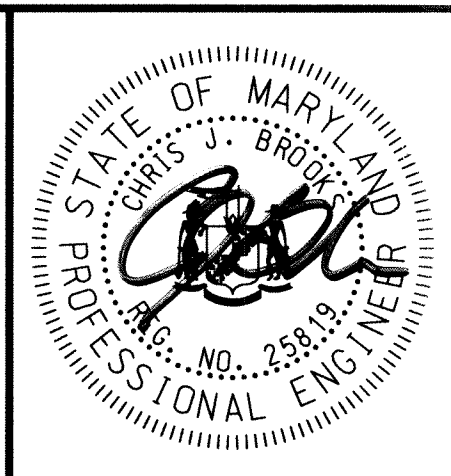
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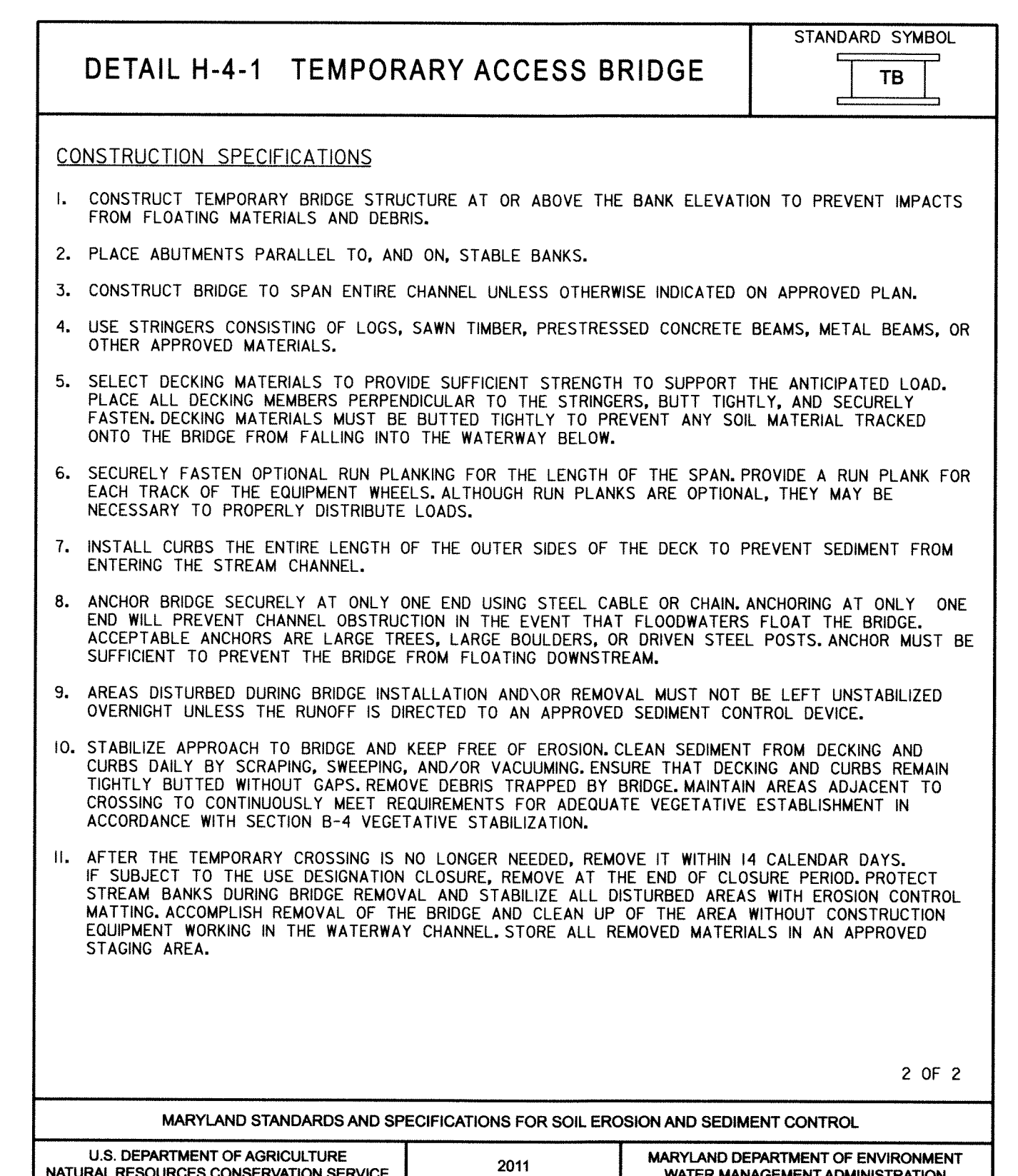
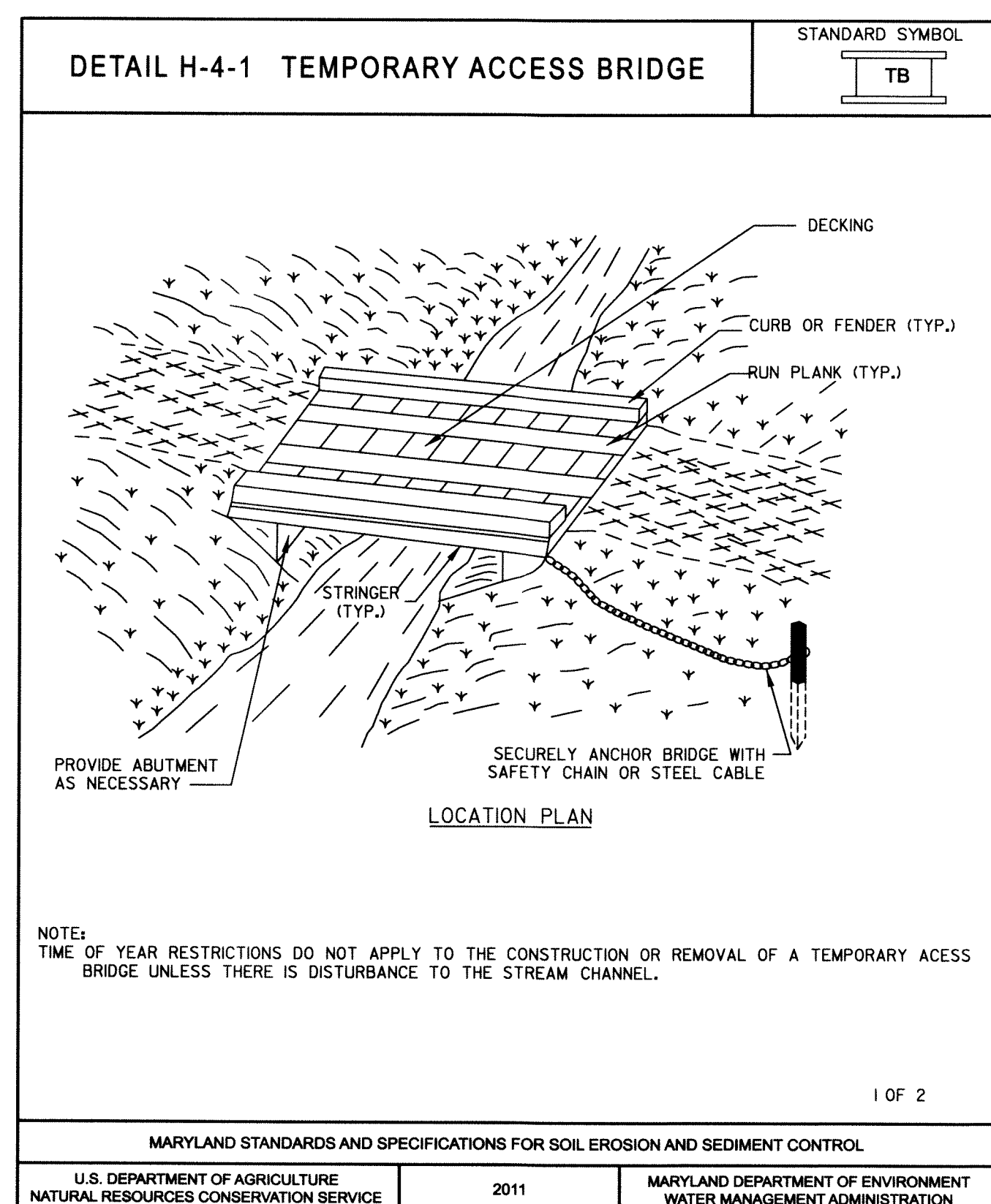
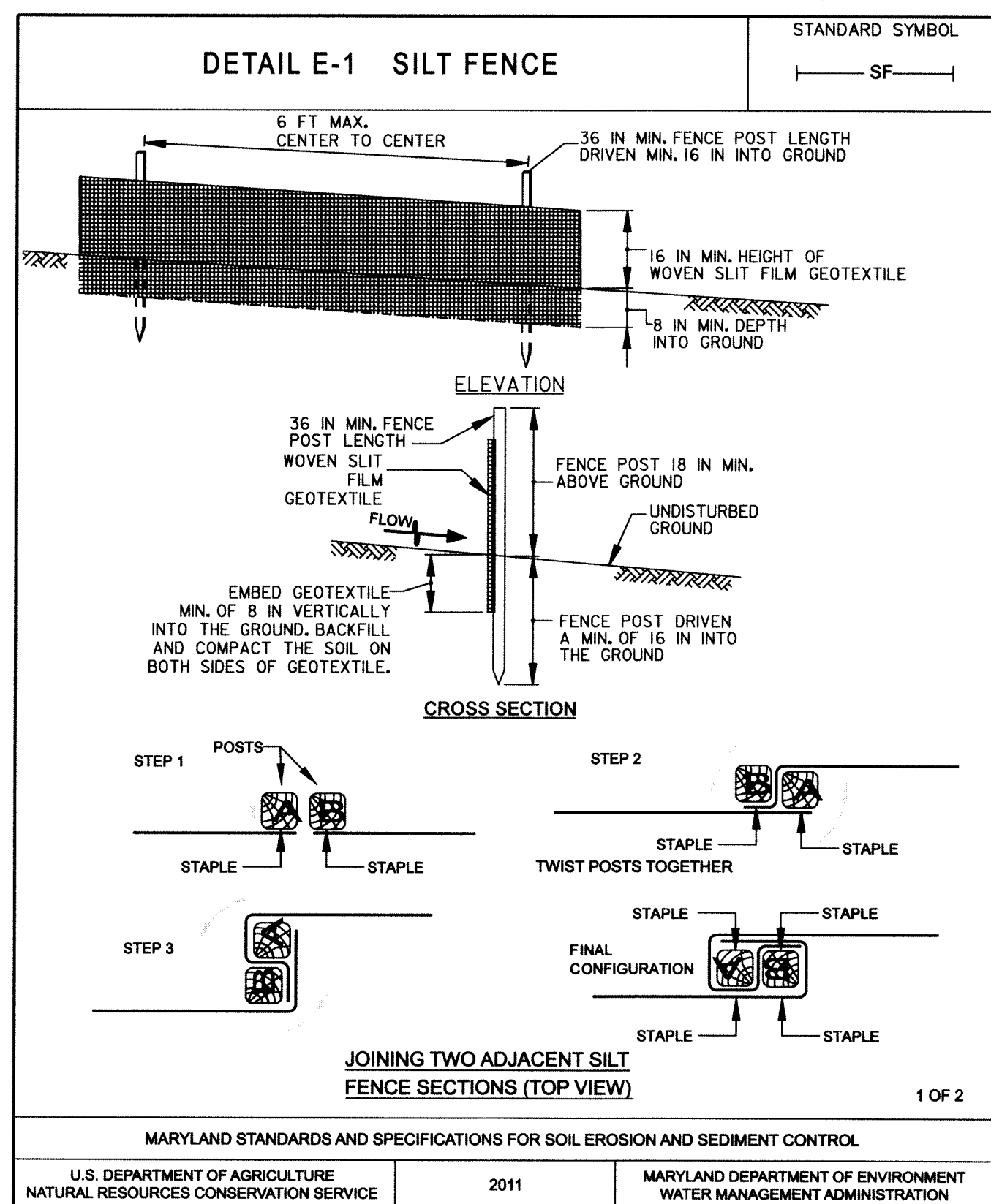
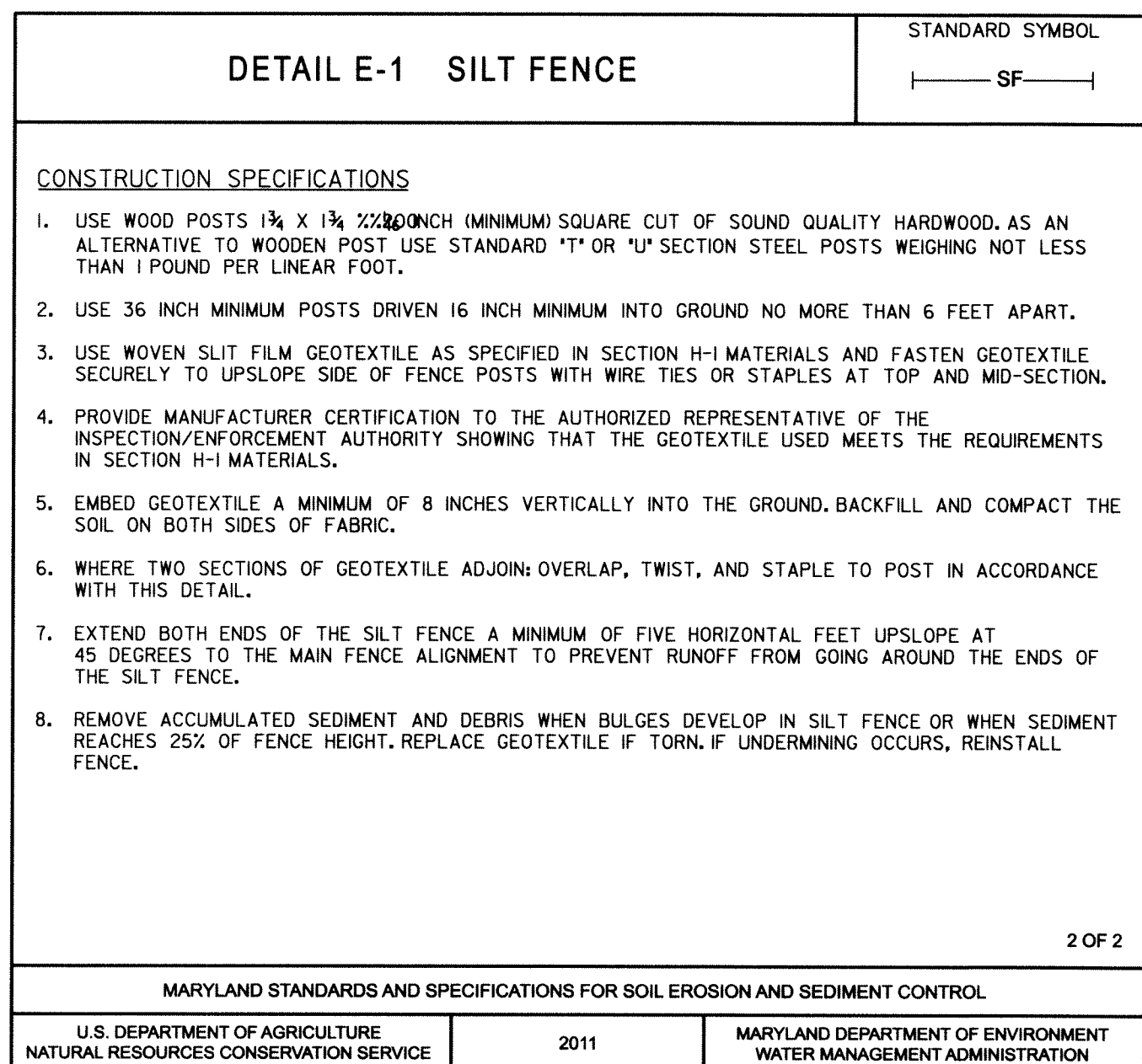
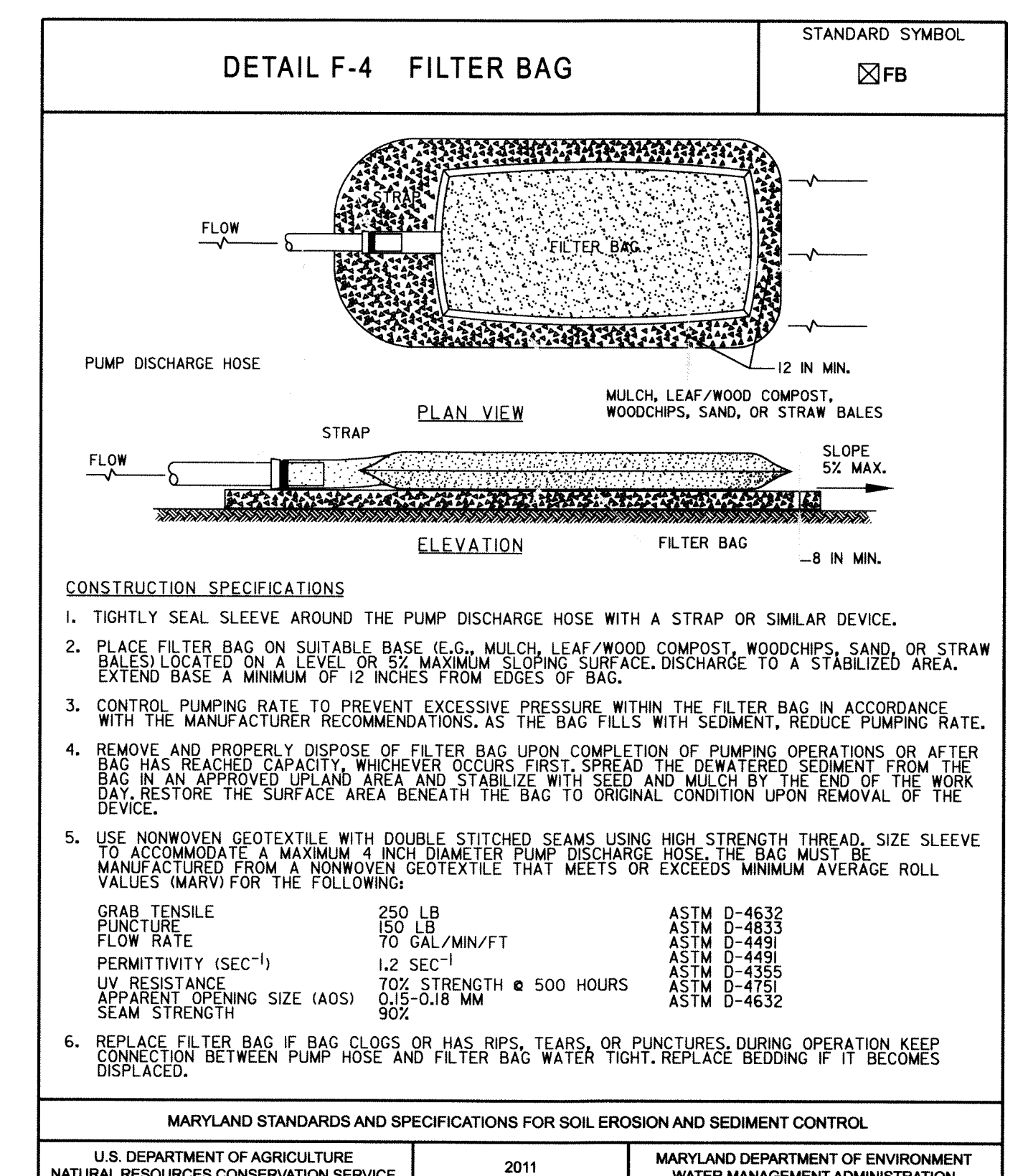
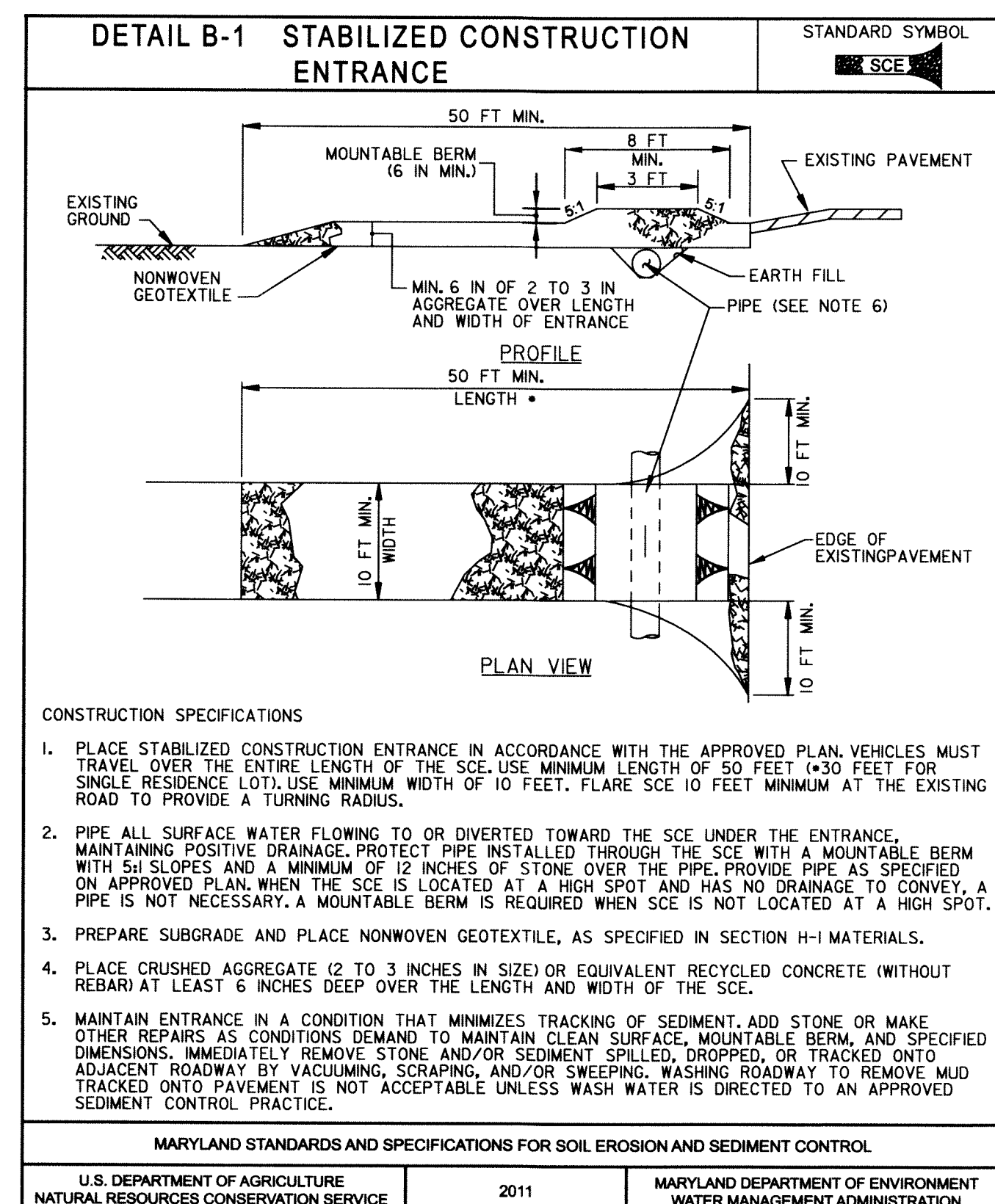
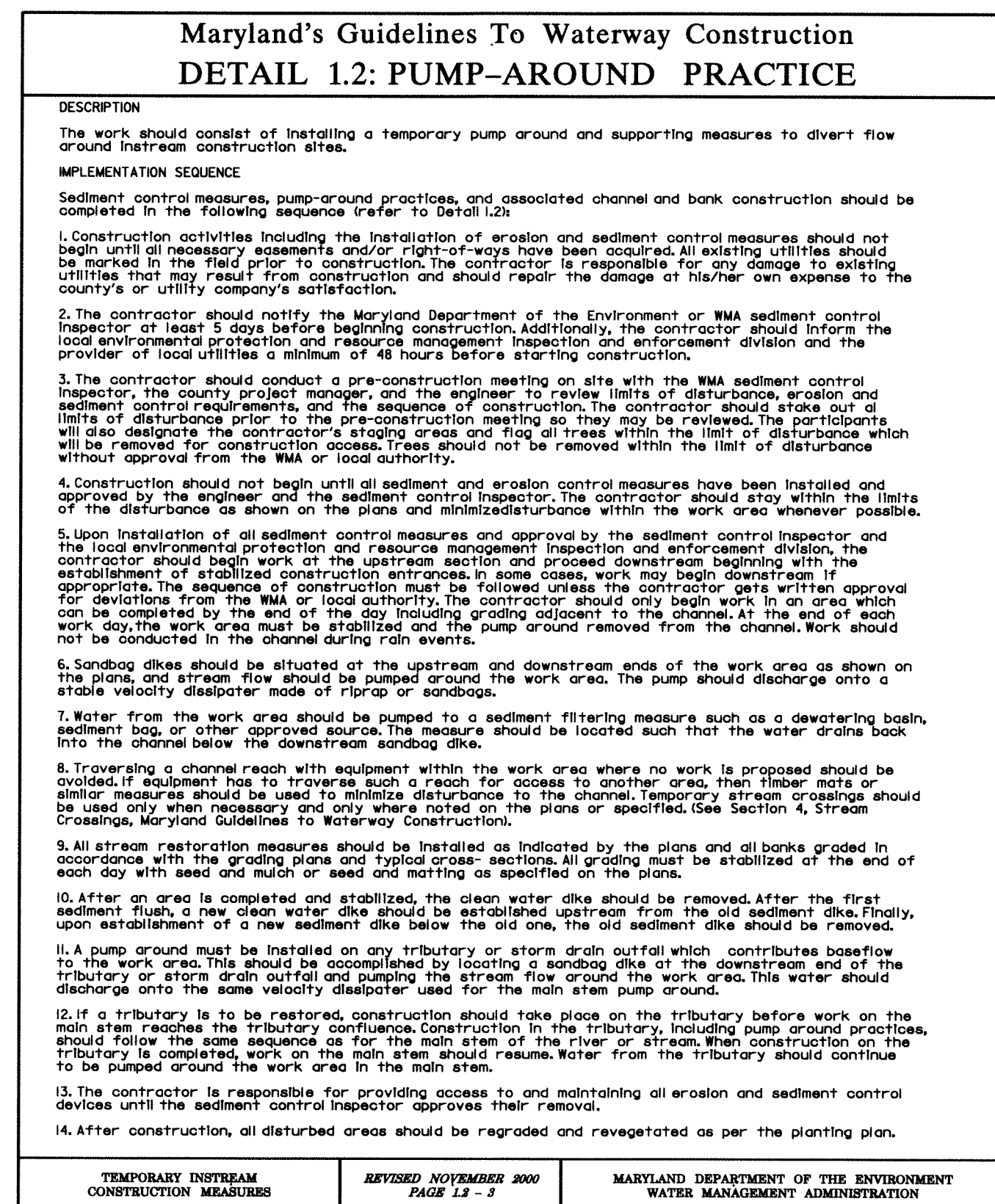
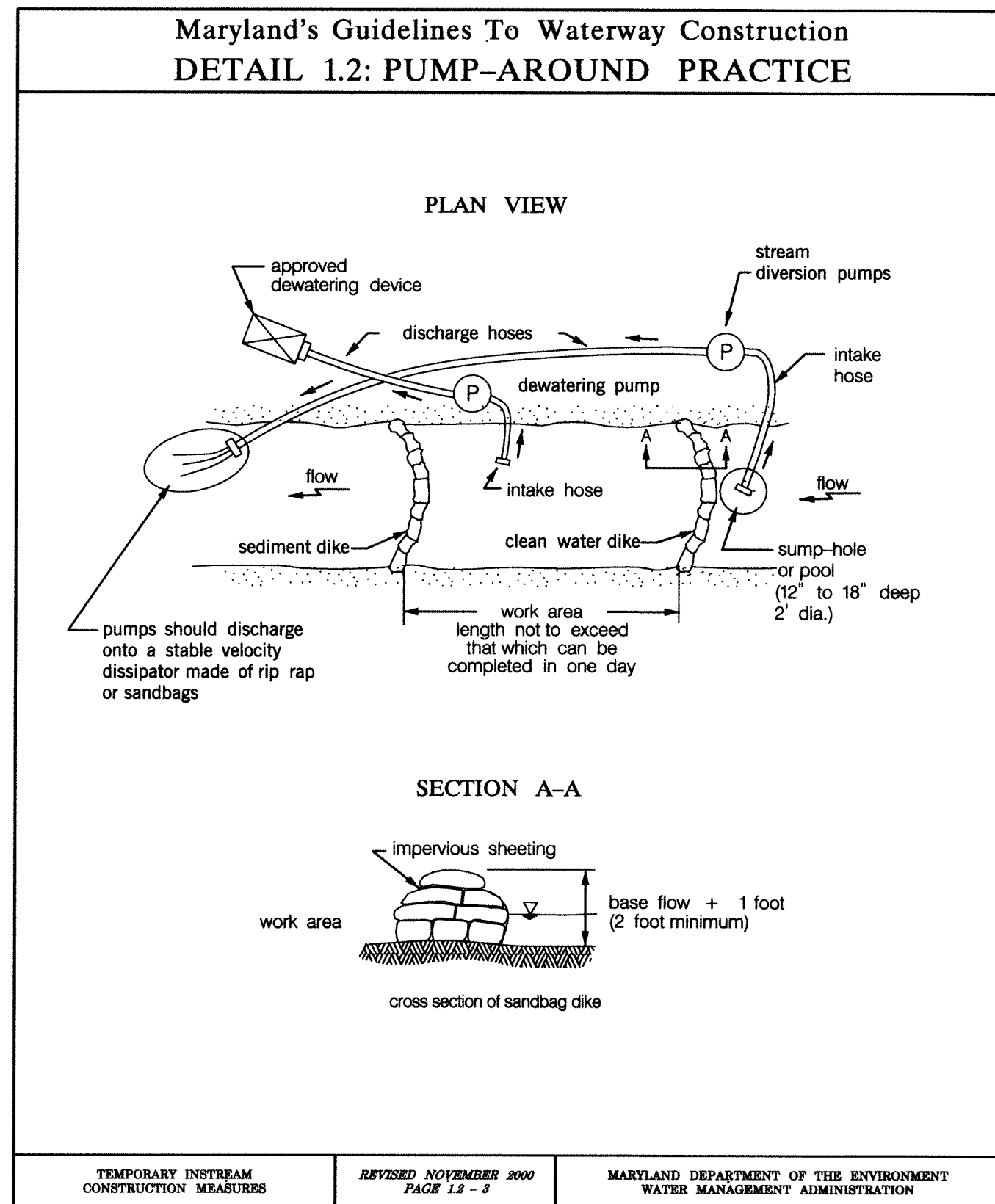


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**HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
WHEATFIELD WAY STREAM REHABILITATION PROJECT
CAPITAL PROJECT #D-1158
ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013**

**EROSION AND SEDIMENT
CONTROL NOTES**

SCALE
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SHEET
9 OF 23



REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John P. [Signature]
HOWARD COUNTY SOIL CONSERVATION DISTRICT

[Signature]
DATE

**DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND**

Wendy [Signature]
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

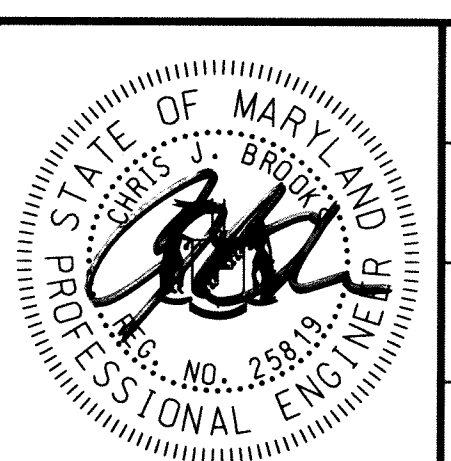
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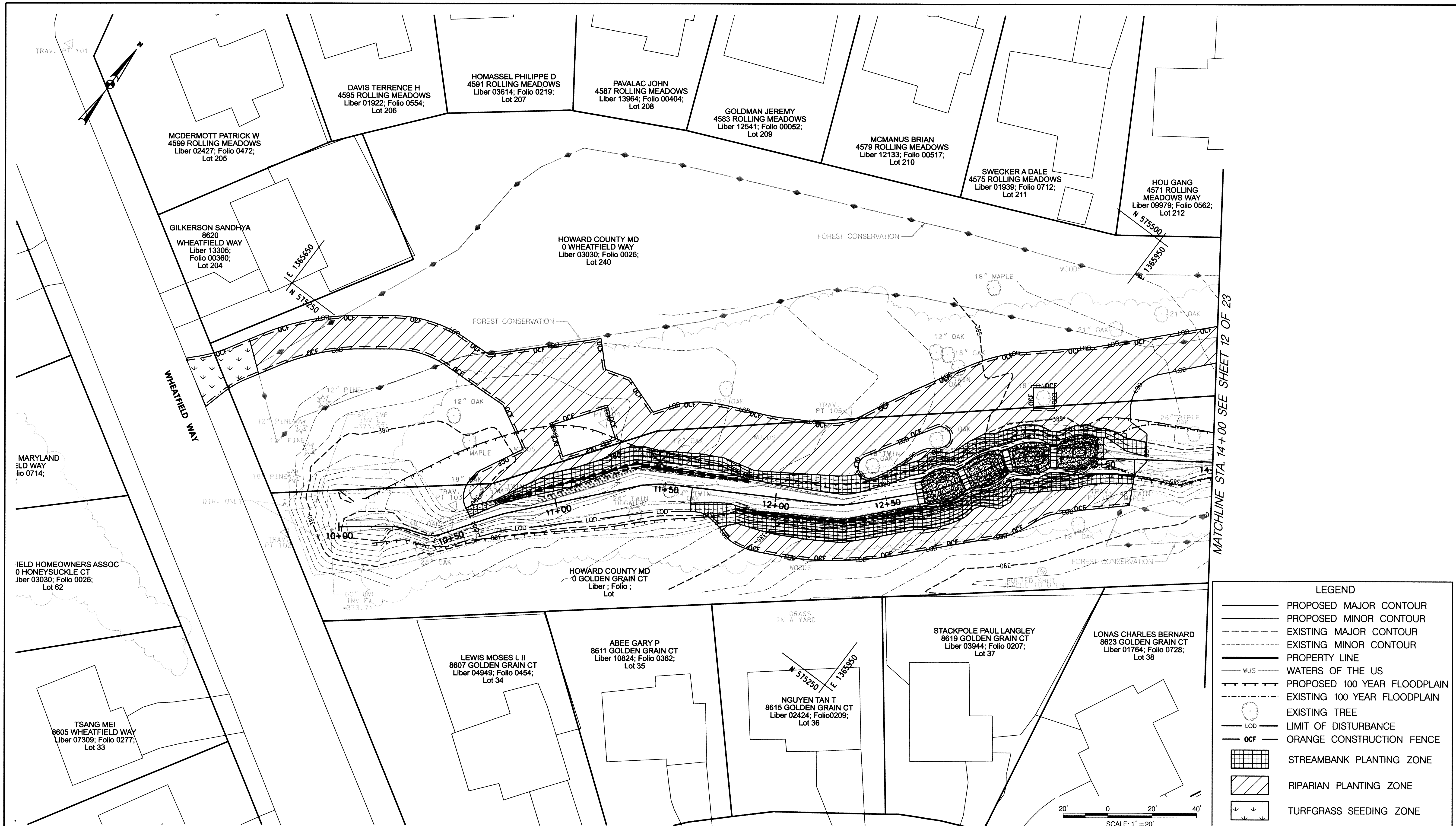


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BY	NO.	REVISION	DATE		

**HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
WHEATFIELD WAY STREAM REHABILITATION PROJECT
CAPITAL PROJECT #D-1158
ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013**

EROSION AND SEDIMENT CONTROL DETAIL SHEET

SCALE: NOT TO SCALE
SHEET: 10 OF 23



LEGEND

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE
- WATERS OF THE US
- PROPOSED 100 YEAR FLOODPLAIN
- EXISTING 100 YEAR FLOODPLAIN
- EXISTING TREE
- LIMIT OF DISTURBANCE
- ORANGE CONSTRUCTION FENCE
- STREAMBANK PLANTING ZONE
- RIPARIAN PLANTING ZONE
- TURFGRASS SEEDING ZONE

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HOWARD COUNTY, MARYLAND

Walter A. Luca
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

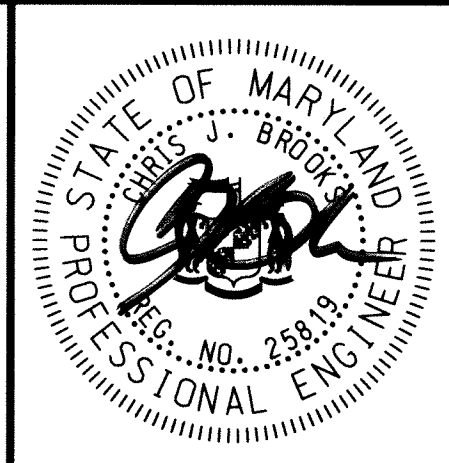
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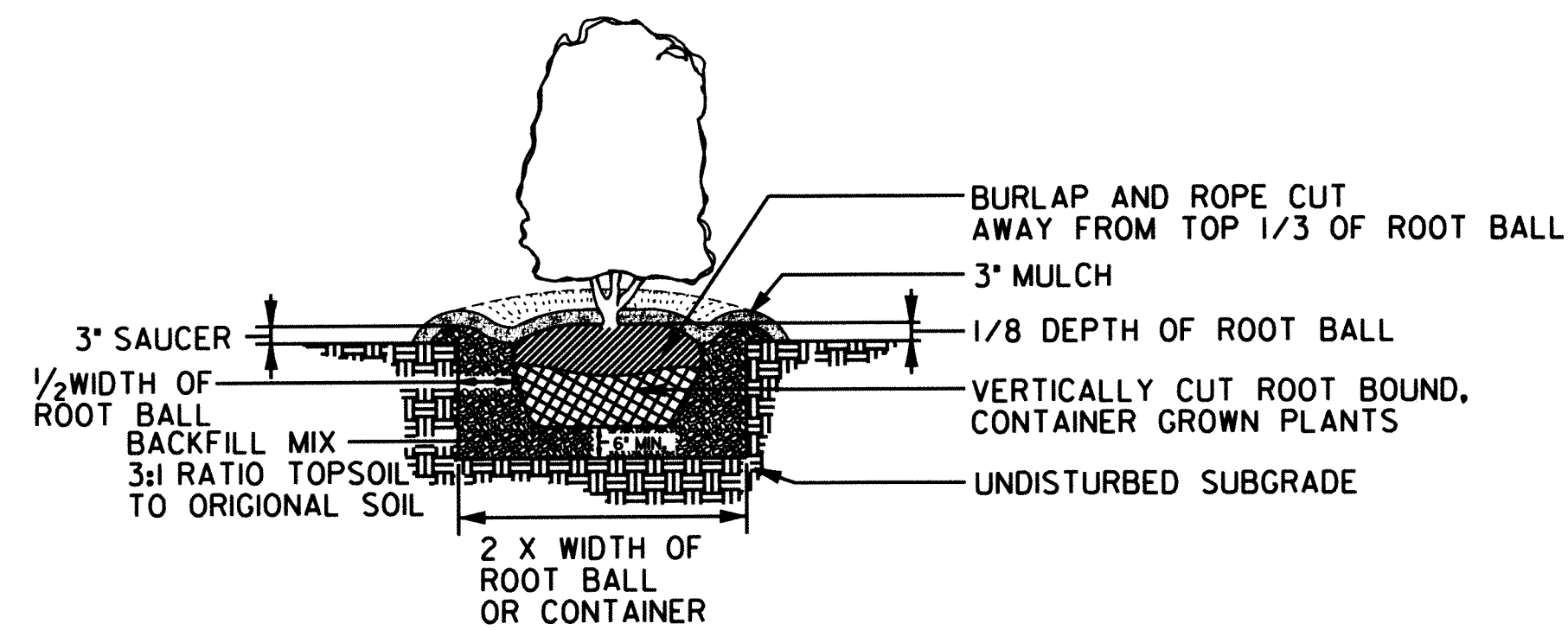
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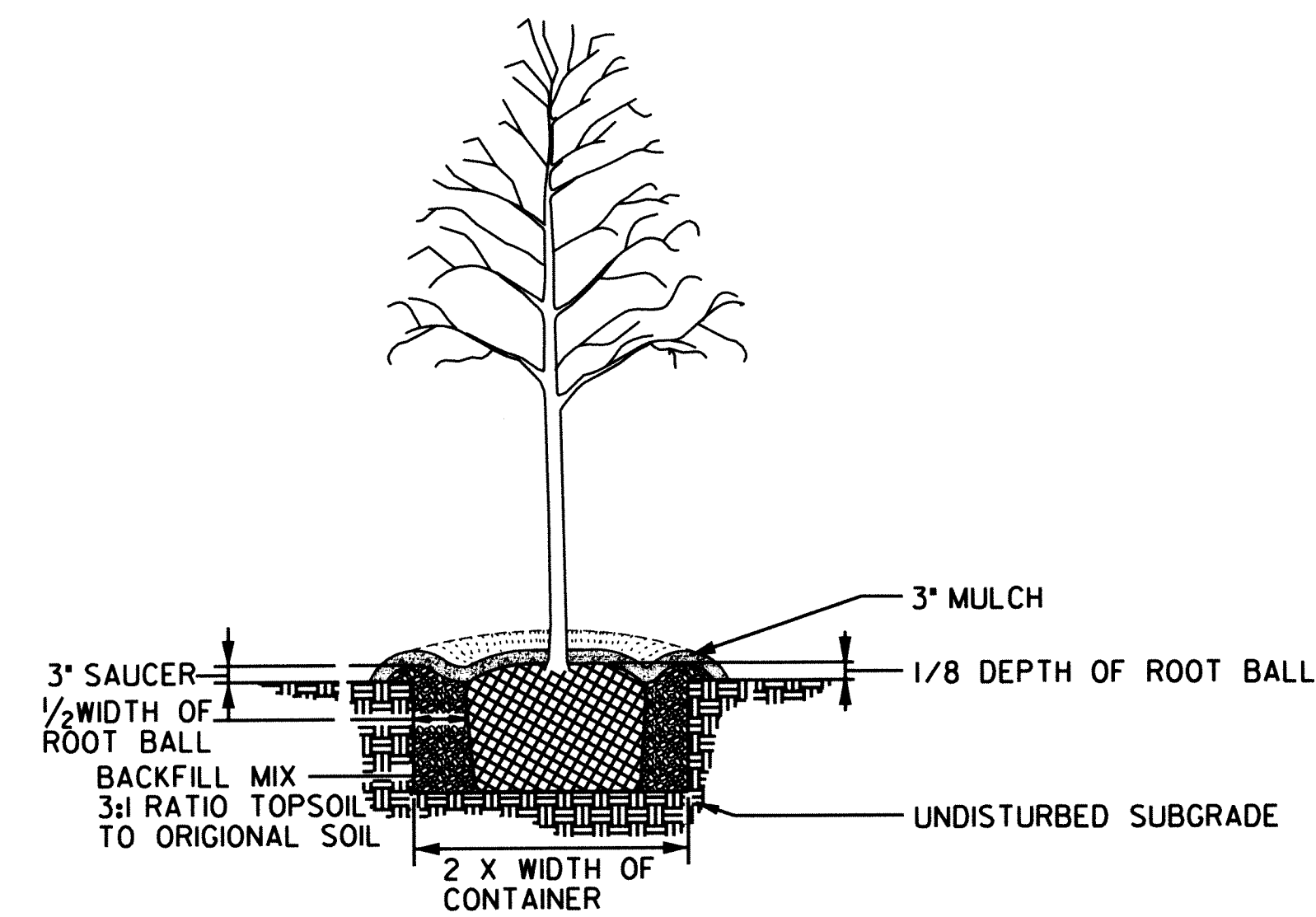
LANDSCAPING PLAN

SCALE
1" = 20'

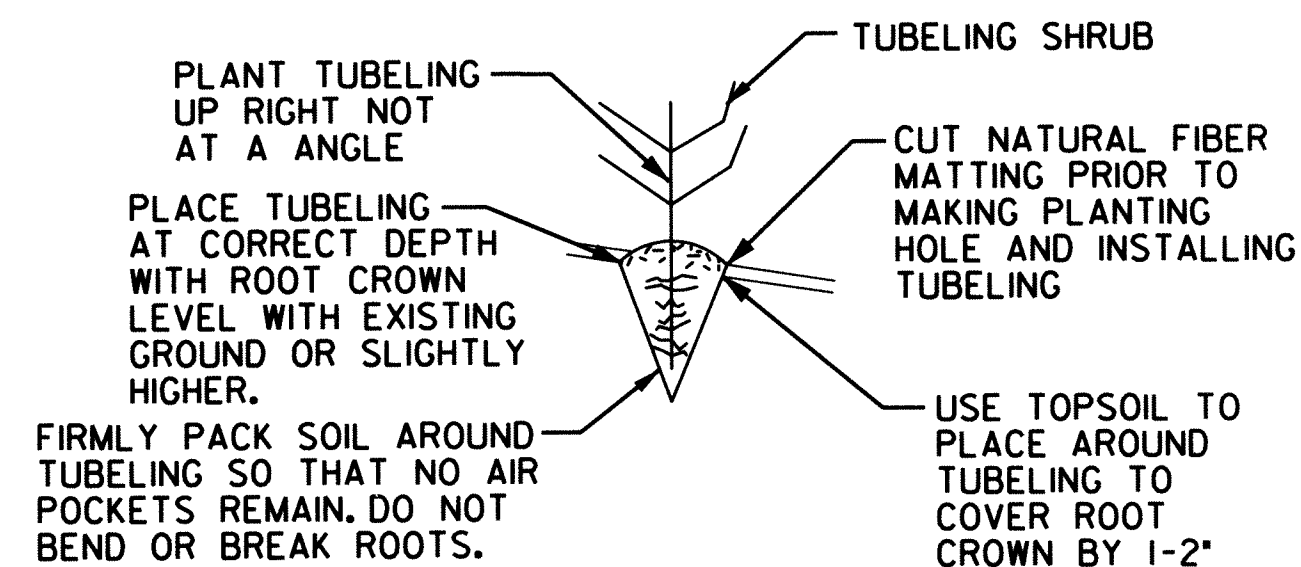
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11 OF 23



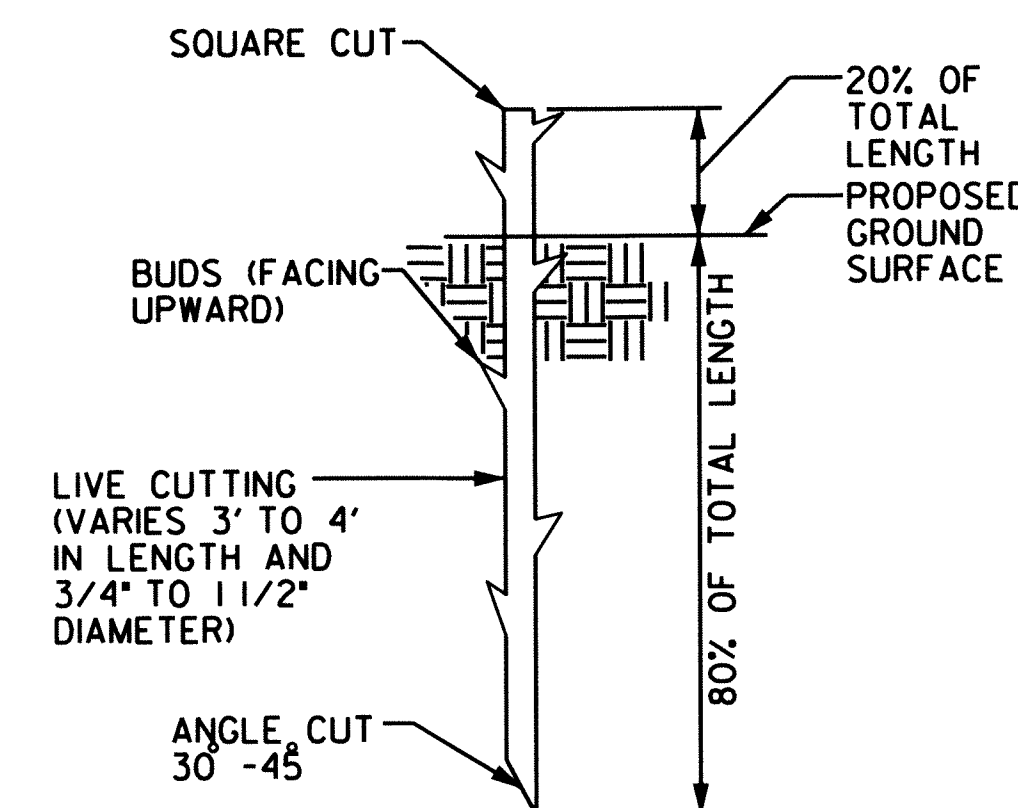
SHRUB PLANTING DETAIL
B & B AND CONTAINER GROWN
NOT TO SCALE



DECIDUOUS TREE PLANTING DETAIL
CONTAINER GROWN
NOT TO SCALE

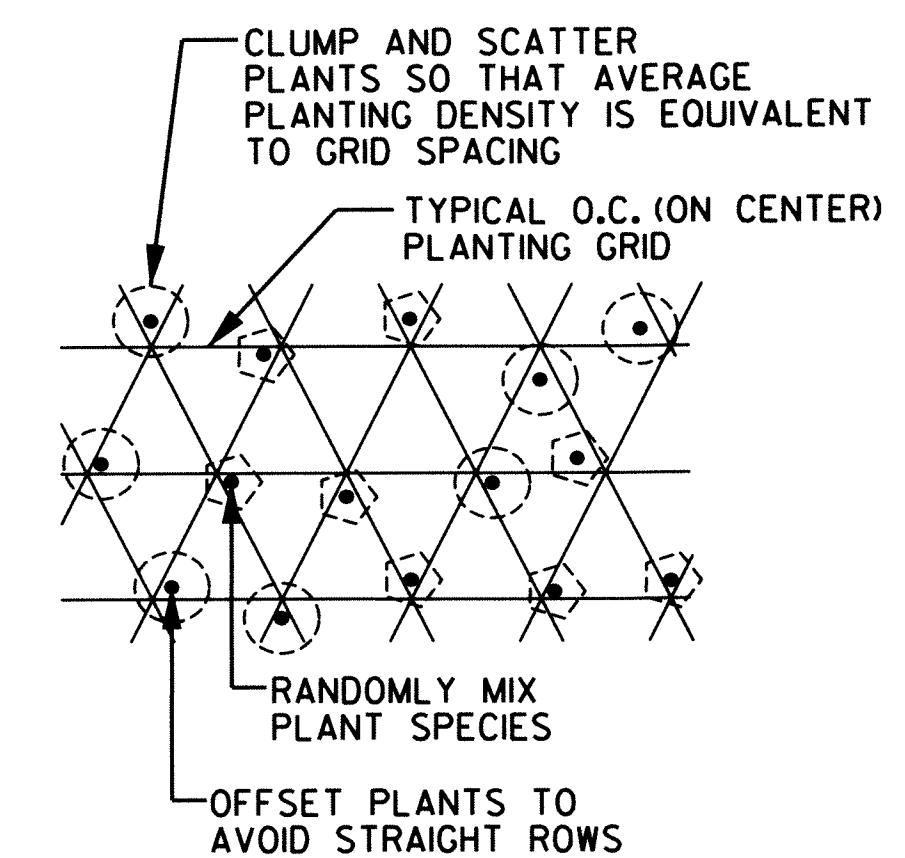


TUBELING DETAIL
NOT TO SCALE



LIVE STAKE

NOTE:
1. LIVE STAKES MUST BE INSTALLED WHILE DORMANT (LATE FALL TO EARLY SPRING). DO NOT ALLOW THEM TO DRY OUT.



RANDOM PLANTING PATTERN
NOT TO SCALE

Planting Schedule

Zone	Botanical Name	Common Name	Size	Comment	Quantity
Streambank	<i>Cornus sericea</i>	Red Osier Dogwood	3'-4' Live Stake	Plant 2' O.C.	257
Streambank	<i>Viburnum dentatum</i>	Southern Arrowwood	3'-4' Live Stake	Plant 2' O.C.	257
Streambank	<i>Salix sericea</i>	Silky Willow	3'-4' Live Stake	Plant 2' O.C.	257
Streambank	<i>Cornus racemosa</i>	Gray Dogwood	3'-4' Live Stake	Plant 2' O.C.	257
Streambank	<i>Cornus sericea</i>	Red Osier Dogwood	1" Dia. X 8-12" Deep Tubeling	Plant 2' O.C.	100
Streambank	<i>Viburnum dentatum</i>	Southern Arrowwood	1" Dia. X 8-12" Deep Tubeling	Plant 2' O.C.	100
Streambank	<i>Salix sericea</i>	Silky Willow	1" Dia. X 8-12" Deep Tubeling	Plant 2' O.C.	100
Streambank	<i>Cornus racemosa</i>	Gray Dogwood	1" Dia. X 8-12" Deep Tubeling	Plant 2' O.C.	100
Riparian	<i>Acer rubrum</i>	Red Maple	5'-7' HT, 7 GAL Cont.	Plant 12' O.C.	25
Riparian	<i>Quercus bicolor</i>	Swamp White Oak	5'-7' HT, 7 GAL Cont.	Plant 12' O.C.	25
Riparian	<i>Quercus palustris</i>	Pin Oak	5'-7' HT, 7 GAL Cont.	Plant 12' O.C.	25
Riparian	<i>Platanus occidentalis</i>	American Sycamore	5'-7' HT, 7 GAL Cont.	Plant 12' O.C.	25
Riparian	<i>Cornus amomum</i>	Silky Dogwood	3'-4' HT, 3 GAL Cont.	Plant 8' O.C.	55
Riparian	<i>Lindera benzoin</i>	Spice Bush	3'-4' HT, 3 GAL Cont.	Plant 8' O.C.	55

Riparian Seed Mix

Zone	Botanical Name	Common Name	Percent Mix	Seeding Rate	Quantity (lbs.)
Streambank, Riparian	<i>Elymus virginicus</i>	Virginia Wildrye	5	30 lbs per acre	
Streambank, Riparian	<i>Agrostis alba</i>	Redtop	5	30 lbs per acre	
Streambank, Riparian	<i>Poa compressa</i>	Canada Bluegrass	5	30 lbs per acre	
Streambank, Riparian	<i>Festuca arundinacea</i>	Trident tall Fescue	10	30 lbs per acre	
Streambank, Riparian	<i>Sorghastrum nutans</i>	Indian Grass	5	30 lbs per acre	
Streambank, Riparian	<i>Lolium multiflorum</i>	Annual Ryegrass	25	30 lbs per acre	
Streambank, Riparian	<i>Elymus sp.</i>	Saint Perennial Ryegrass	20	30 lbs per acre	
Streambank, Riparian	<i>Festuca rubra</i>	Creeping Red Fescue	25	30 lbs per acre	
		TOTAL MIX			19.0

Turfgrass Seed Mix

Zone	Botanical Name	Common Name	Percent Mix	Seeding Rate	Quantity (lbs.)
Turfgrass	<i>Poa pratensis</i>	Kentucky Blue Grass	33	50 lbs per acre	
Turfgrass	<i>Lolium perenne</i>	Perennial Rye Grass	33	50 lbs per acre	
Turfgrass	<i>Schedonorus phoenix</i>	Tall Fescue	34	50 lbs per acre	
		TOTAL MIX			1.0

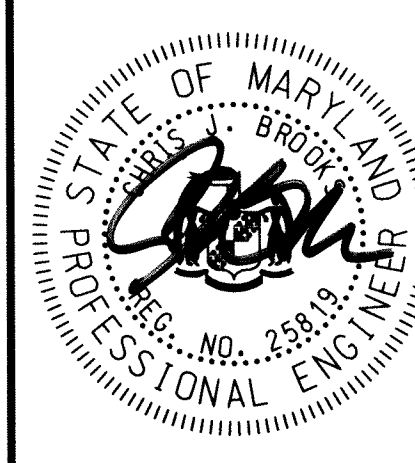
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BY

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REVISION

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HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
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LANDSCAPE NOTES AND DETAILS

SCALE

AS NOTED

SHEET

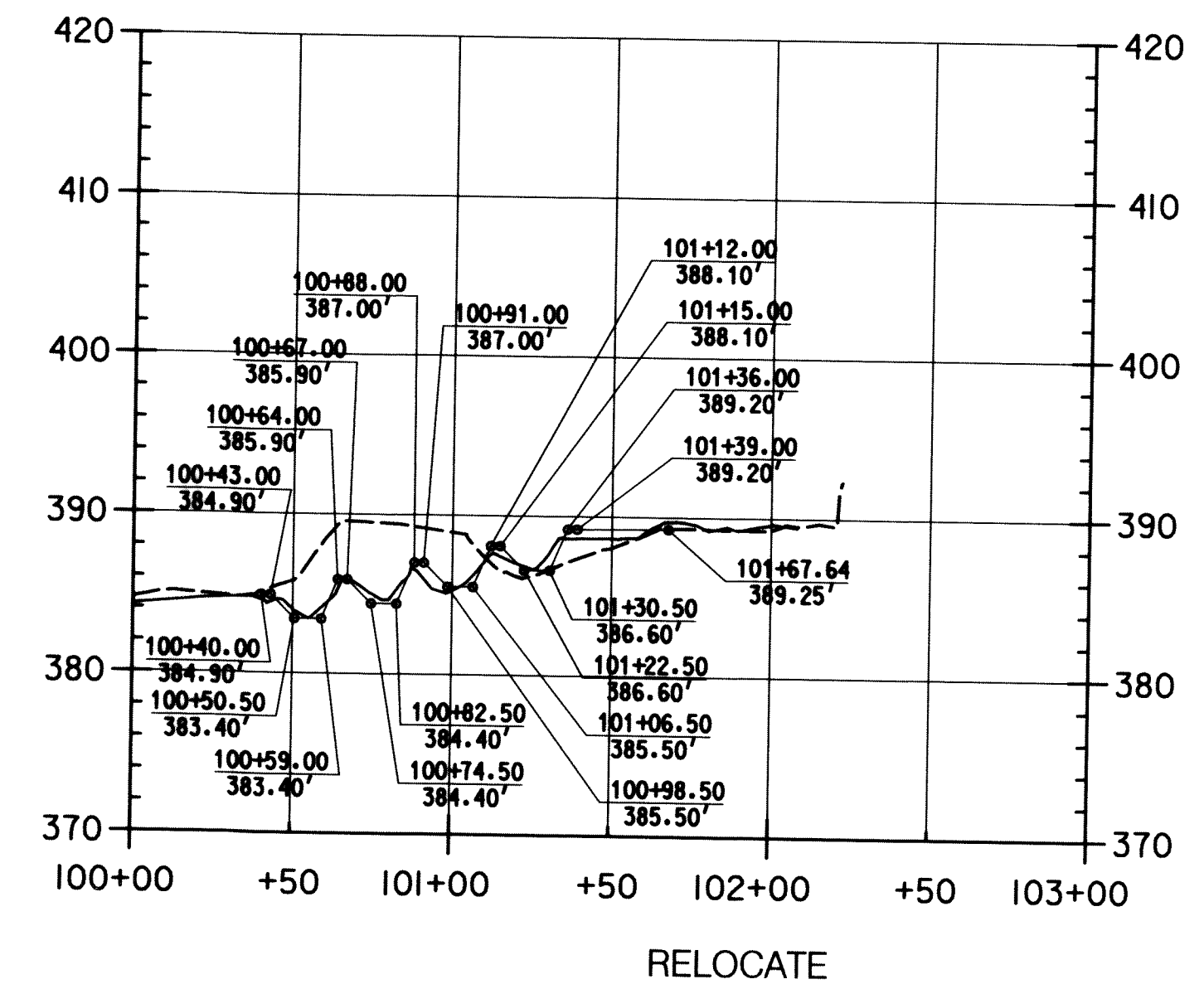
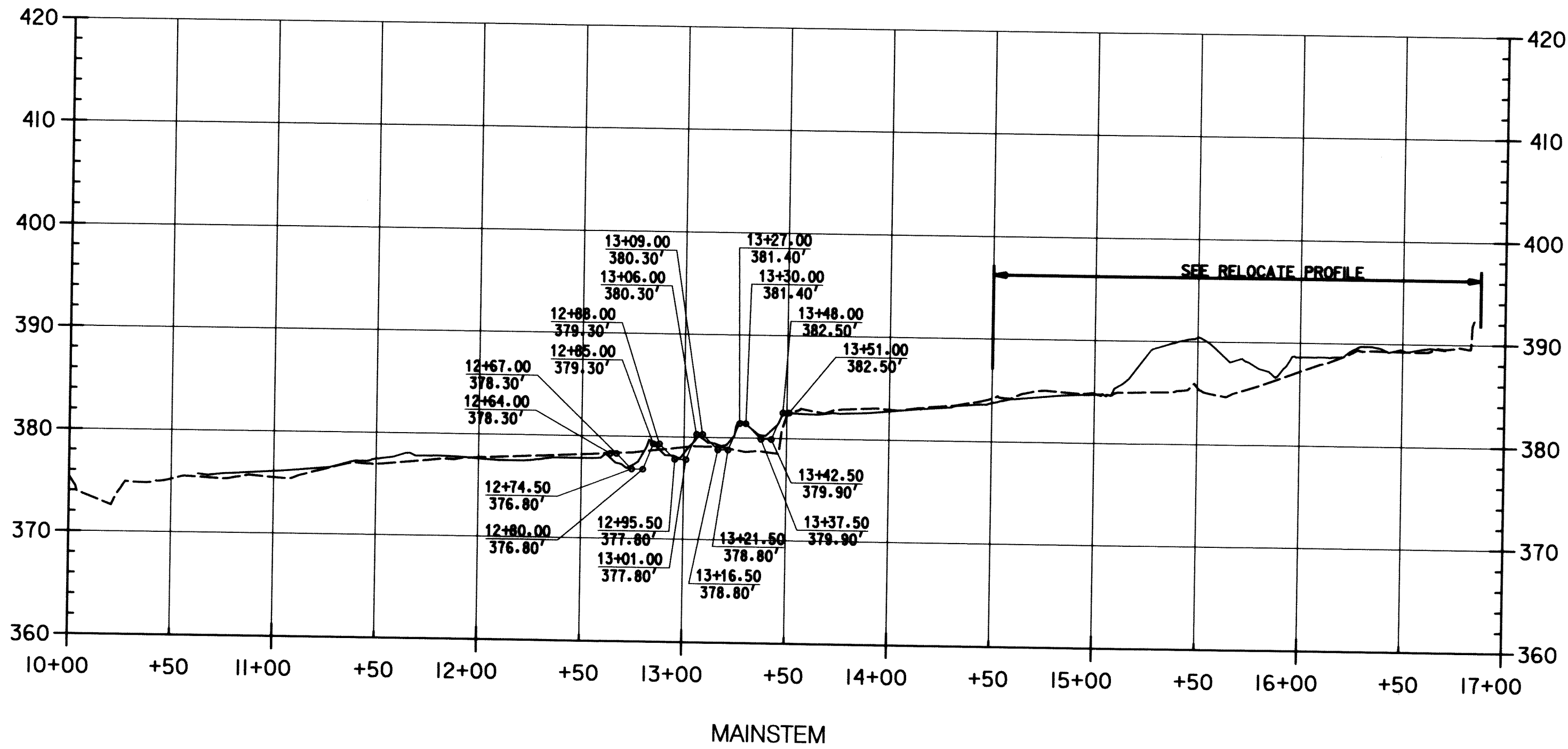
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CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

9/28/12 DATE

STEP-POOL PROFILE ELEVATIONS		
LOCATION	PROPOSED ELEV. (FT)	AS-BUILT ELEV. (FT)
CREST 1	389.2	388.6
POOL 1	386.6	386.7
CREST 2	388.1	387.6
POOL 2	385.5	385.0
CREST 3	387.0	386.6
POOL 3	384.4	384.6
CREST 4	385.9	385.8
POOL 4	383.4	383.4
CREST 5	384.9	384.7
CREST 6	382.5	382.5
POOL 6	379.9	380.2
CREST 7	381.4	381.6
POOL 7	378.8	379.1
CREST 8	380.3	380.1
POOL 8	377.8	377.8
CREST 9	379.3	379.6
POOL 9	376.8	376.9
CREST 10	378.3	378.2

NOTE:
AS-BUILT PROFILE SHOWN DEPICTS THE CENTERLINE OF THE CONSTRUCTED STEP-POOL SYSTEM. REFER TO THE STEP-POOL ELEVATION TABLE FOR PROPOSED STRUCTURE COMPARISON. CRESTS AND POOLS ARE DESIGNATED 1 TO 10, STARTING AT THE UPSTREAM PROJECT LIMIT AND EXTENDING DOWN STREAM.



SCALE
HORIZONTAL: 1"=10' VERTICAL: 1"= 2'

— AS-BUILT
--- EXISTING — PROPOSED

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HOWARD COUNTY, MARYLAND

M. J. Luca
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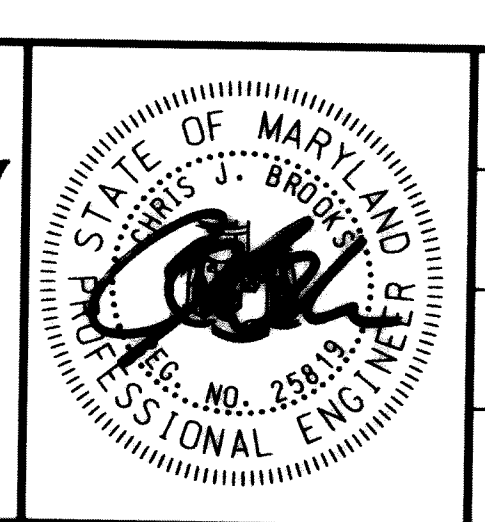
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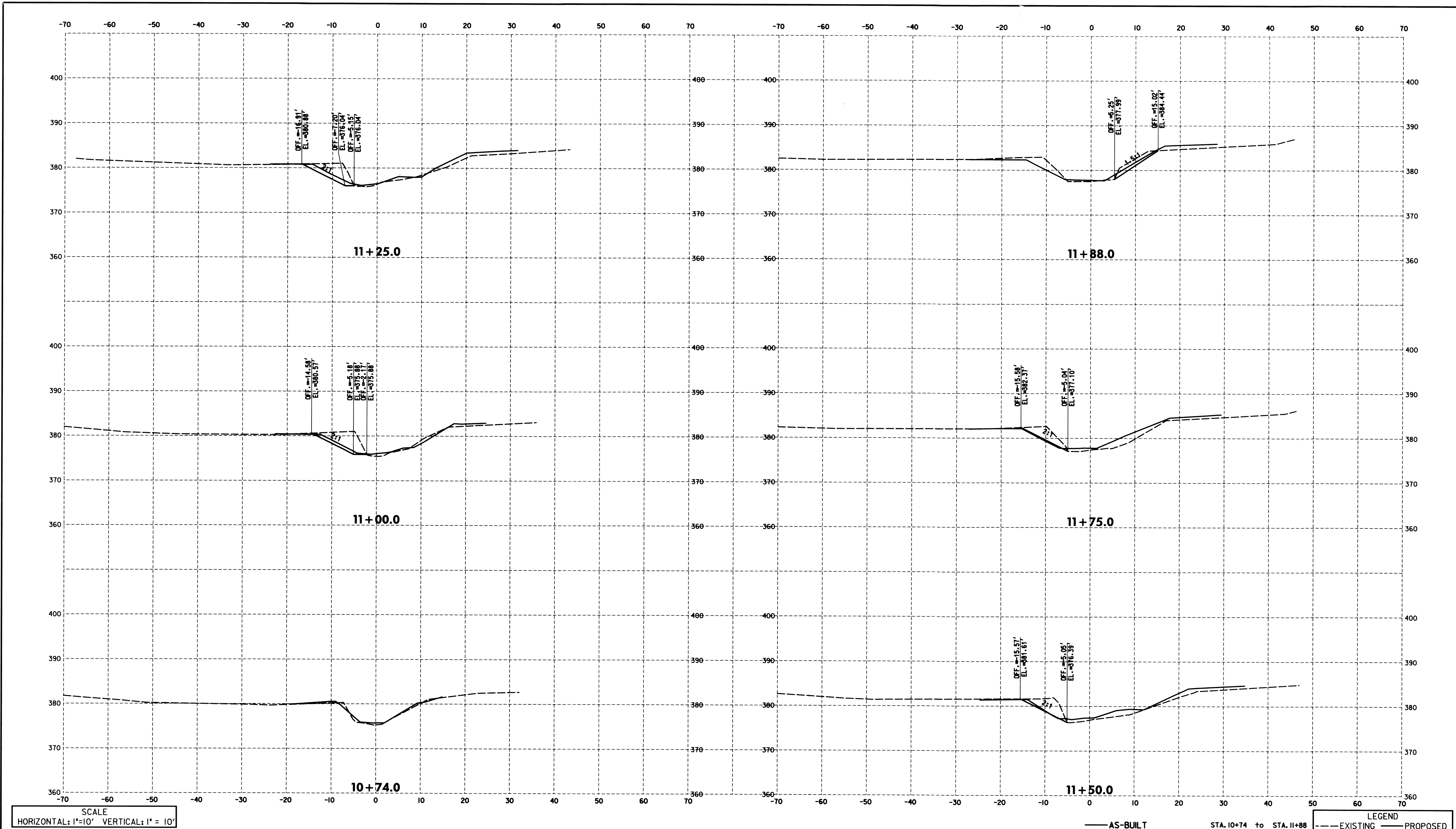


DES: DF	LEN	AS-BUILT	3/26/13
DRN: WW			
CHK: LN			
DATE: 9/26/12	BY	NO.	REVISION
			DATE

HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
WHEATFIELD WAY STREAM REHABILITATION PROJECT
CAPITAL PROJECT #D-1158
ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013

PROFILE SHEET

SCALE
AS SHOWN
SHEET
14 OF 23



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HOWARD COUNTY, MARYLAND

Michael J. ...
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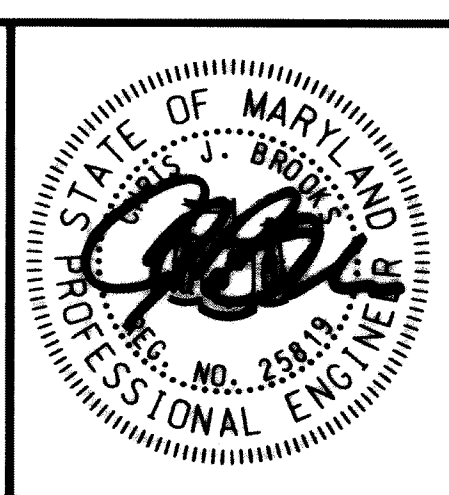
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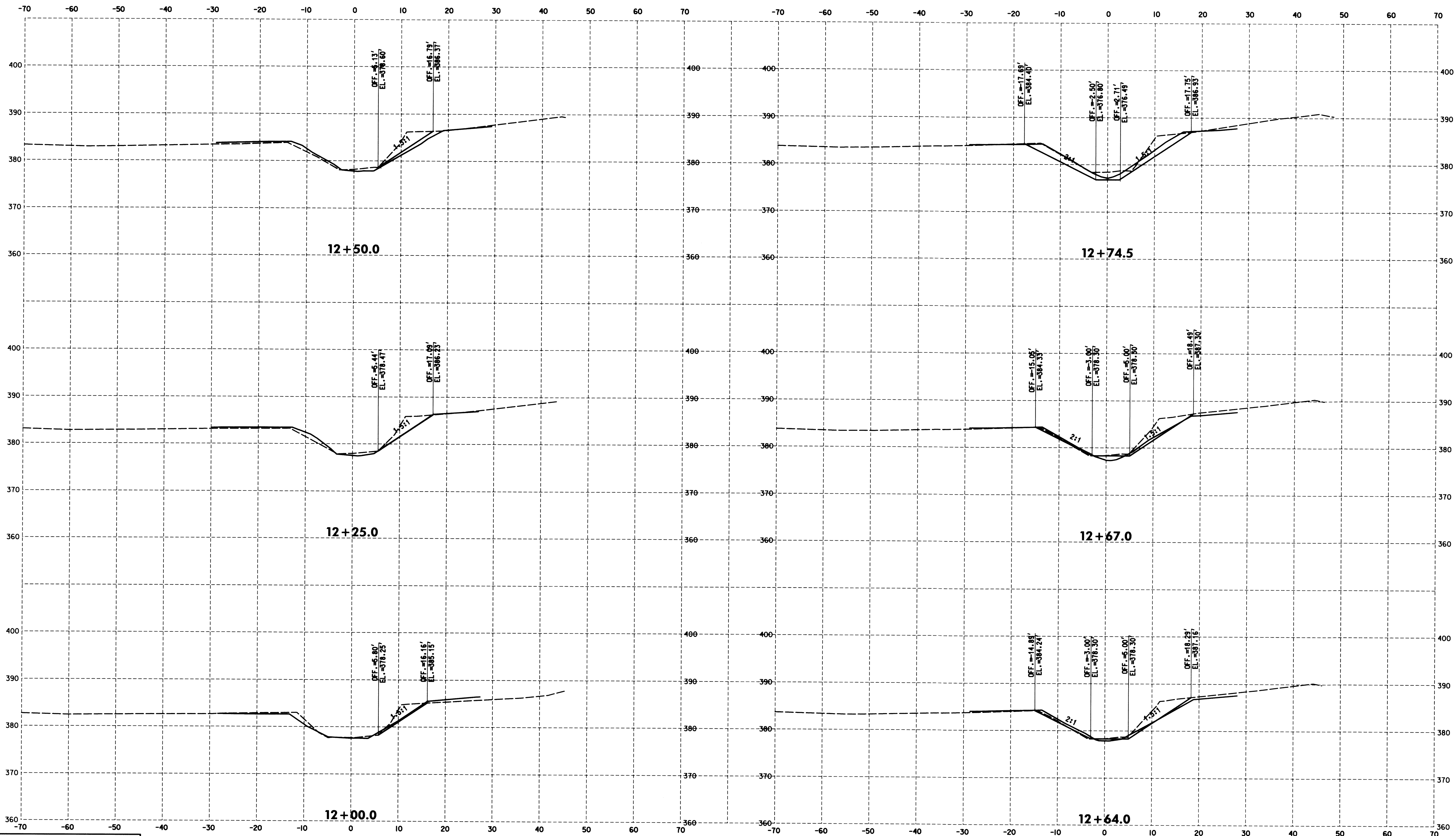


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**HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
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CAPITAL PROJECT #D-1158
ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013**

CROSS SECTIONS

SCALE
AS SHOWN
SHEET
15 OF 23



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

AS-BUILT STA. 12+00 to STA. 12+74 LEGEND
--- EXISTING — PROPOSED

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

M. D. ...
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

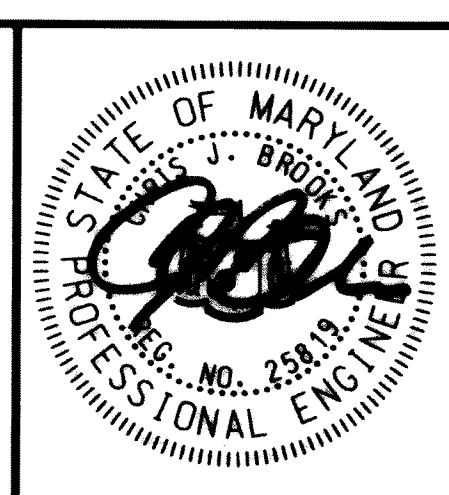
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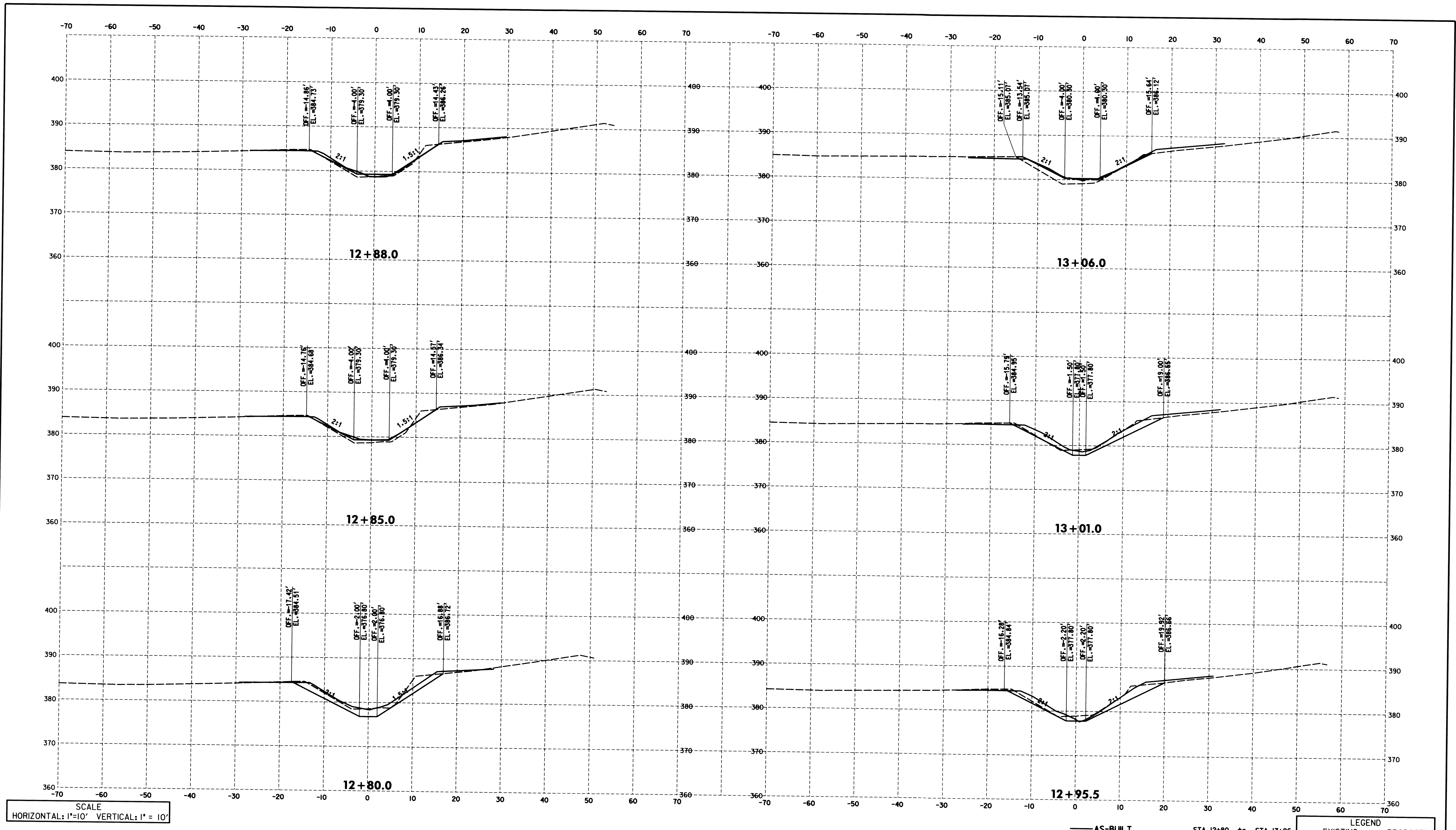


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ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013**

CROSS SECTIONS

SCALE
AS SHOWN
SHEET
16 OF 23



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature]
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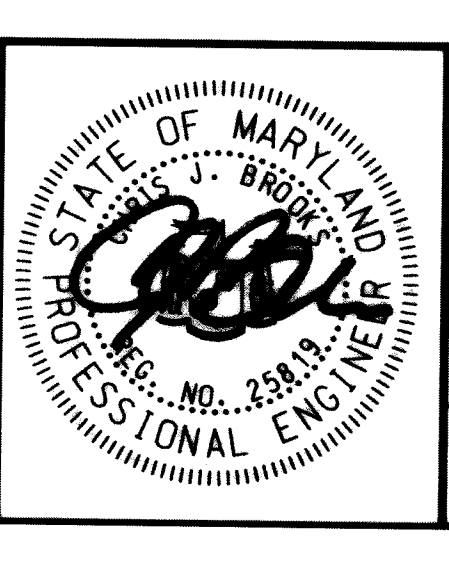
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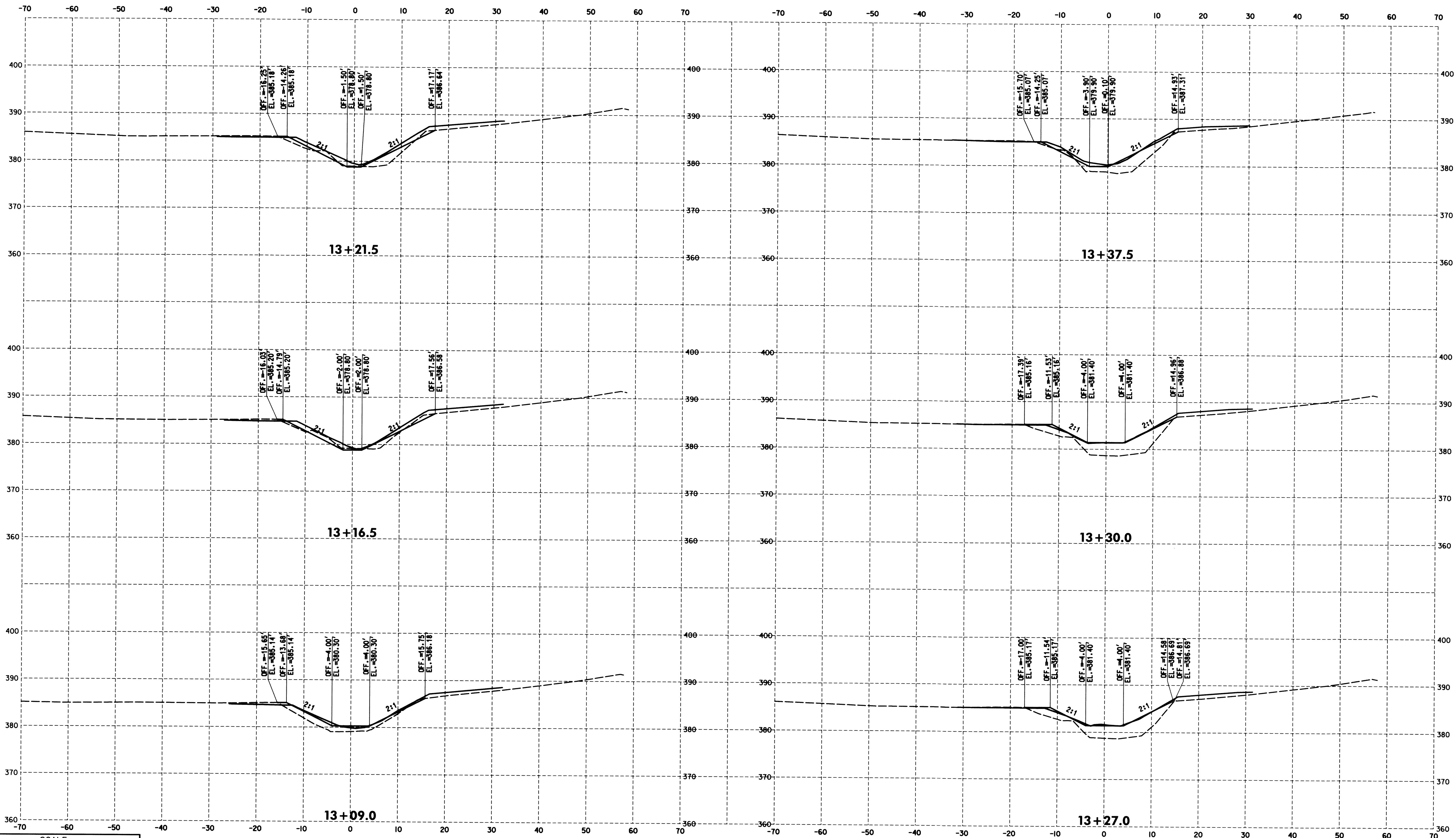
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STA. 12+80 to STA. 13+06

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CAPITAL PROJECT #D-1158
ELECTION DISTRICT NO. 2, HOWARD COUNTY MARYLAND
TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013**

CROSS SECTIONS

SCALE
AS SHOWN
SHEET
17 OF 23



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

AS-BUILT STA. 13+09 to STA. 13+37
LEGEND
--- EXISTING — PROPOSED

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

M. J. O'Shea
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

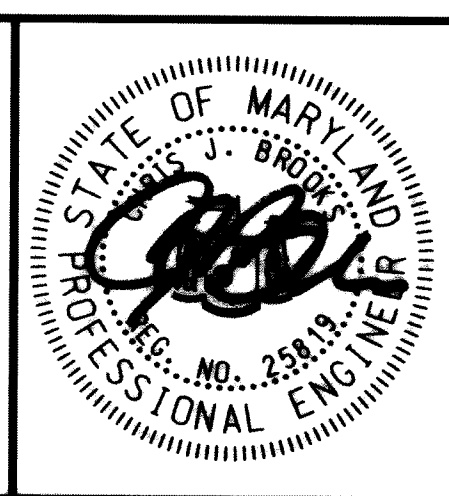
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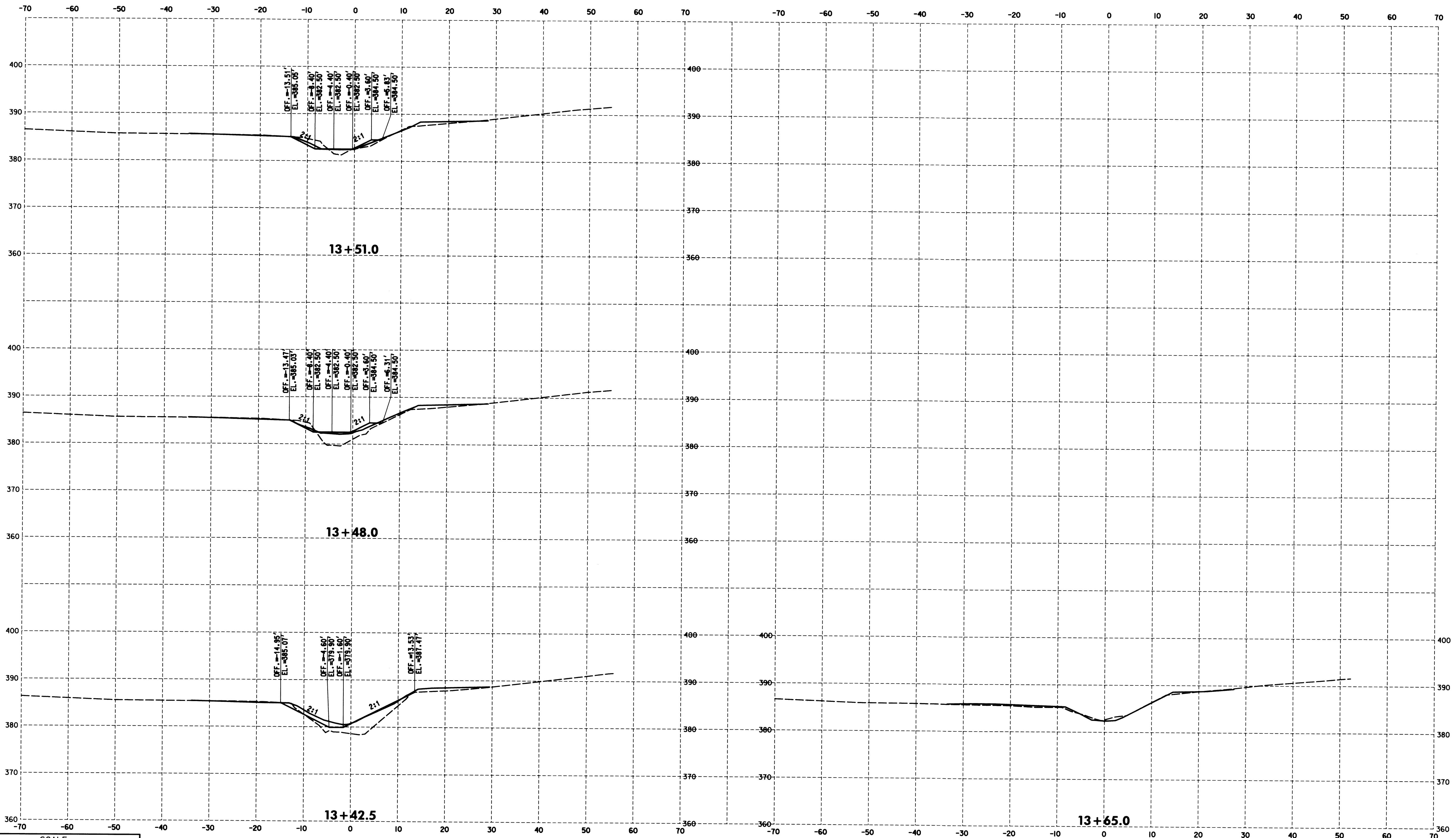


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HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
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WAIVER PETITION #WP-13-013

CROSS SECTIONS

SCALE
AS SHOWN
SHEET
18 OF 23



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

— AS-BUILT
--- EXISTING — PROPOSED
STA. 13+42 to STA. 13+65

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

M. J. O'Shea
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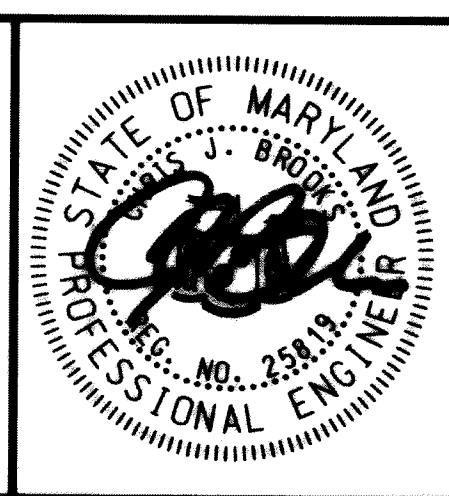
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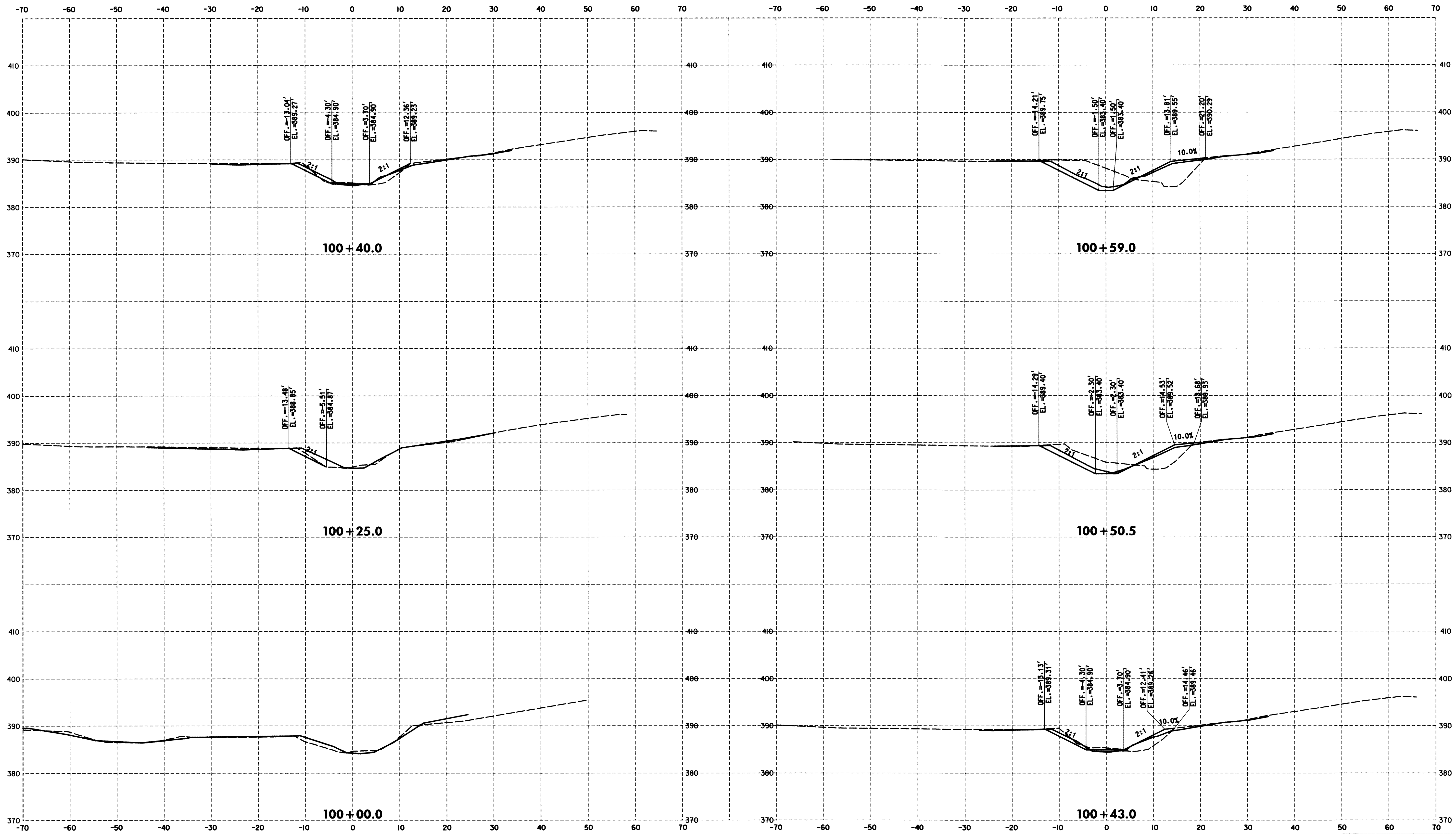


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TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013

CROSS SECTIONS

SCALE
AS SHOWN
SHEET
19 OF 23



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

LEGEND
— AS-BUILT — EXISTING — PROPOSED
STA. 100+00 to STA. 100+59

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M. J. [Signature]
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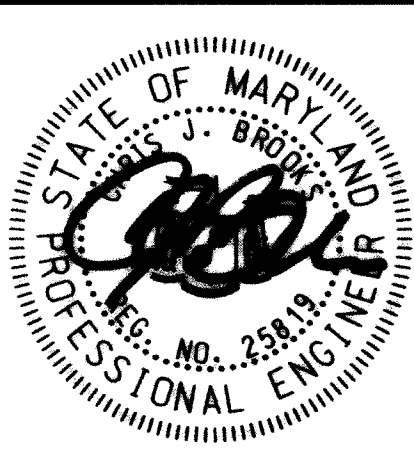
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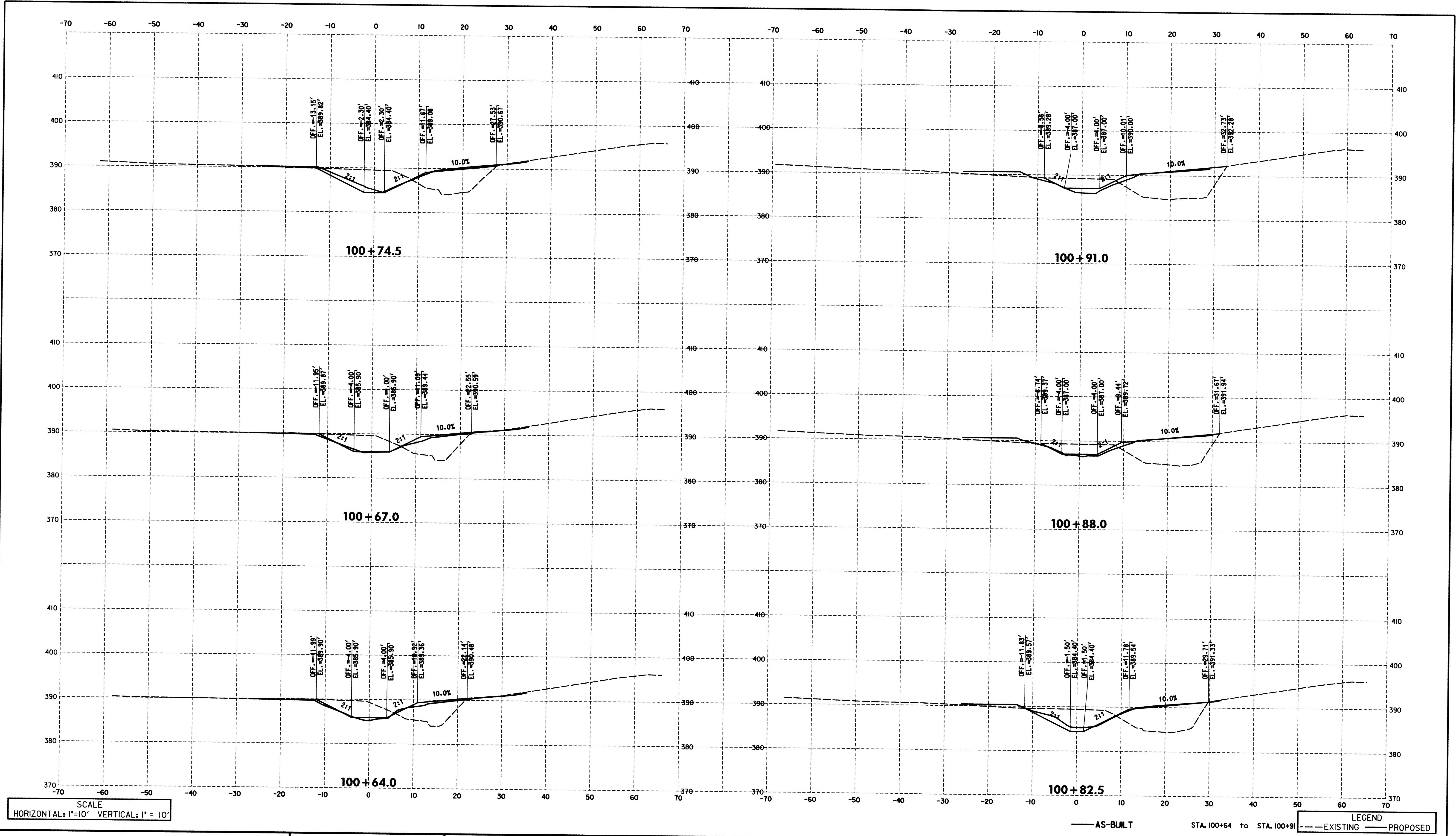


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**HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
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TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013**

CROSS SECTIONS

SCALE
AS SHOWN
SHEET
20 OF 23



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HOWARD COUNTY, MARYLAND

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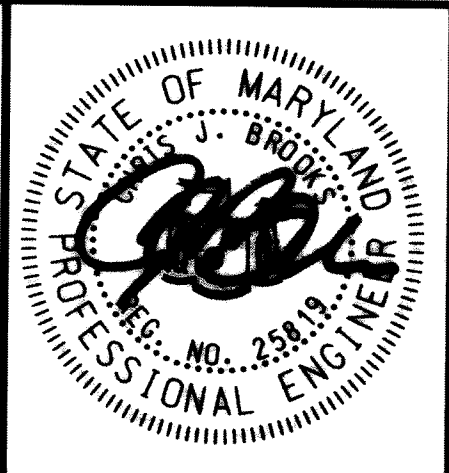
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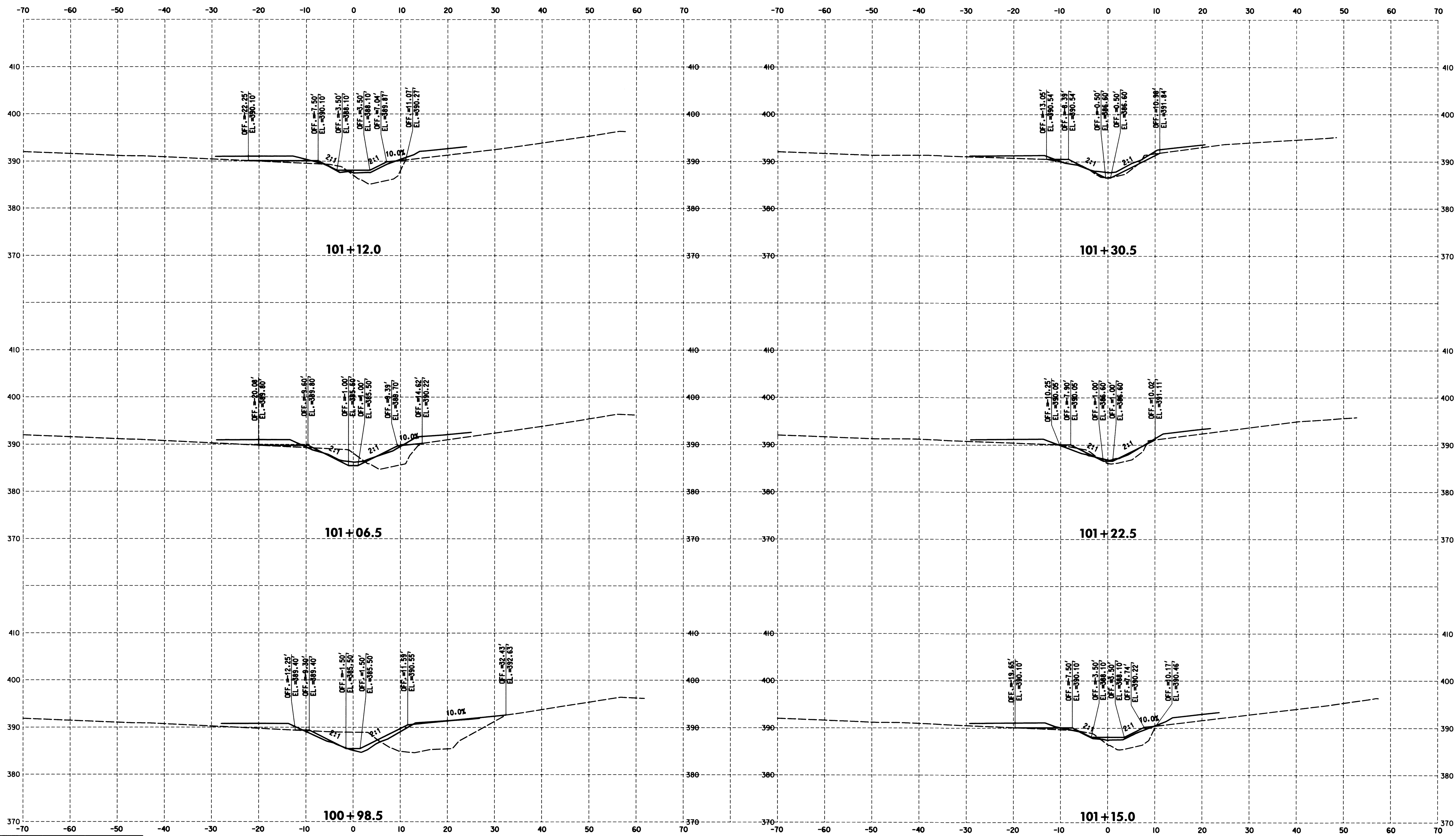


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HOWARD COUNTY STORMWATER MANAGEMENT EVALUATION
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TAX MAPS 30 & 31; LOTS 61, 190, 240 & 241
WAIVER PETITION #WP-13-013

CROSS SECTIONS

SCALE
AS SHOWN
SHEET
21 OF 23



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

LEGEND
— AS-BUILT
--- EXISTING
- - - PROPOSED

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Michael P. Lucas
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

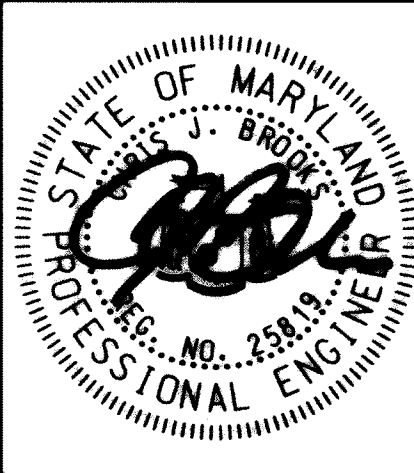
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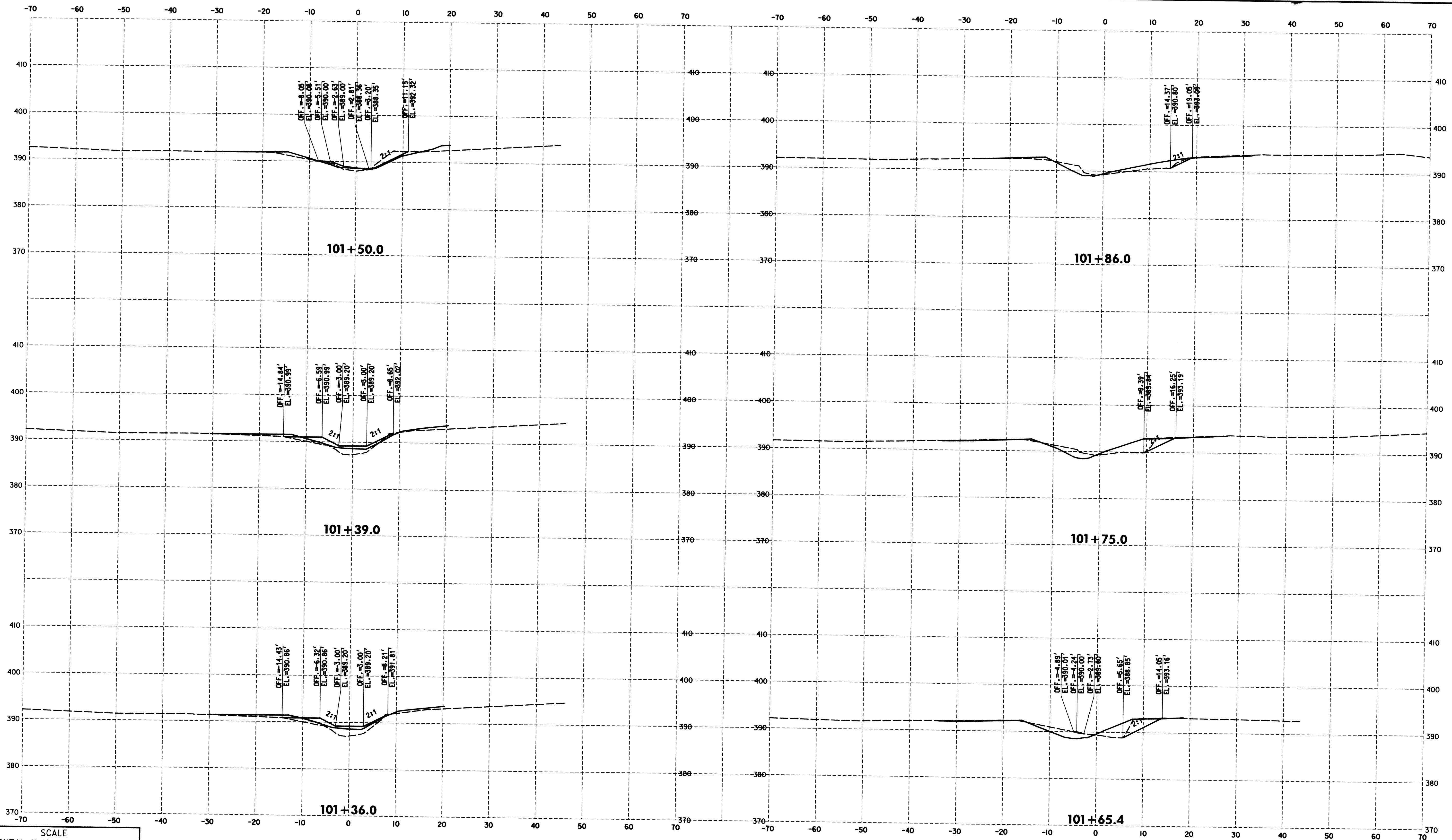


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WAIVER PETITION #WP-13-013**

CROSS SECTIONS

SCALE
AS SHOWN
SHEET
22 OF 23



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

— AS-BUILT
--- EXISTING — PROPOSED
STA. 101+36 to STA. 101+86

DEPARTMENT OF PUBLIC WORKS
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M. D. [Signature]
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CROSS SECTIONS

SCALE
AS SHOWN
SHEET
23 OF 23