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**DESIGN NARRATIVE**

THIS PROJECT, LOCATED WITHIN THE GLENMAR SECTION 2 DEVELOPMENT IN ELLICOTT CITY, MD, IS CLASSIFIED AS A STORMWATER RETROFIT WITH THE GOAL OF REPLACING A DETERIORATING CMP SPILLWAY AND RISER AS WELL AS STABILIZATION AND RETROFIT OF THE EMBANKMENT AND OUTFALL PROPOSED FACILITY STORAGE. DESIGNED TO ENSURE ALL PONDING IS MAINTAINED WITHIN THE HOWARD COUNTY PARCEL AND CLEAR OF THE SURROUNDING PRIVATE PROPERTIES WHILE PROVIDING SUFFICIENT FREEBOARD OVERALL POND DISCHARGES WILL BE REDUCED.

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED THROUGHOUT THE DURATION OF THE PROJECT.

**LEGEND**

PROPOSED MEDIAN BARRIER	---
ELECTRICAL HAND BOX - SIGNALS	H B X
FLOW LINE	---
STATE, COUNTY OR CITY LINES	---
EXISTING TRAFFIC BARRIER	---
PROPOSED FENCE LINE	-X-X-
EXISTING FENCE LINE	-X-X-
PROPERTY LINE	---
EASEMENT LINE	---
EXISTING ROADWAY	---
BASE OR SURVEY LINE	---
TRAVERSE POINT	△
APPROXIMATE LIMITS OF CUT AND/OR FILL	C F
PROPOSED MAJOR CONTOUR	180
PROPOSED MINOR CONTOUR	181
LIMIT OF DISTURBANCE	L00
EXISTING MAJOR CONTOURS	190
EXISTING MINOR CONTOURS	191
EXISTING PIPE/CULVERT	---
EXISTING DROP INLET	---
WETLAND	---
WATERS OF THE US	WUS
HEDGE /TREE LINE	---
BUSH /TREE	---
CONIFEROUS TREE	---
LIGHT POLE	---
SANITARY LINE	SAN
BUSH /TREE TO BE REMOVED	---

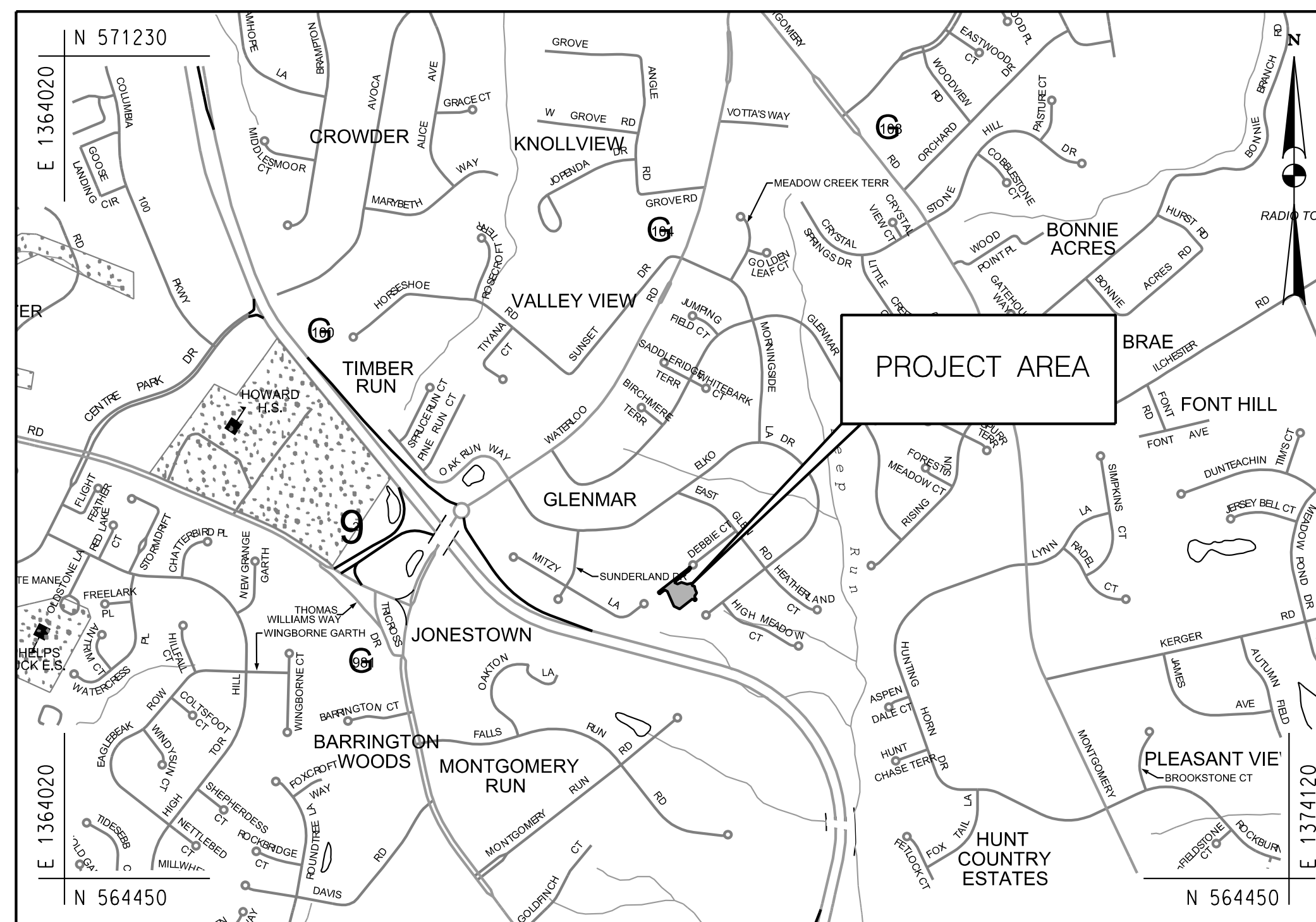
# HOWARD COUNTY

## Capital Project #D-1159

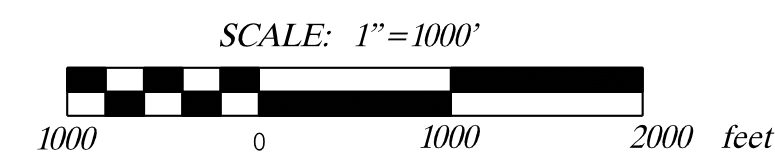
### Glenmar Pond #2 Principal Spillway Replacement Project

#### MDE DAM #577 NID #MD00577

### Storm Water Management Division Bureau Of Environmental Services



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 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS /BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AND MDE DAM SAFETY DIVISION AT (410) 537-3655 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK AND SCHEDULE A PRE-CONSTRUCTION MEETING WITH OWNER(S), ENGINEER-IN-CHARGE (EIC), MDE-DSD, AND CONTRACTOR. A POST-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH THE SAME PARTIES PRIOR TO DEMOBILIZING.
- SURVEY OF THIS SITE WAS PERFORMED BY AB CONSULTANTS, INC - DECEMBER 2016 AND MARCH 2017
- 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.
- WETLANDS AND WATERS OF THE US WERE DELINEATED BY McCORMICK TAYLOR - FEBRUARY 2017.
- 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' 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 GLENMAR - SECTION TWO (F-84-200), APPROVED JUNE 6, 1984, AND MONTGOMERY MEADOWS - SECTION ONE AREA SEVEN (F-89-047).
- THERE ARE NO JURISDICTIONAL WETLANDS OR WATERWAYS FOR THIS PROJECT. THE MARYLAND DEPARTMENT OF THE ENVIRONMENT TRACKING NUMBER FOR THIS PROJECT IS AI#156245.
- THE PROJECT SITE IS LOCATED WITHIN THE PATAPSCO WATERSHED WHICH HAS NO TIER II STREAM SEGMENTS REQUIRING THE IMPLEMENTATION OF MARYLAND'S ANTIDEGRADATION POLICY. HOWEVER, THE PATAPSCO WATERSHED HAS BEEN IDENTIFIED AS IMPAIRED AND IS CURRENTLY UNDER A TMDL FOR SEDIMENT, NUTRIENTS, BACTERIA, AND METALS.
- CONTRACTOR SHALL PROVIDE STRUCTURAL SHOP DRAWINGS FOR ALL PRECAST OR PRE-FABRICATED STRUCTURES FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.

APPROVALS/PERMITS			
AGENCY	#	DATE APPLIED	DATE APPROVED
MDE JOINT PERMIT APPLICATION	AI #156245	NOT REQUIRED	NOT REQUIRED
MDE DAM SAFETY	18-MR-0010	8 /29 /2017	11 / 27 /2018
HOWARD SOIL CONSERVATION DISTRICT	EP-17-40	30% 04 /17 /2017	30% 05 /11 /2017
		65% 06 /21 /2017	65% 07 /11 /2017
		90% 02 /09 /2018	90% 03 /16 /2018
		06 /19 /2018	07 /12 /2018
Final	08 /28 /2018	Final	08 /29 /2018

**OWNER'S/DEVELOPER'S CERTIFICATION**

I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION PRIOR TO BEGINNING THE PROJECT. I SHALL ENGAGE A MARYLAND REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION, AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.

Maryland Department of the Environment  
Water and Science Administration  
Dam Safety Division

## PERMIT

WATERWAY CONSTRUCTION PERMIT NO. 18-MR-0010  
EFFECTIVE DATE OF PERMIT November 27, 2018

In accordance with §§5-501 through 5-514, et seq. of the Environment Article, Annotated Code of Maryland, permission is hereby granted to Howard County Government, Stormwater Management, 6751 Columbia Gateway Drive, Suite 514, Columbia, MD 21046, hereinafter referred to collectively as "the Owner" or "the Permittee", by the Maryland Department of the Environment, Dam Safety Division ("the Department") for the Glenmar Pond #2 Dam Retrofit Project as shown on sheets 1-17 on plans prepared by Andrew McLean, P.E., McCormick Taylor, Inc. and approved by the Department on October 30, 2018.

The site is located at 5322 Debbie Court, Ellicott City, on Patapsco River in Howard County, at latitude 39.222846 degrees north, longitude -76.799720 W degrees west, ADC map/grid: 4936/85.

Sincerely,  
Jennifer M. Smith, P.E.  
Program Manager  
Sediment, Stormwater, and Dam Safety Program

This PERMIT is granted subject to the following:

**GENERAL CONDITIONS**

1. This Permit is valid only for use by the Permittee. Permission to transfer the Permit must be obtained from the Department in writing.

Maryland Department of the Environment  
Water and Science Administration  
Dam Safety Division

V. P. Dalal  
Sr. Regulatory & Compliance Engineer  
Permit # 18-MR-0010

10/30/18  
Date

DEPARTMENT OF RECREATION AND PARKS, HOWARD COUNTY, MD

A. L. Dalal  
DIRECTOR OF RECREATION AND PARKS  
8/29/18  
DATE

**REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.**

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

8/28/18  
DATE

**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. 49427, EXPIRATION DATE: 6 /13 /2020

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

**DESIGN CERTIFICATION**

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

8/22/18  
DATE

ANDY MUEAN  
DESIGNER'S SIGNATURE  
MARYLAND REGISTRATION NUMBER 49427  
PRINTED NAME

8/28/18  
DATE

JAMES H. IRVIN  
OWNER/DEVELOPER SIGNATURE  
PRINTED NAME AND TITLE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

8/24/18  
DATE

8/24/18  
DATE

CHIEF, STORMWATER MANAGEMENT DIVISION

**McCORMICK TAYLOR**

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

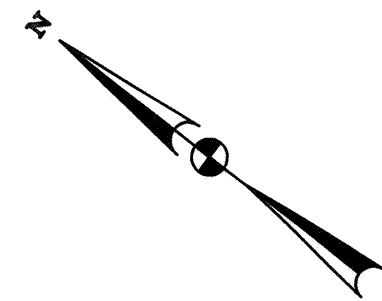
DES: E2S/CLR				
DRN: MER				
CHK: ALH				
DATE: 8/21/18	ADM	1	AS-BUILT SURVEY	8/19
	BY	NO.	REVISION	DATE

**GLENMAR POND #2 PRINCIPAL SPILLWAY REPLACEMENT PROJECT**  
**HOWARD COUNTY CAPITAL PROJECT #D-1159**  
**HSCD #: EP-17-40**  
**MD DAM NO. 577**

**TITLE SHEET**

SCALE AS SHOWN

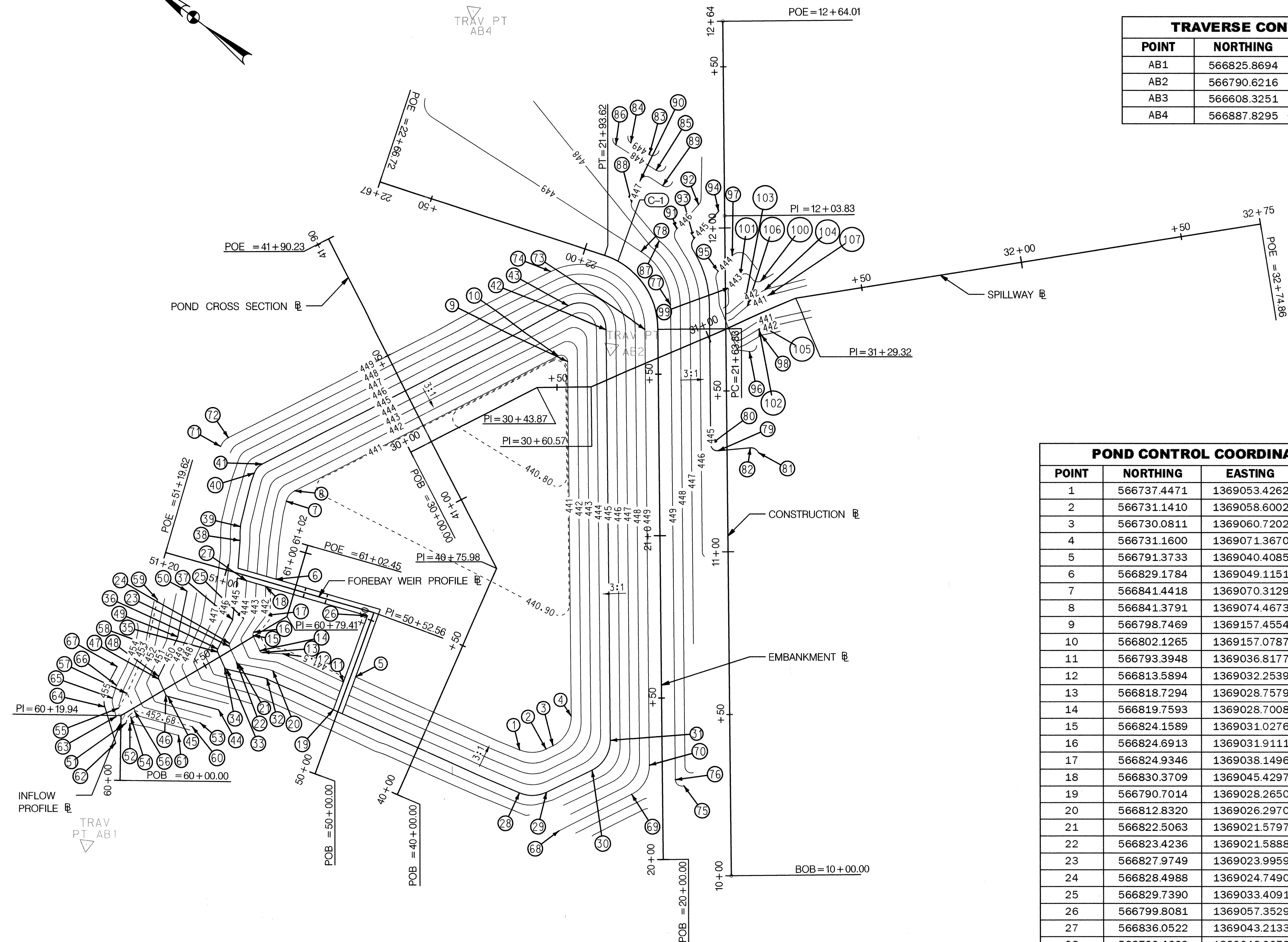
SHEET 1 OF 17



BASELINE CURVE DATA								
CURVE NO.	DELTA	Dc	R	T	L	E	CENTER OF CURVE	
							NORTH	EAST
C-1	71°07'36.38"	238°43'56.69"	24.0000'	17.1591'	29.7935'	5.5031	566801.5823	1369167.5444

TRAVERSE CONTROL COORDINATES			
POINT	NORTHING	EASTING	ELEVATION
AB1	566825.8694	1368948.7408	457.63
AB2	566790.6216	1369168.9993	449.62
AB3	566608.3251	1369353.2562	437.82
AB4	566887.8295	1369225.3994	449.54

BASELINE GEOMETRY CONTROL COORDINATES						
BASILINE	POINT	NORTHING	EASTING	STATION	BEARING AH	RADIUS
CONSTRUCTION	POB	566661.7879	1369062.3244	10+00.00	N 51°52'39.71" E	
	PI	566787.6211	1369222.6768	12+03.83	N 51°52'39.71" E	
	POE	566824.7702	1369270.0169	12+64.01		
EMBANKMENT	POB	566681.5374	1369053.5035	20+00.00	N 51°51'53.91" E	
	PC	566782.7049	1369182.3649	21+63.83	N 51°51'53.91" E	
	PI	566793.3009	1369195.8615	21+80.99	N 19°15'42.47" W	24.00'
	CC	566801.5823	1369167.5444			
	PT	566809.4995	1369190.2010	21+93.62	N 19°15'42.47" W	
SPILLWAY	POB	566820.2119	1369105.8494	30+00.00	N 64°35'07.29" W	
	PI	566801.3861	1369145.4703	30+43.87	N 38°08'06.09" W	
	PI	566788.2489	1369155.7842	30+60.57	N 60°41'31.71" W	
	PI	566754.5950	1369215.7354	31+29.32	N 46°46'08.82" W	
POND CROSS SECTION	POB	566759.0993	1369019.4797	40+00.00	N 76°17'38.48" E	
	PI	566777.1010	1369093.2925	40+75.98	N 25°24'52.71" E	
	POE	566880.2954	1369142.3251	41+90.23		
FOREBAY WEIR PROFILE	POB	566783.1875	1369009.1659	50+00.00	N 72°39'21.91" E	
	PI	566798.8555	1369059.3346	50+52.56	N 21°18'42.63" W	
	POE	566861.3328	1369034.9609	51+19.62		
INFLOW PROFILE	POB	566829.7832	1368970.9167	60+00.00	N 53°15'34.98" E	
	PI	566841.7081	1368986.8917	60+19.94	N 68°00'05.63" W	
	PI	566819.4286	1369042.0398	60+79.41	N 68°41'17.37" E	
	POE	566827.8007	1369063.4999	61+02.45		

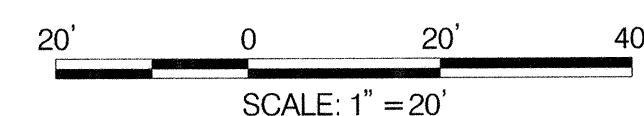


POND CONTROL COORDINATES			
POINT	NORTHING	EASTING	ELEVATION
1	566737.4471	1369053.4262	441.00
2	566731.1410	1369058.6002	441.00
3	566730.0811	1369060.7202	441.00
4	566731.1600	1369071.3670	441.00
5	566791.3733	1369040.4085	441.00
6	566829.1784	1369049.1151	441.00
7	566841.4418	1369070.3129	441.00
8	566841.3791	1369074.4673	441.00
9	566798.7469	1369157.4554	441.00
10	566802.1265	1369157.0787	441.00
11	566793.3948	1369036.8177	442.00
12	566813.5894	1369032.2539	442.00
13	566818.7294	1369028.7579	442.00
14	566819.7593	1369028.7008	442.00
15	566824.1589	1369031.0276	442.00
16	566824.6913	1369031.9111	442.00
17	566824.9346	1369038.1496	442.00
18	566830.3709	1369045.4297	442.00
19	566790.7014	1369028.2650	445.00
20	566812.8320	1369026.2970	444.00
21	566822.5063	1369021.5797	444.00
22	566823.4236	1369021.5888	444.00
23	566827.9749	1369023.9959	444.00
24	566828.4988	1369024.7490	444.00
25	566829.7390	1369033.4091	444.00
26	566799.8081	1369057.3529	444.00
27	566836.0522	1369043.2133	444.00
28	566729.4603	1369042.9073	445.00
29	566722.9580	1369048.1328	445.00
30	566715.9491	1369062.1522	445.00
31	566717.0280	1369072.7991	445.00
32	566812.8505	1369023.2753	445.00
33	566824.3899	1369018.0156	445.00
34	566825.2722	1369018.0415	445.00
35	566829.8665	1369020.4714	445.00
36	566830.3845	1369021.1860	445.00

POND CONTROL COORDINATES			
POINT	NORTHING	EASTING	ELEVATION
37	566832.1510	1369031.0595	445.00
38	566845.3335	1369051.9661	445.00
39	566847.8815	1369055.4465	445.00
40	566854.6406	1369071.3175	445.00
41	566854.4040	1369075.0163	445.00
42	566795.2898	1369172.4846	445.00
43	566808.8081	1369170.9778	445.00
44	566818.8593	1369006.5999	450.00
45	566833.7508	1369000.3163	450.00
46	566834.6071	1369000.3537	450.00
47	566839.2324	1369002.7999	450.00
48	566839.7452	1369003.4867	450.00
49	566842.4086	1369016.5589	450.00
50	566848.7391	1369029.4938	450.00
51	566839.0900	1368985.9888	452.68
52	566838.0118	1368999.9465	454.00
53	566820.9963	1368999.9465	452.00
54	566839.0733	1368988.3877	452.72
55	566843.6996	1368988.2776	452.68
56	566839.2383	1368990.5188	452.72
57	566844.5520	1368993.3054	452.72
58	566848.3909	1369009.0891	452.72
59	566854.4822	1369021.9058	452.72
60	566822.1197	1368997.5302	452.68
61	566823.8675	1368882.8143	453.00
62	566837.8389	1368797.1746	455.00
63	566842.7173	1368985.7692	454.00
64	566847.3070	1368985.9940	455.00
65	566847.0239	1368989.4907	454.00
66	566848.4234	1368993.3583	454.00
67	566851.8068	1368998.0569	455.00
68	566712.5318	1369040.9923	449.00
69	566701.6877	1369063.6668	449.00
70	566702.8395	1369074.1513	449.00
71	566867.9358	1369071.5157	449.00
72	566867.6582	1369075.0827	449.00

POND CONTROL COORDINATES			
POINT	NORTHING	EASTING	ELEVATION
73	566785.8511	1369179.8948	449.00
74	566819.6468	1369176.1278	449.00
75	566690.5201	1369075.6458	449.00
76	566693.7534	1369075.5283	449.00
77	566783.9634	1369190.4455	449.00
78	566801.3050	1369198.0302	449.00
79	566745.2266	1369164.0445	445.00
80	566748.1609	1369164.2749	445.00
81	566734.9257	1369171.2556	445.00
82	566737.8428	1369170.9028	445.00
83	566817.7227	1369223.5441	449.00
84	566824.4467	1369222.9304	449.00
85	566813.0568	1369220.9575	448.00
86	566827.7390	1369219.6174	448.00
87	566798.8556	1369204.0816	447.00
88	566812.9576	1369208.3950	447.00
89	566808.5035	1369218.3683	447.00
90	566815.0006	1369215.3947	447.00
91	566796.8363	1369210.3942	446.00
92	566796.1161	1369220.4729	446.00
93	566790.7624	1369211.2150	445.00
94	566789.9472	1369222.6225	445.00
95	566778.6732	1369207.7596	444.00
96	566756.1472	1369194.2187	444.00
97	566778.2087	1369214.2604	444.00
98	566756.2931	1369200.5437	443.00
99	566772.7912	1369205.8943	443.00
100	566766.3960	1369213.4201	443.00
101	566772.4424	1369210.7746	443.00
102	566758.0304	1369201.5928	442.00
103	566766.6684	1369205.7619	442.00
104	566763.7581	1369211.9887	442.00
105	566759.7677	1369202.6418	441.00
106	566764.9264	1369204.7106	441.00
107	566761.8293	1369211.3329	441.00

AS-BUILT GRADING NOT SHOWN. SEE SITE PLAN FOR REVISED GRADING.



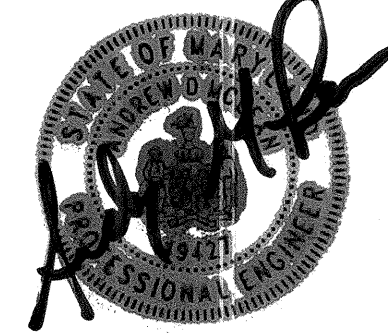
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND



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



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



DES: EZS/CLR  
DRN: MER  
CHK: ALH  
DATE: 8/21/18

BY	NO.	REVISION	DATE
ADM	1	AS-BUILT SURVEY	8/1/19

GLENMAR POND #2 PRINCIPAL SPILLWAY  
REPLACEMENT PROJECT  
HOWARD COUNTY CAPITAL PROJECT #D-1159  
HSCD #: EP-17-40  
MD DAM NO. 577

GEOMETRY LAYOUT

SCALE  
1" = 20'

SHEET

2 OF 17

CHIEF, BUREAU OF ENVIRONMENTAL SERVICES  
DATE

ASPHALT SIDEWALK			
FROM	TO	QTY (LF)	REMARKS
13+02, 199' LT	9+81, 203' LT	324	REESTABLISH TO EXISTING DIMENSIONS

CONCRETE BLOCK MAT			
FROM	TO	QTY (SY)	REMARKS
11+69, 2' RT	11+79, 25' RT	77	OUTFALL STABILIZATION, DETAIL SHEET 6

GABION WALL			
FROM	TO	QTY (CY)	REMARKS
10+52, 121' LT	10+95, 152' LT	43	FOREBAY WALL

REMOVE AND REPLACE EXISTING FENCE			
FROM	TO	QTY (LF)	REMARKS
11+45, 161' LT	12+31, 70' LT	176	WOOD PICKET FENCE

REMOVE EXISTING PIPE			
FROM	TO	QTY (LF)	REMARKS
11+74, 50' LT	11+75, 24' RT	28	EXISTING SPILLWAY PIPE

REMOVE EXISTING STRUCTURE			
FROM	STATION	QTY (EA)	REMARKS
11+75, 54' LT	11+74, 50' LT	1	EXISTING RISER STRUCTURE

CLASS I RIP RAP			
FROM	TO	QTY (SY)	REMARKS
10+45, 188' LT	10+76, 140' LT	58	INFLOW UPSTREAM, 19" DEPTH
10+53, 123' LT	10+92, 152' LT	16	UPSTREAM OF GABIONS, 19" DEPTH
10+51, 119' LT	10+97, 151' LT	19	DOWNSTREAM OF GABIONS, 19" DEPTH

NO 57 AGGREGATE SWM FACILITIES			
FROM	TO	QTY (CY)	REMARKS
10+53, 123' LT	10+92, 152' LT	5	UPSTREAM OF GABIONS, TO WEIR ELEV.
10+51, 119' LT	10+97, 151' LT	6	DOWNSTREAM OF GABIONS, TO WEIR ELEV.

TREE REMOVAL			
QTY (EA)	REMARKS		
21	ASSHOWN ON PLAN		

TREE PROTECTION FENCE			
QTY (LF)	REMARKS		
15	TPF - AS SHOWN ON PLAN		

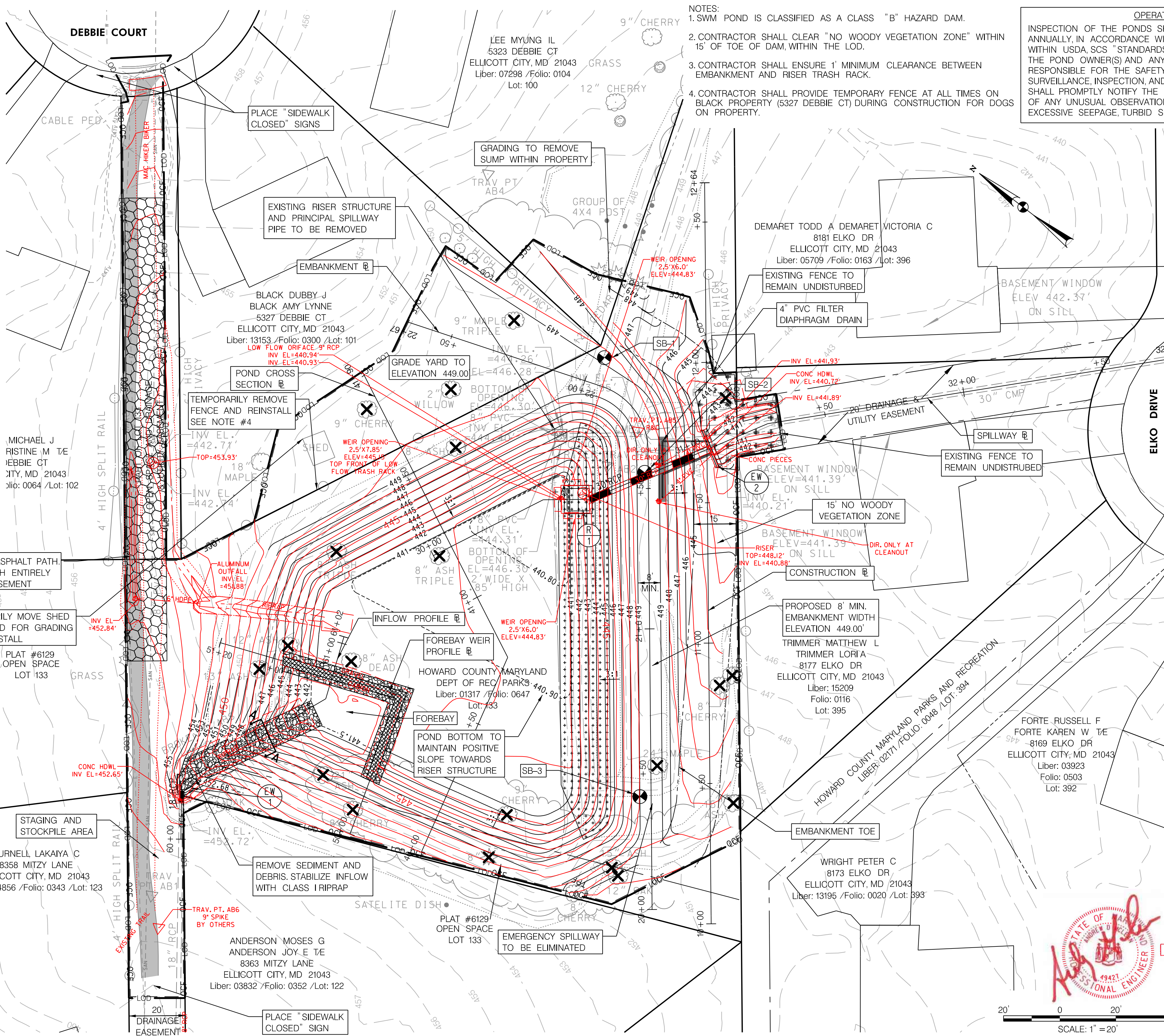
PIPE SCHEDULE				
FROM	TO	DIA. (IN)	QTY (LF)	REMARKS
R-1	EW-2	30	47	PRINCIPAL SPILLWAY, ASTM C361, B-25
EX RCP	EW-1	18	4	EXTEND INFLOW, 18" RCP

DRAINAGE STRUCTURES			
ID	STATION	QTY	REMARKS
R-1	11+51, 45' LT	1	SEE DETAIL SHEET 5
EW-1	10+48, 188' LT	1	TYPE 'F' ENDWALL FOR 18" RCP - MD-358.01
EW-2	11+69, 2' RT	1	TYPE 'C' ENDWALL FOR 30" RCP - D-5.21
SFD-1	11+62, 16' LT	1	SAND FILTER DIAPHRAGM, SEE SHEET 6

DRAINAGE EASEMENT			
ID	STATION	QTY	REMARKS
R-1	11+51, 45' LT	1	SEE DETAIL SHEET 5
EW-1	10+48, 188' LT	1	TYPE 'F' ENDWALL FOR 18" RCP - MD-358.01
EW-2	11+69, 2' RT	1	TYPE 'C' ENDWALL FOR 30" RCP - D-5.21
SFD-1	11+62, 16' LT	1	SAND FILTER DIAPHRAGM, SEE SHEET 6

**Maryland Department of the Environment  
Water and Science Administration  
Dam Safety Division**

*V. P. Dalal*      10/30/18  
Sr. Regulatory & Compliance Engineer      Date  
Permit # 18-MR-0010



- NOTES:
1. SWM POND IS CLASSIFIED AS A CLASS "B" HAZARD DAM.
  2. CONTRACTOR SHALL CLEAR "NO WOODY VEGETATION ZONE" WITHIN 15' OF TOE OF DAM, WITHIN THE LOD.
  3. CONTRACTOR SHALL ENSURE 1' MINIMUM CLEARANCE BETWEEN EMBANKMENT AND RISER TRASH RACK.
  4. CONTRACTOR SHALL PROVIDE TEMPORARY FENCE AT ALL TIMES ON BLACK PROPERTY (5327 DEBBIE CT) DURING CONSTRUCTION FOR DOGS ON PROPERTY.

OPERATION, MAINTENANCE AND INSPECTION  
INSPECTION OF THE PONDS SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE REGULATING AGENCY, MARYLAND DAM SAFETY DIVISION, OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

CLAY CORE	
QTY (CY)	REMARKS
52	FOR EMBANKMENT BACKFILL

4" TOPSOIL	
QTY (SY)	REMARKS
4,324	FOR GRADED AREAS ABOVE PP

ORANGE CONSTRUCTION FENCE	
QTY (LF)	REMARKS
1,276	AROUND ENTIRE LOD

COMMON BORROW	
QTY (CY)	REMARKS
500	FOR EMBANKMENT BACKFILL AND YARD FILL

CLASS I EXCAVATION	
QTY (CY)	REMARKS
1,650	POND AND FOREBAY EXCAVATION
350	PRINCIPAL SPILLWAY EXCAVATION

CLAY LINER	
QTY (SY)	REMARKS
263	ALONG UPSTREAM FACE OF EMBANKMENT

LEGEND

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED SUB MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- WOODS
- PROPERTY LINE
- EASEMENT BOUNDARY
- EMBANKMENT TOE
- 15' NO WOODY VEGETATION
- EXISTING SANITARY SEWER
- LIMIT OF DISTURBANCE
- TPF
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED RISER
- PROPOSED 30" RCP
- CLAY LINER
- RIPRAP
- GABION WEIR
- CONCRETE BLOCK MAT
- MULCH ACCESS PATH
- ASPHALT PATH REPLACEMENT

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Michael DeLuca*      9/27/18  
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES      DATE

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

**Howard County**  
MARYLAND  
Storm Water Management Division  
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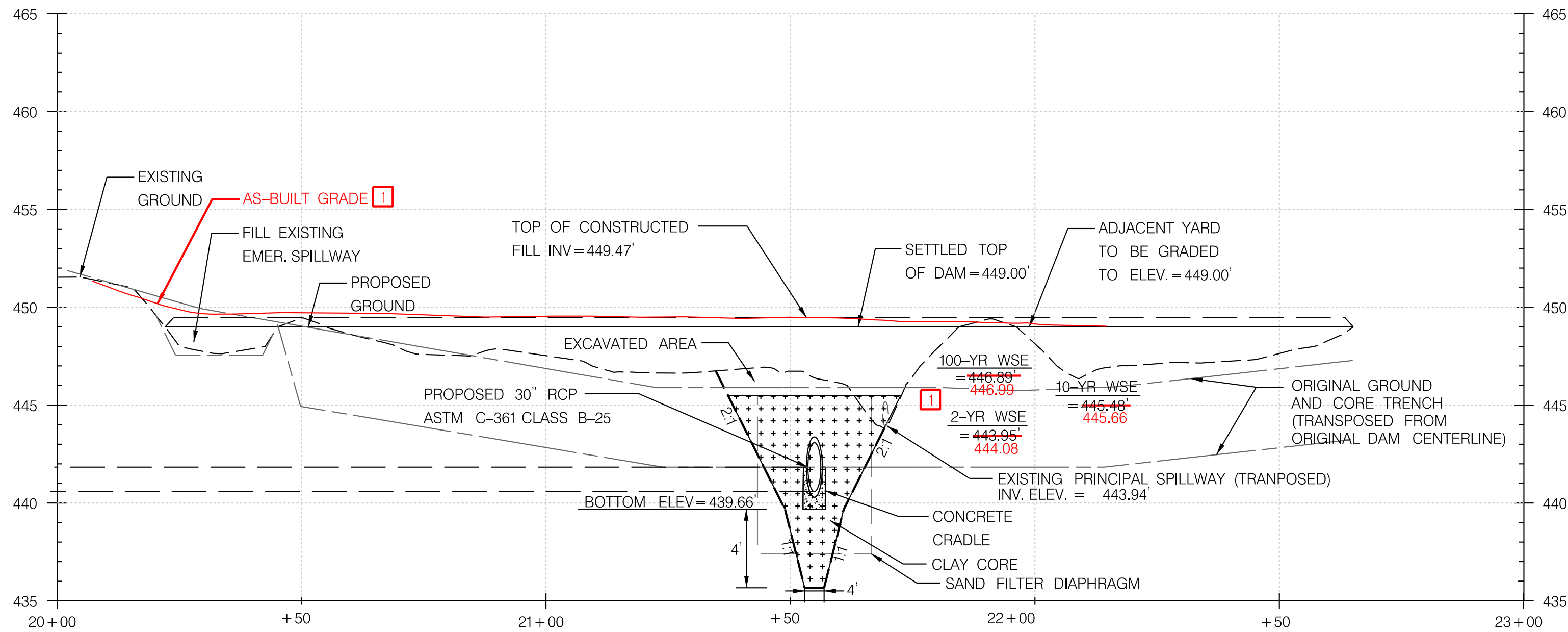
STATE OF MARYLAND  
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY

DES:	EZS/CLR				
DRN:	MER				
CHK:	ALH				
DATE:	8/21/18	ADM	AS-BUILT SURVEY	8/1/19	
BY:		NO.	REVISION	DATE	

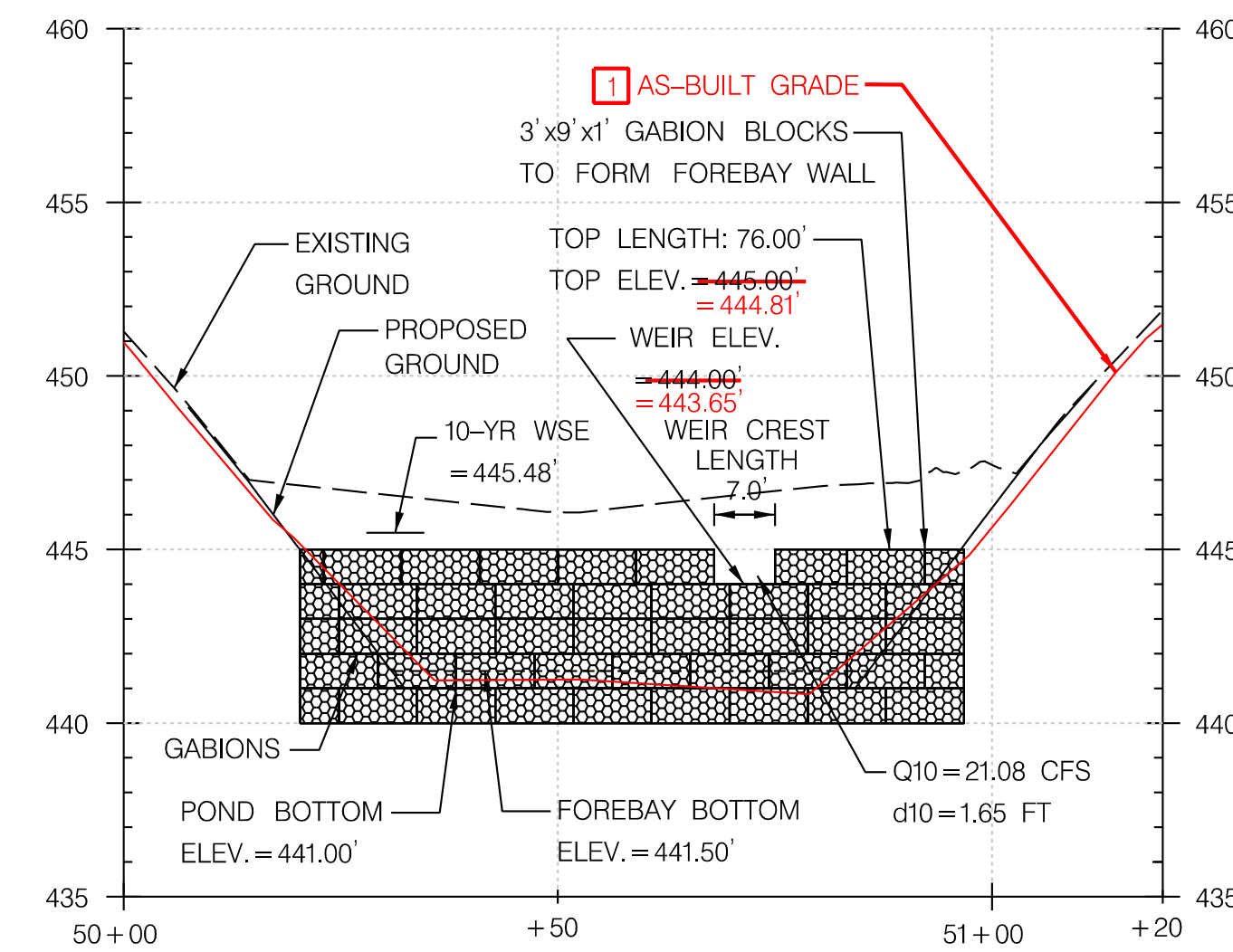
GLENMAR POND #2 PRINCIPAL SPILLWAY REPLACEMENT PROJECT  
HOWARD COUNTY CAPITAL PROJECT #D-1159  
HSCD #: EP-17-40  
MD DAM NO. 577

**SITE PLAN**

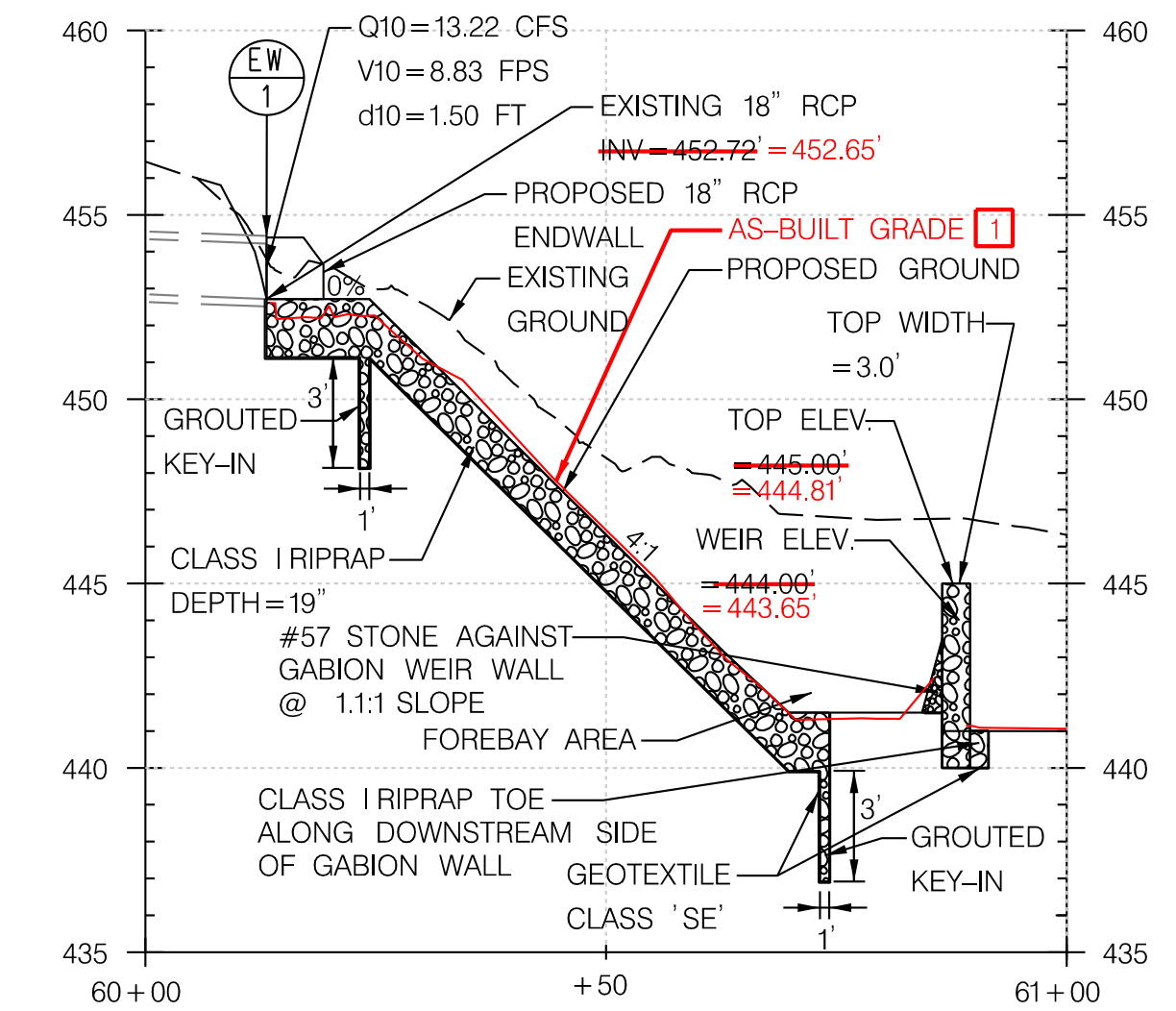
SCALE: 1" = 20'  
SHEET: 3 OF 12



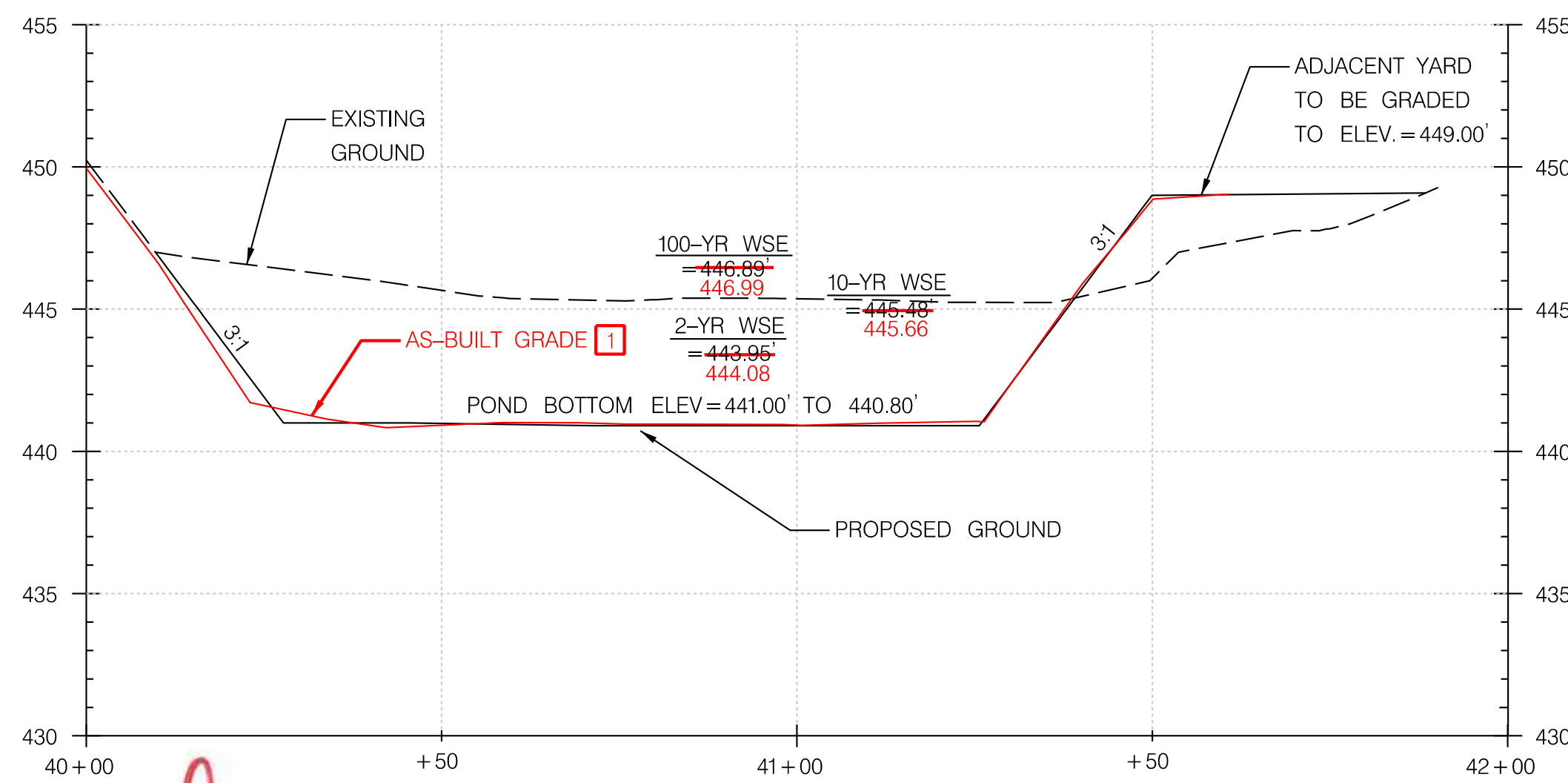
**EMBANKMENT PROFILE**  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 5'



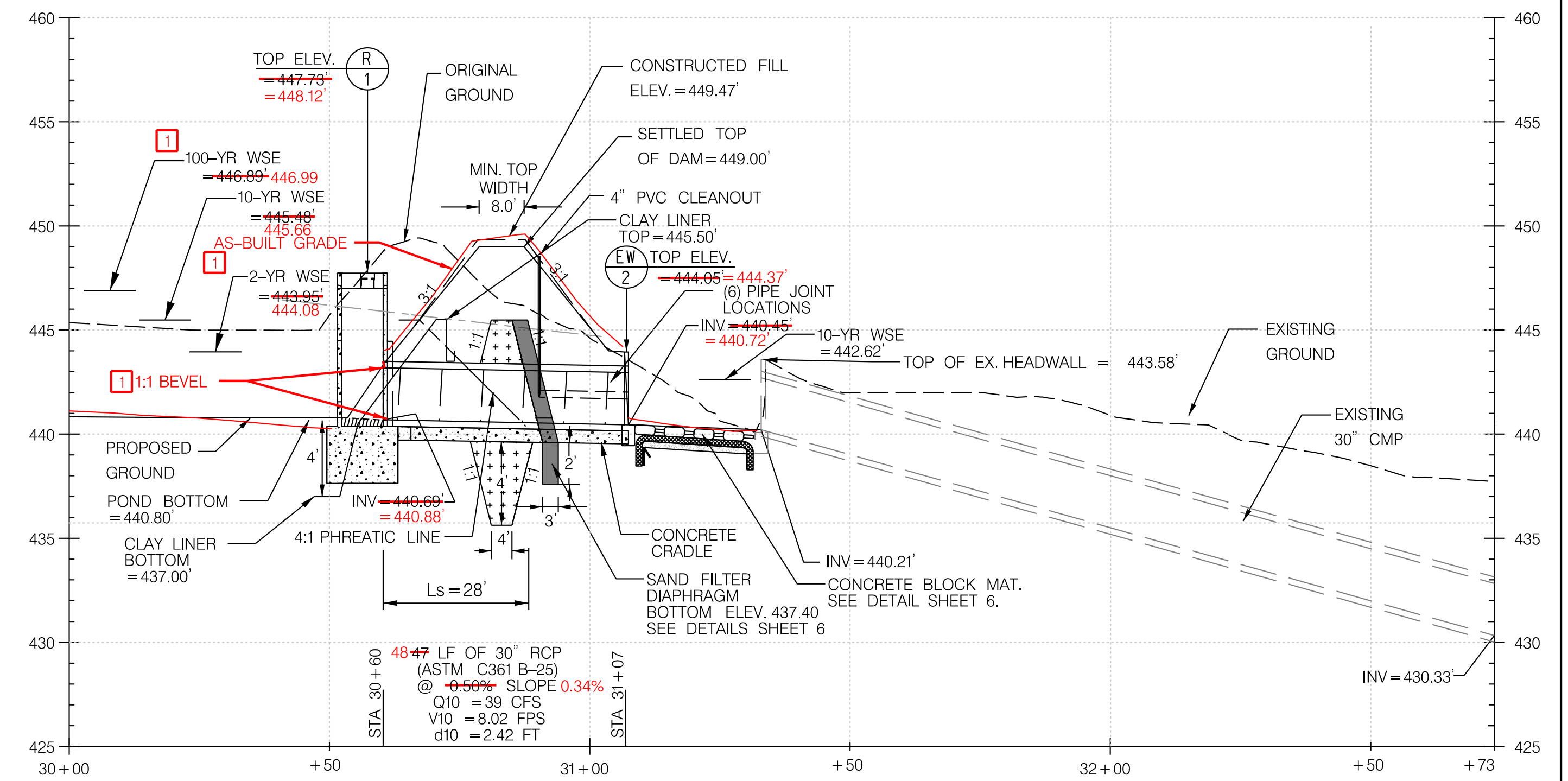
**FOREBAY PROFILE**  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 5'



**INFLOW PROFILE**  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 5'



**POND PROFILE**  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 5'



**SPILLWAY PROFILE**  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 5'

Maryland Department of the Environment  
 Water and Science Administration  
 Dam Safety Division

*V. P. Dalal*  
 Visty P. Dalal  
 Sr. Regulatory & Compliance Engineer

10/30/18  
 Date  
 Permit # 18-MR-0010



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]*  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

8/27/18  
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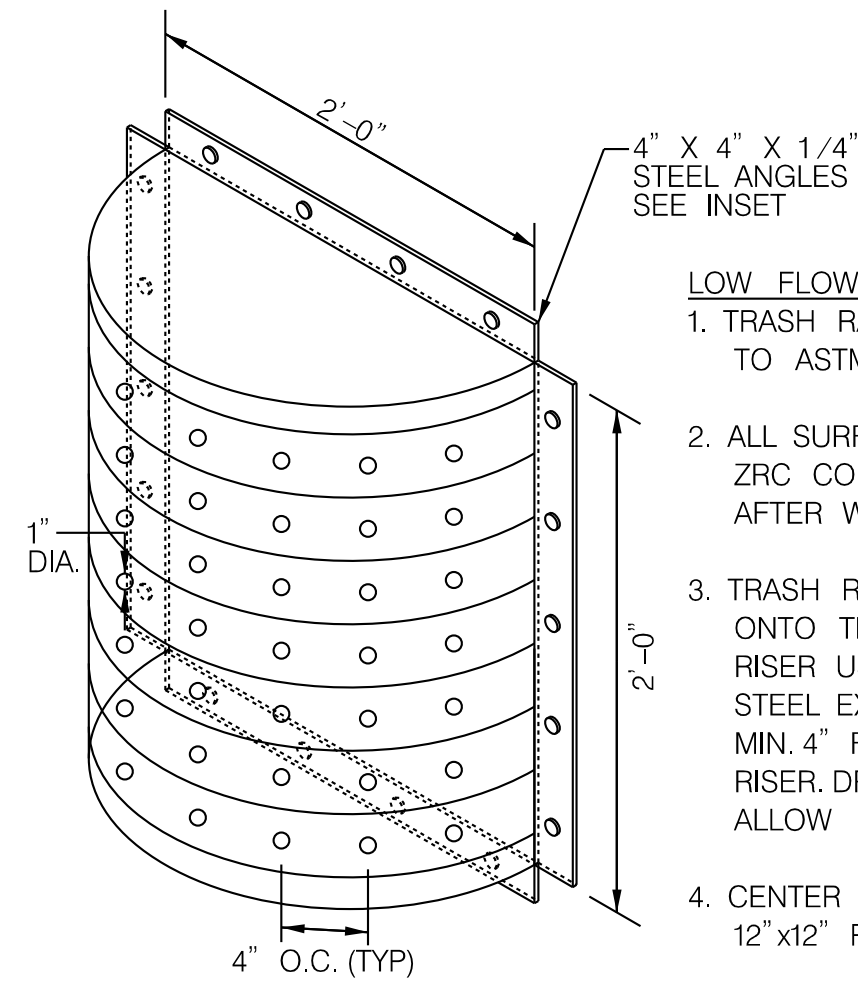


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**GLENMAR POND #2 PRINCIPAL SPILLWAY REPLACEMENT PROJECT**  
 HOWARD COUNTY CAPITAL PROJECT #D-1159  
 HSCD #: EP-17-40  
 MD DAM NO. 577

**STORMWATER MANAGEMENT PROFILES**

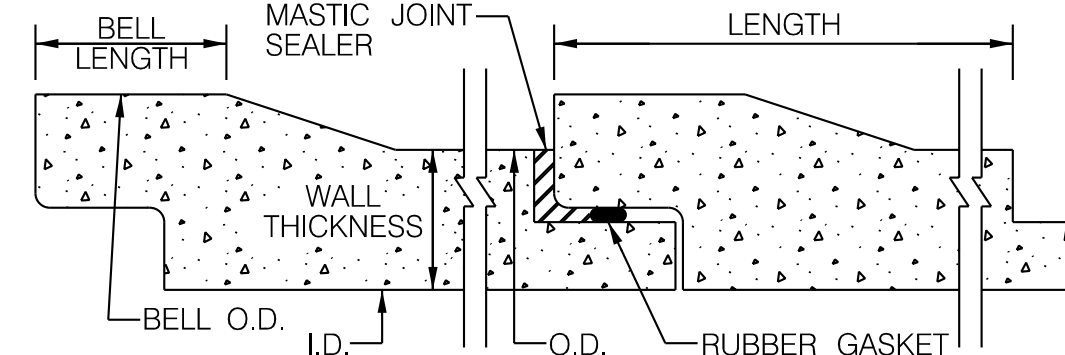
SCALE	AS SHOWN
SHEET	4 OF 12



**LOW FLOW TRASH RACK DETAIL**  
NOT TO SCALE

**LOW FLOW TRASH RACK NOTES:**

- TRASH RACK STEEL TO CONFORM TO ASTM A-36.
- ALL SURFACES TO BE COATED WITH ZRC COLD GALVANIZED COMPOUND AFTER WELDING.
- TRASH RACK SHALL BE BOLTED ONTO THE OUTSIDE FACE OF THE RISER USING 3/8" DIA. STAINLESS STEEL EXPANSION BOLTS, @ 11" CC MIN. 4" FROM EDGE OF CONCRETE RISER. DRILL ANGLE FRAME TO ALLOW PASSAGE OF BOLTS.
- CENTER TRASH RACK OVER 12" X 12" RISER OPENING.



**BARREL JOINT SEALER NOTES:**

- MASTIC JOINT SEALER TO BE APPLIED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
- JOINT SEALER SHOULD HAVE WATERTIGHT CONNECTION.
- THE SEALER SHALL BE A MIXTURE OF ASPHALT, MINERAL FILLER, AND PETROLEUM SOLVENTS AND SHALL HAVE ADHESIVE AND COHESIVE PROPERTIES.

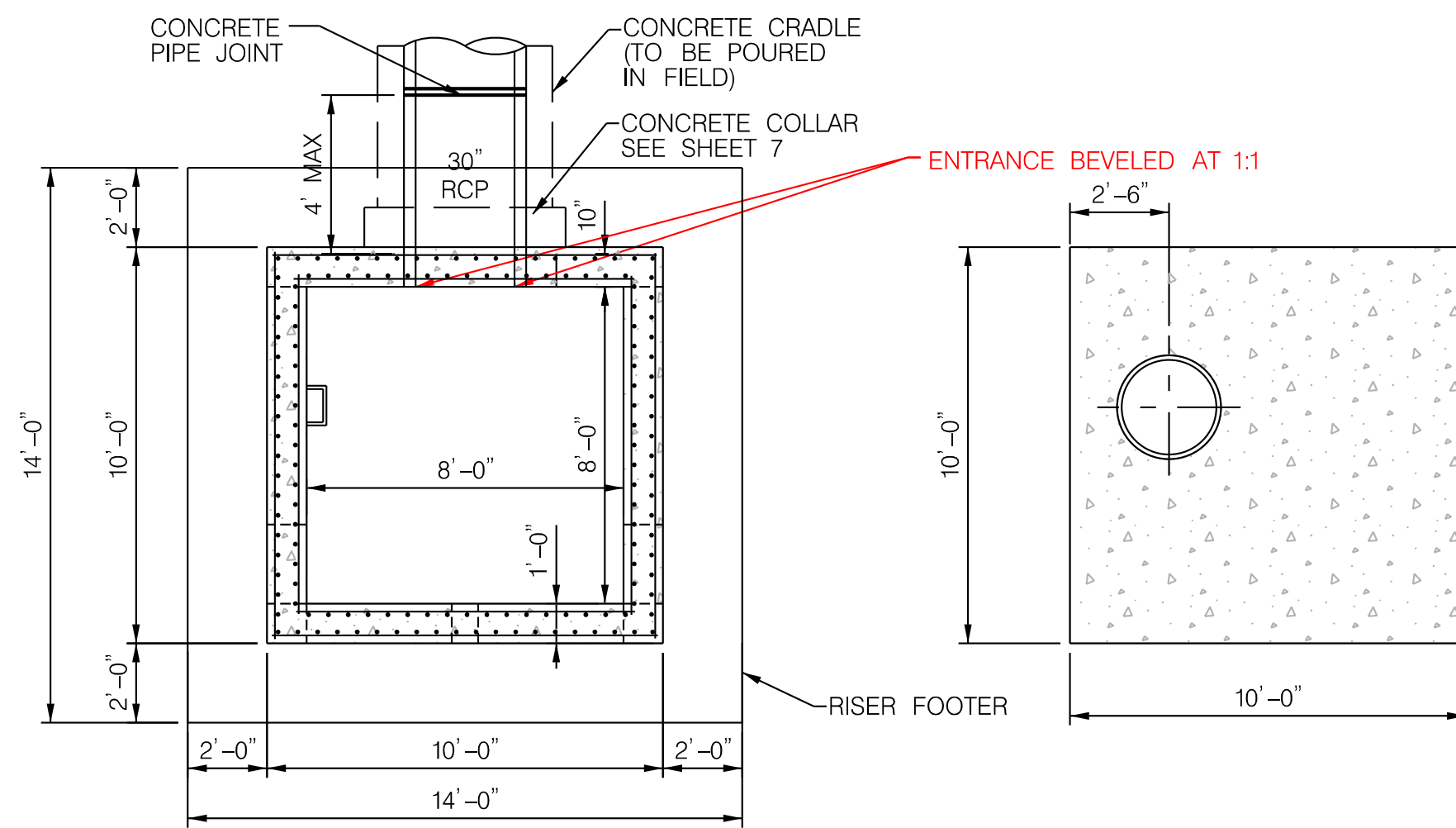
THE SEALER SHALL CONFORM TO THE FOLLOWING:

TEST AND METHOD	SPECIFICATION LIMITS
RESIDUES BY EVAPORATION, NONVOLATILE MATTER, D 2939, % MIN.	70
INORGANIC FILLER ON IGNITION, ASH CONTENT, D 2939, %	15-45

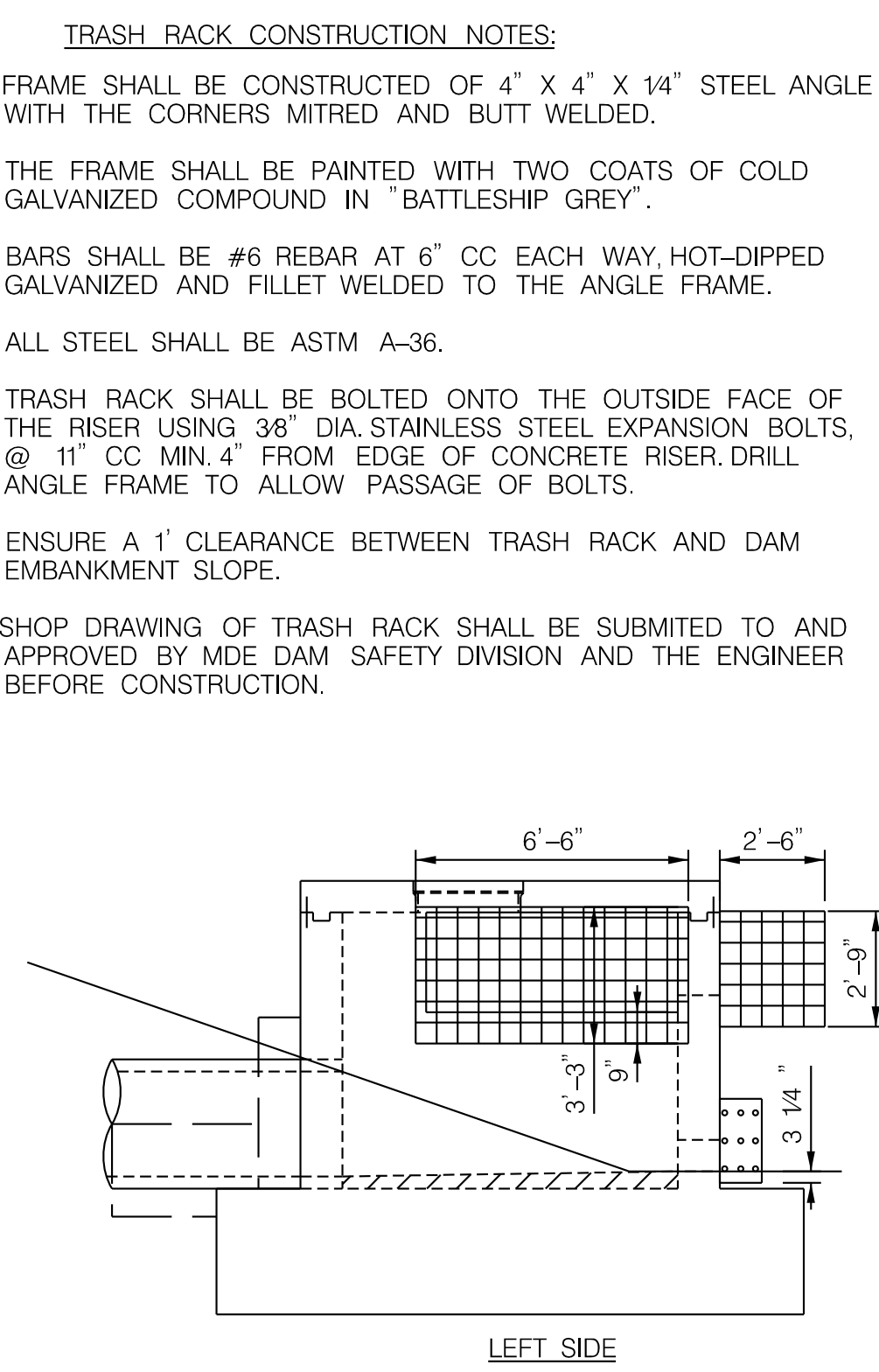
**BARREL JOINT SEALER DETAIL**  
NOT TO SCALE

**RISER CONSTRUCTION NOTES:**

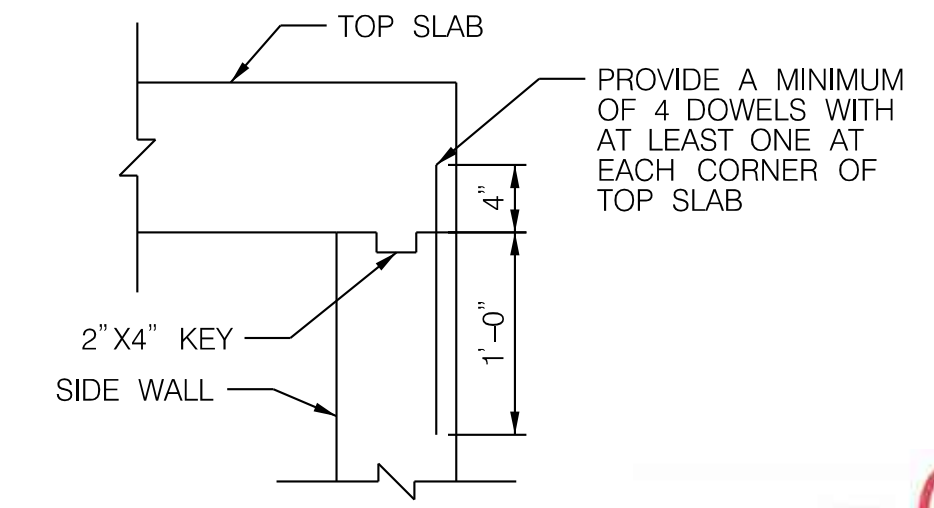
- RISER STEPS SHALL FOLLOW DETAIL G-5.21 FOR MANHOLE AND INLET STEPS.
- SHA MIX NO. 3 CONCRETE SHALL BE USED AND SHALL CONFORM TO THE REQUIREMENTS OF LATEST EDITION OF ACI 301 AND ACI 318.
- RISER STRUCTURE SHALL BE DESIGNED IN ACCORDANCE TO LOADING SPECIFIED IN LATEST EDITIONS OF ASTM C857 AND ASTM C890.
- RISER STRUCTURE SHALL CONFORM TO THE REQUIREMENTS OF LATEST EDITIONS OF ASTM C858 AND MARYLAND NRCS POND CODE MD-378.
- RESILIENT CONNECTORS BETWEEN MANHOLE STRUCTURES, PIPES AND LATERALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF LATEST EDITIONS OF ASTM C923.
- INVERT SHALL BE APPROVED SHA MIX NO. 3 CONCRETE. INVERT TO SLOPE DOWN TOWARD OUTLET AS SHOWN ON PLAN, OR AS DIRECTED BY ENGINEER.
- REFER TO DETAIL G-2-9 FOR CONCRETE PROJECTION COLLAR.
- REFER TO DETAIL D-3.91 FOR SIDEWALK FRAME AND COVER FOR MANHOLE COVER.
- FIRST BARREL JOINT OF CONCRETE PIPE SHALL HAVE A WATERTIGHT CONNECTION AND BE PLACED LESS THAN 4 FEET FROM THE RISER. THIS SECTION OF THE BARREL SHALL BE INCLUDED IN PLACE PRIOR TO THE RISER POUR.
- RISER SHALL BE CONSTRUCTED AS A CAST-IN-PLACE, MONOLITHIC STRUCTURE.
- CONSTRUCT CONCRETE COLLARS TO ENSURE WATERTIGHT SEALS AT RISER AND PIPE CONNECTIONS.
- GEOTECHNICAL ENGINEER TO VERIFY A SUITABLE SUBBASE IS PROVIDED FOR THE RISER. NO GRAVEL SHALL BE USED FOR THE RISER SUBBASE. LEAN CONCRETE IS RECOMMENDED TO IMPROVE SUBBASE STABILITY IF NECESSARY.
- THE RISER WILL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE PER EACH RISER. THE PAYMENT WILL BE FULL COMPENSATION FOR ALL EXCAVATION, CONCRETE, MASONRY, REINFORCEMENT, LADDER RUNGS, DRIP STONES, AGGREGATE, UNDERDRAIN STUBS, FRAMES, GRATES, AND COVERS, GRADE, AND SLOPE ADJUSTMENTS, BACKFILL, GASKET, WATERTIGHT SEALS, PROJECTION COLLAR, TRASH RACKS, DRAIN VALVES, VALVE STEMS AND FOR ALL MATERIAL, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
- USE NON-SHRINK GROUT TO PARGE THE PIPE CONNECTION INSIDE THE RISER.
- TRASH RACK SHOP DRAWING MUST BE APPROVED BY ENGINEER PRIOR TO CONSTRUCTION.
- REINFORCEMENT SHALL HAVE A MINIMUM 2" COVER FROM ANY SURFACE.



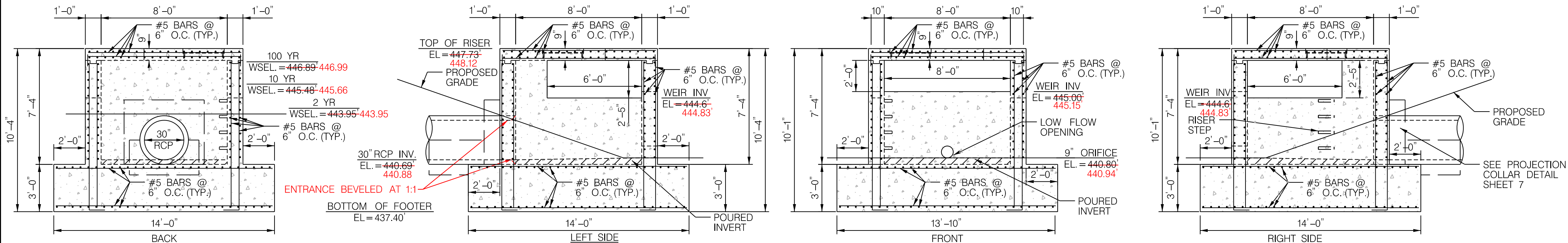
**RISER PLAN**  
SCALE: 1" = 2'



**TRASH RACK DETAIL**  
SCALE: 1" = 2'



**TOP SLAB /WALL JOINT DETAIL**  
NOT TO SCALE



**RISER ELEVATION**  
SCALE: 1" = 2'

Maryland Department of the Environment  
Water and Science Administration  
Dam Safety Division

V. P. Dalal  
Sr. Regulatory & Compliance Engineer

10/30/18  
Date

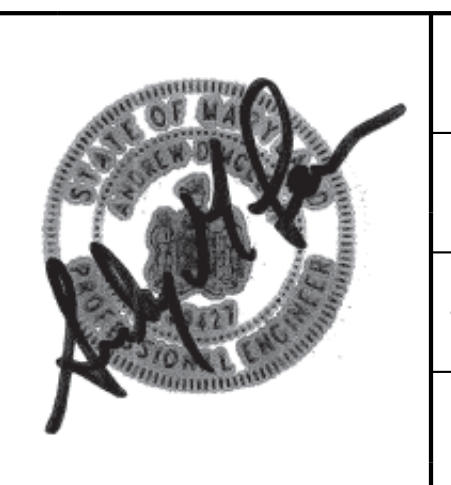
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

8/27/18  
DATE

**McCORMICK TAYLOR**  
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(410) 662-7400

**Howard County**  
MARYLAND  
Storm Water Management Division  
Bureau of Environmental Services  
6751 Columbia Gateway Drive, Suite 514  
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DES:	EZS/CLR				
DRN:	MER				
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DATE:	8/21/18	ADM	AS-BUILT SURVEY	8/1/19	
BY:	NO.		REVISION		DATE

**GLENMAR POND #2 PRINCIPAL SPILLWAY REPLACEMENT PROJECT**  
HOWARD COUNTY CAPITAL PROJECT #D-1159  
HSCD #: EP-17-40  
MD DAM NO. 577

**STORMWATER MANAGEMENT DETAILS**

SCALE  
AS SHOWN  
SHEET  
5 OF 12









**STANDARD STABILIZATION NOTE**

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES STEEPER THEN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OF GRADED AREAS ON THE PROJECT SITES NOT UNDER ACTIVE GRADING.

**CLEARWATER DIVERSION PIPE, TYPE S**

FROM	TO	LENGTH (FT)	DIA. (IN)	US INVERT	REMARKS
SB-1	SB-2	189	24	349.25'	CWD-1
SB-3	H-1	42	24	349.00'	CWD-2
SB-6	SB-4	53	12	447.00'	CWD-3

**SAND BAGS**

MIN. TOP HEIGHT	FROM	TO	QTY (LF)	REMARKS
455.00'	10+40, 184'LT	10+60, 194'LT	36	SB-1
446.50'	11+72, 50'LT	11+77, 50'LT	50	SB-2
448.00'	11+76, 17'LT	11+76, 17'LT	42	SB-3
443.00'	11+67, 12'RT	11+86, 11'RT	19	SB-4
443.00'	11+47, 41'LT	11+57, 41'LT	43	SB-5
449.00'	12+01, 37'LT	12+25, 26'LT	29	SB-6

**STABILIZED CONSTRUCTION ENTRANCE (SCE)**

STATION	QTY (EA)	REMARKS
12+82, 198'LT	1	SCE

**SILT FENCE**

FROM	TO	QTY (LF)	REMARKS
12+06, 7'LT	12+24, 6'LT	28	SF-1
11+87, 8'RT	12+03, 1'LT	31	SF-2
11+09, 6'RT	11+66, 8'RT	62	SF-3
10+35, 206'LT	10+62, 195'LT	165	SF-4

**MULCH ACCESS ROAD**

FROM	TO	QTY (CY)	REMARKS
10+96, 200'LT	12+82, 200'LT	86	14" WIDTH

**TYPE 'A' SOIL STABILIZATION MATTING**

STATION	QTY (SY)	REMARKS
ALL DISTURBED EARTH AREAS	3,800	DETAIL SHEET 11

**FILTER BAG**

STATION	QTY (EA)	REMARKS
11+77, 49'RT	1	FB-1

**SUMP PIT**

STATION	QTY (EA)	REMARKS
11+46, 64'LT	1	SP-1

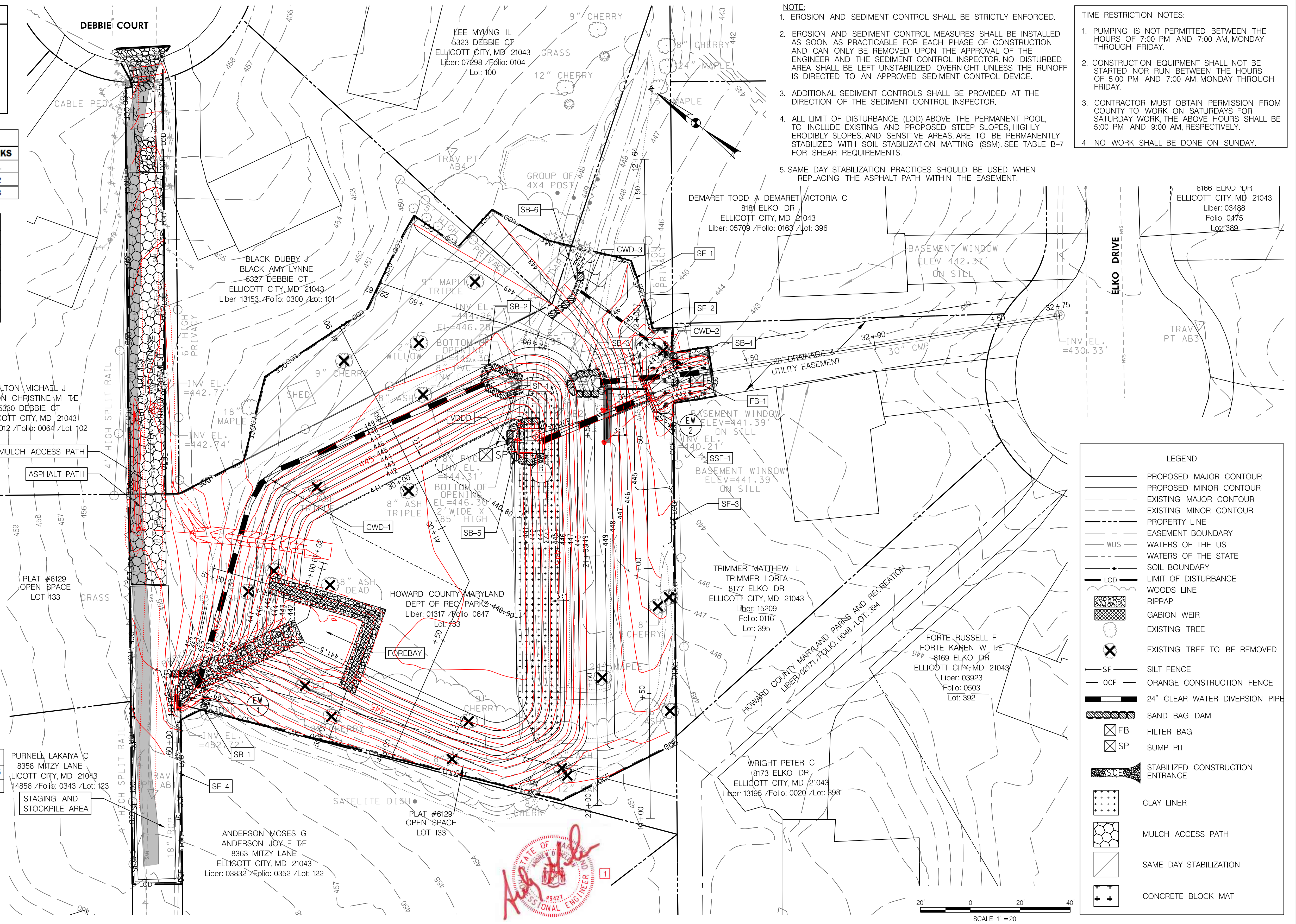
**SUPER SILT FENCE**

FROM	TO	QTY (LF)	REMARKS
11+98, 1'RT	11+57, 10'RT	50	SSF-1

**VERTICAL DRAWDOWN DEVICE**

STATION	ORIFICE DIA. (IN)	DRAWDOWN DIA. (IN)	QTY (LF)	REMARKS
R-1	4	4	10	VDDD

\*ACCORDING TO TABLE G.10 OF 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL THE VERTICAL DRAWDOWN DEVICE WILL REQUIRE AT LEAST THREE (3) ROWS OF LONGITUDINAL PERFORATIONS.



- 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. ADDITIONAL SEDIMENT CONTROLS SHALL BE PROVIDED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
  4. ALL LIMIT OF DISTURBANCE (LOD) ABOVE THE PERMANENT POOL TO INCLUDE EXISTING AND PROPOSED STEEP SLOPES, HIGHLY ERODIBLE SLOPES, AND SENSITIVE AREAS, ARE TO BE PERMANENTLY STABILIZED WITH SOIL STABILIZATION MATTING (SSM), SEE TABLE B-7 FOR SHEAR REQUIREMENTS.
  5. SAME DAY STABILIZATION PRACTICES SHOULD BE USED WHEN REPLACING THE ASPHALT PATH WITHIN THE EASEMENT.

- 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 5:00 PM AND 7:00 AM, MONDAY THROUGH FRIDAY.
  3. CONTRACTOR MUST OBTAIN PERMISSION FROM COUNTY TO WORK ON SATURDAYS. FOR SATURDAY WORK THE ABOVE HOURS SHALL BE 5:00 PM AND 9:00 AM, RESPECTIVELY.
  4. NO WORK SHALL BE DONE ON SUNDAY.

**LEGEND**

- PROPOSED MAJOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE
- EASEMENT BOUNDARY
- WATERS OF THE US
- WATERS OF THE STATE
- SOIL BOUNDARY
- LOD - LIMIT OF DISTURBANCE
- WOODS LINE
- RIPRAP
- GABION WEIR
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- SILT FENCE
- ORANGE CONSTRUCTION FENCE
- 24" CLEAR WATER DIVERSION PIPE
- SAND BAG DAM
- FILTER BAG
- SUMP PIT
- STABILIZED CONSTRUCTION ENTRANCE
- CLAY LINER
- MULCH ACCESS PATH
- SAME DAY STABILIZATION
- CONCRETE BLOCK MAT

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

*[Signature]*  
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

8/21/18  
DATE

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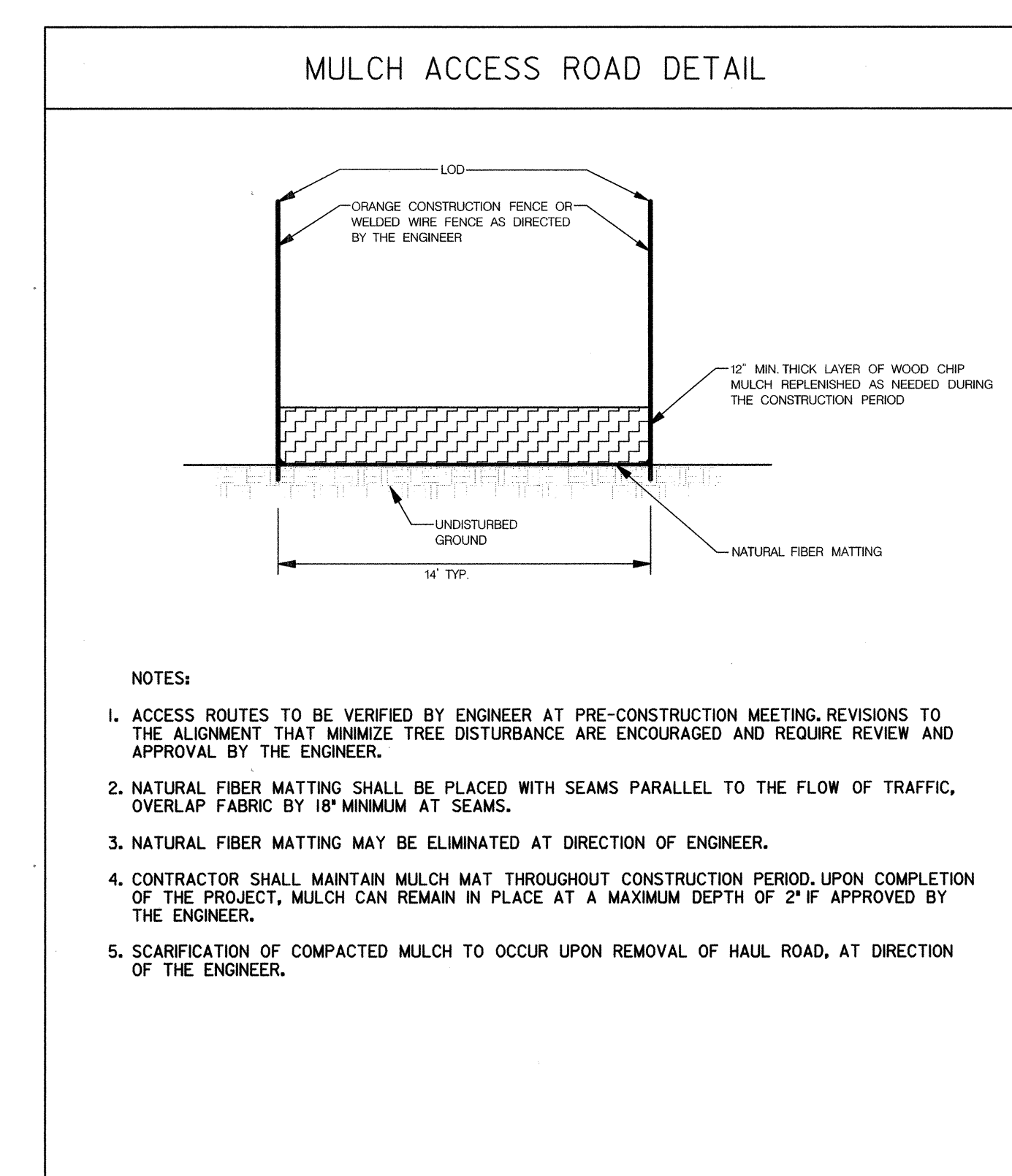
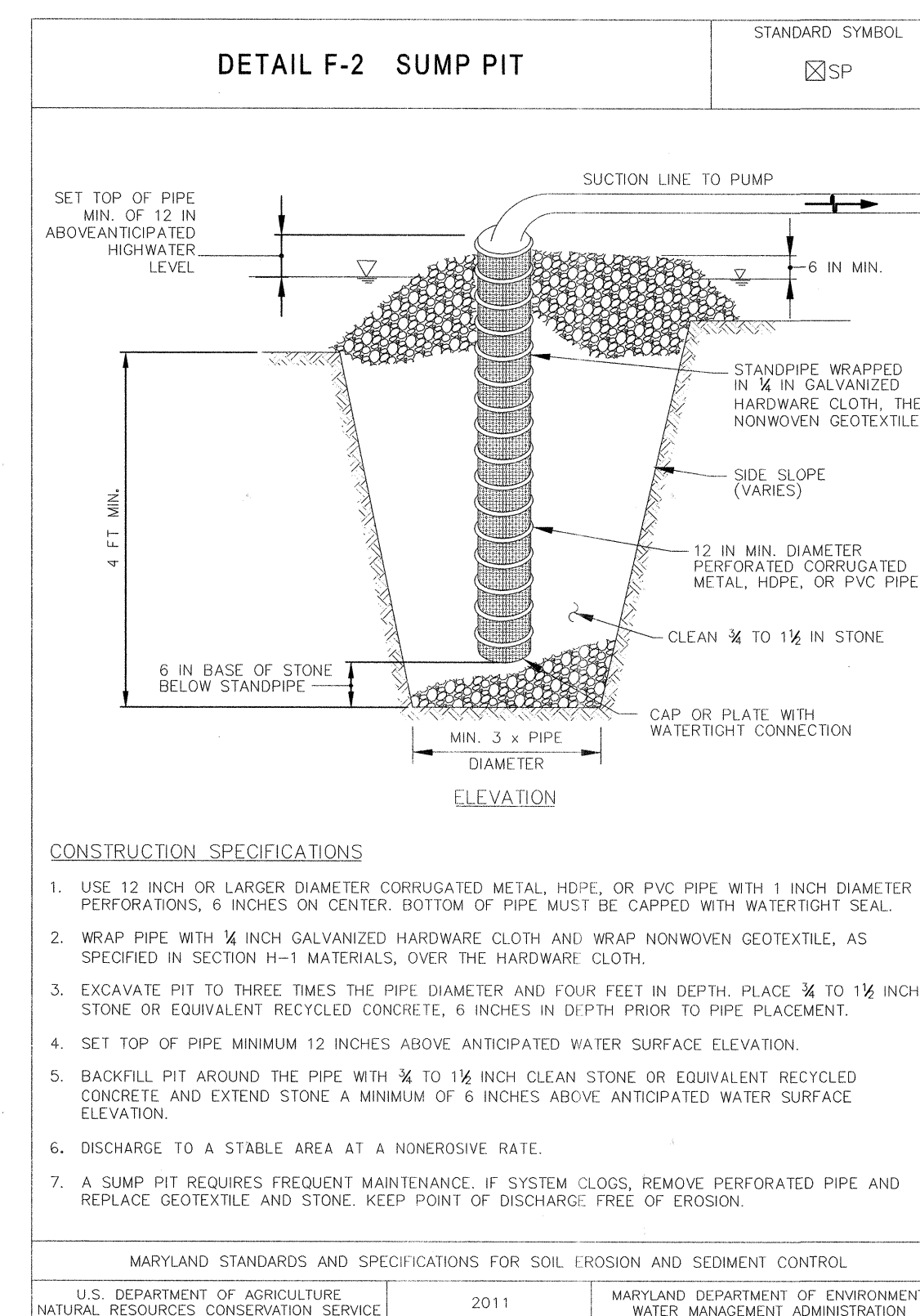
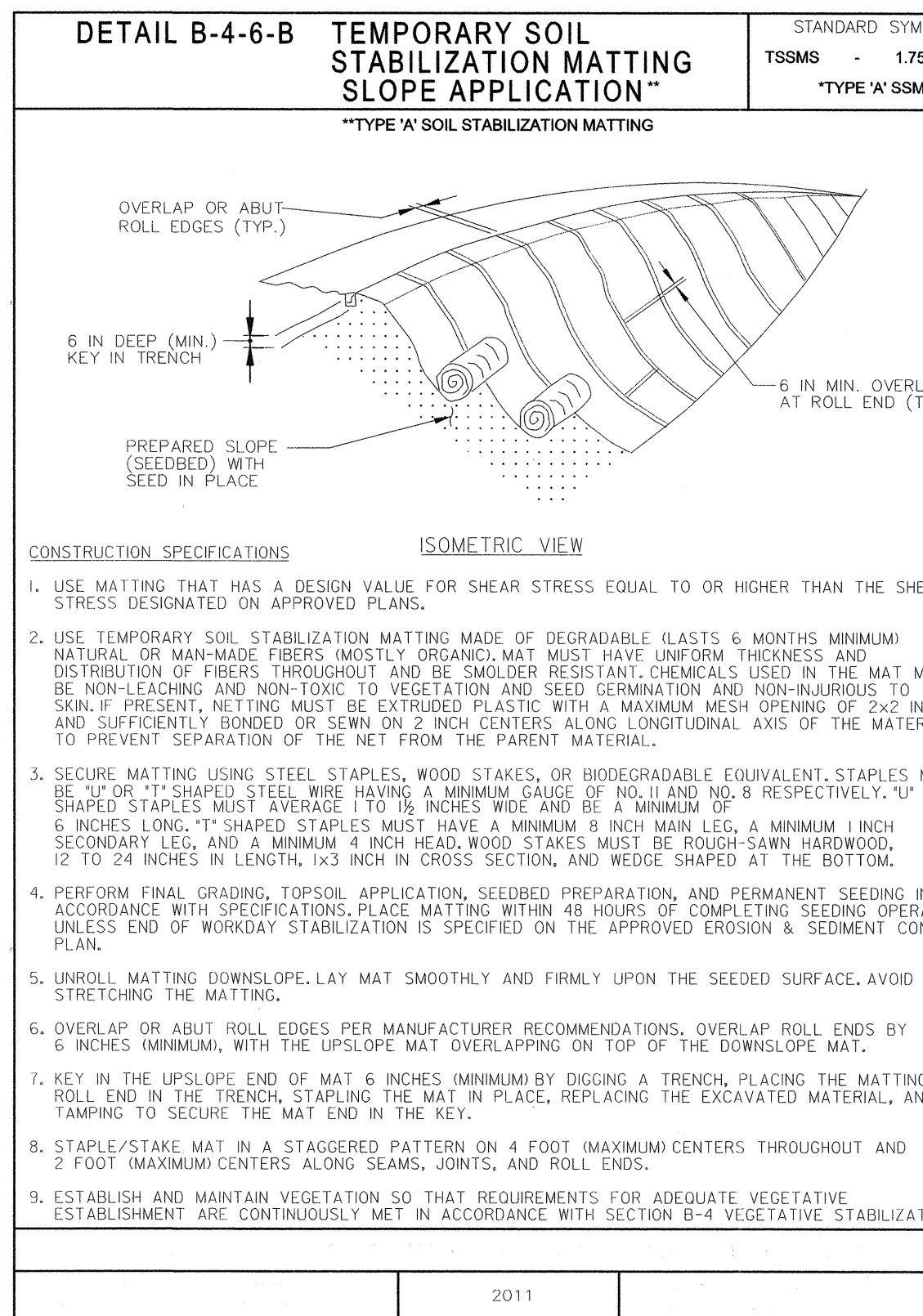
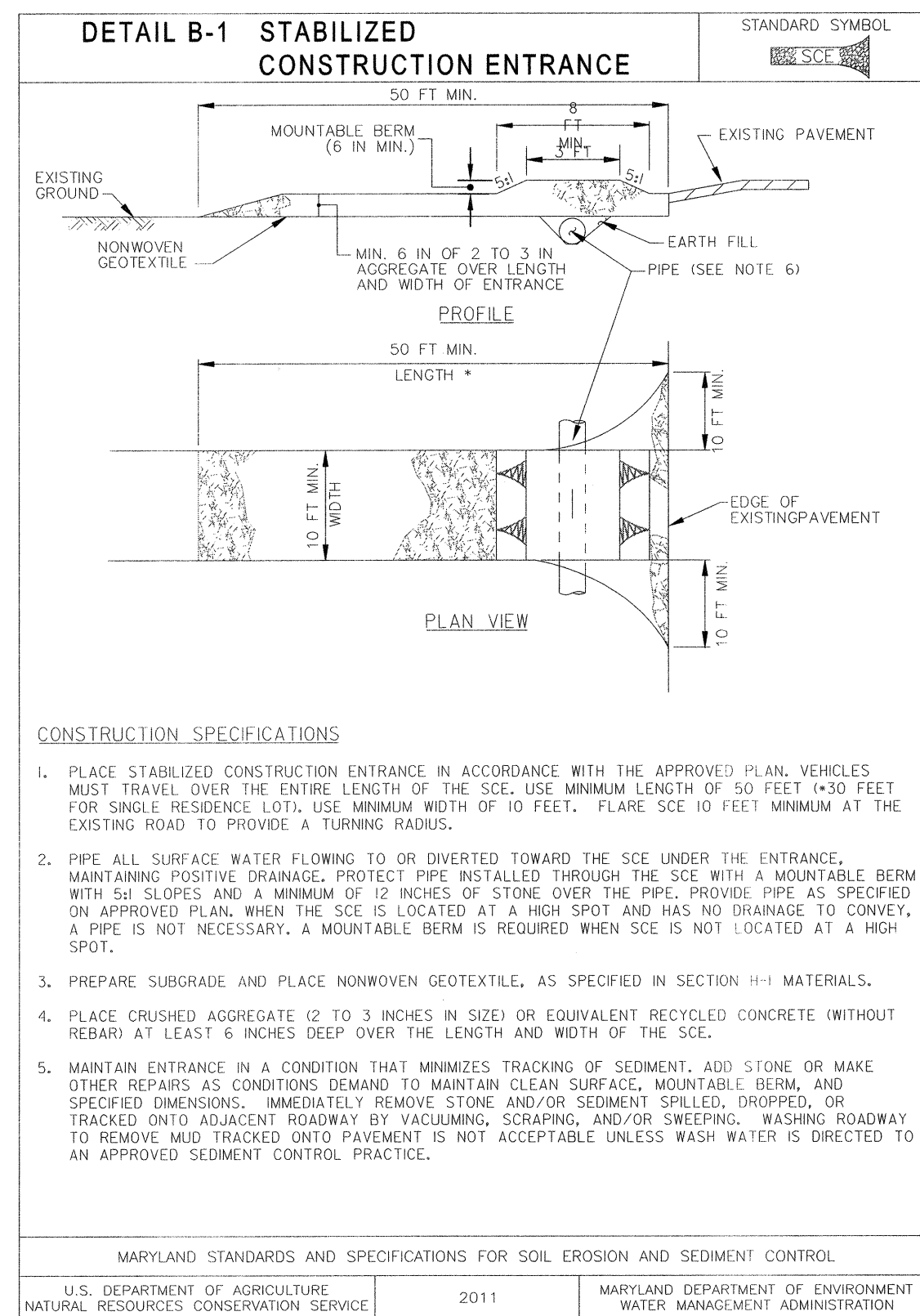
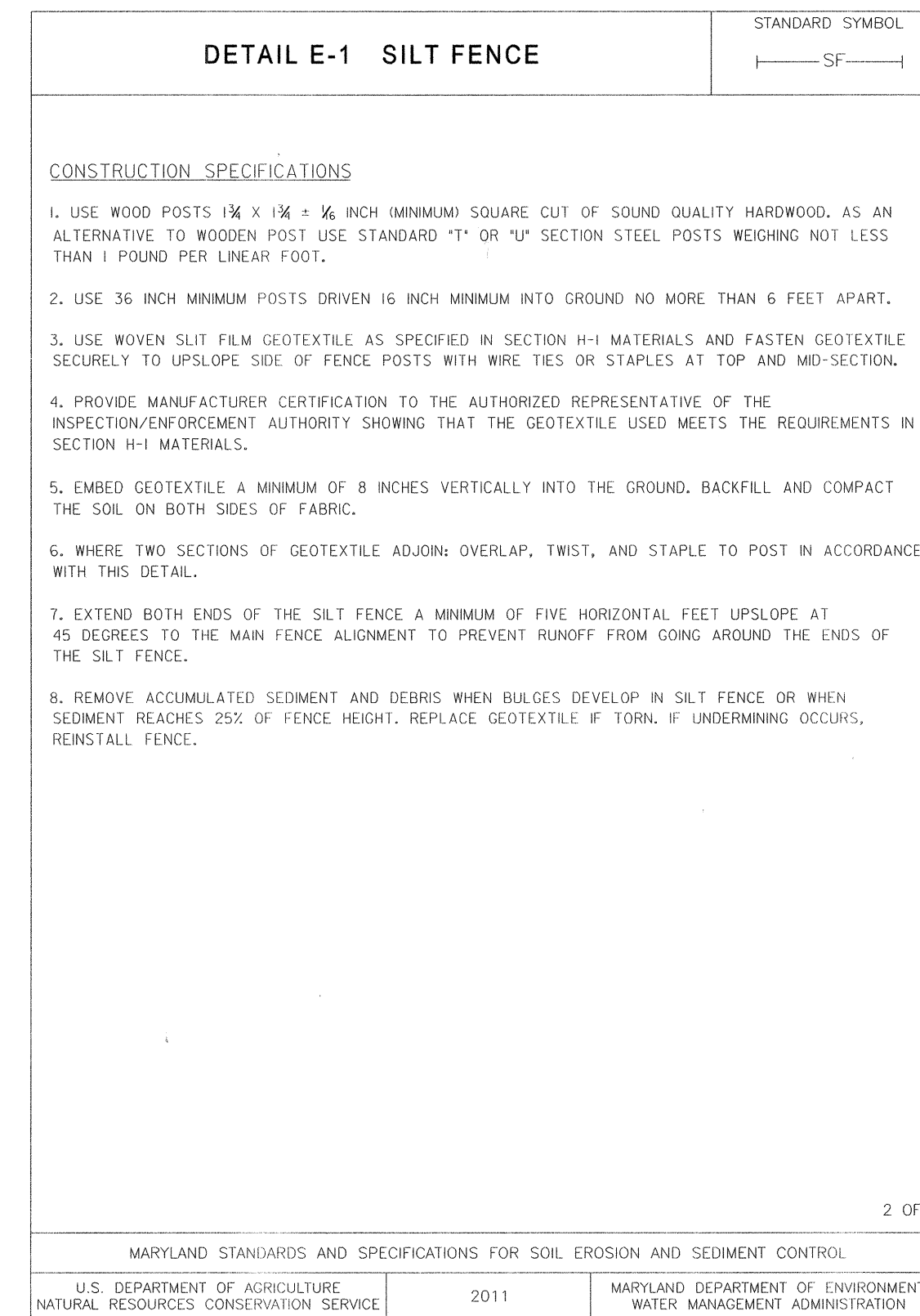
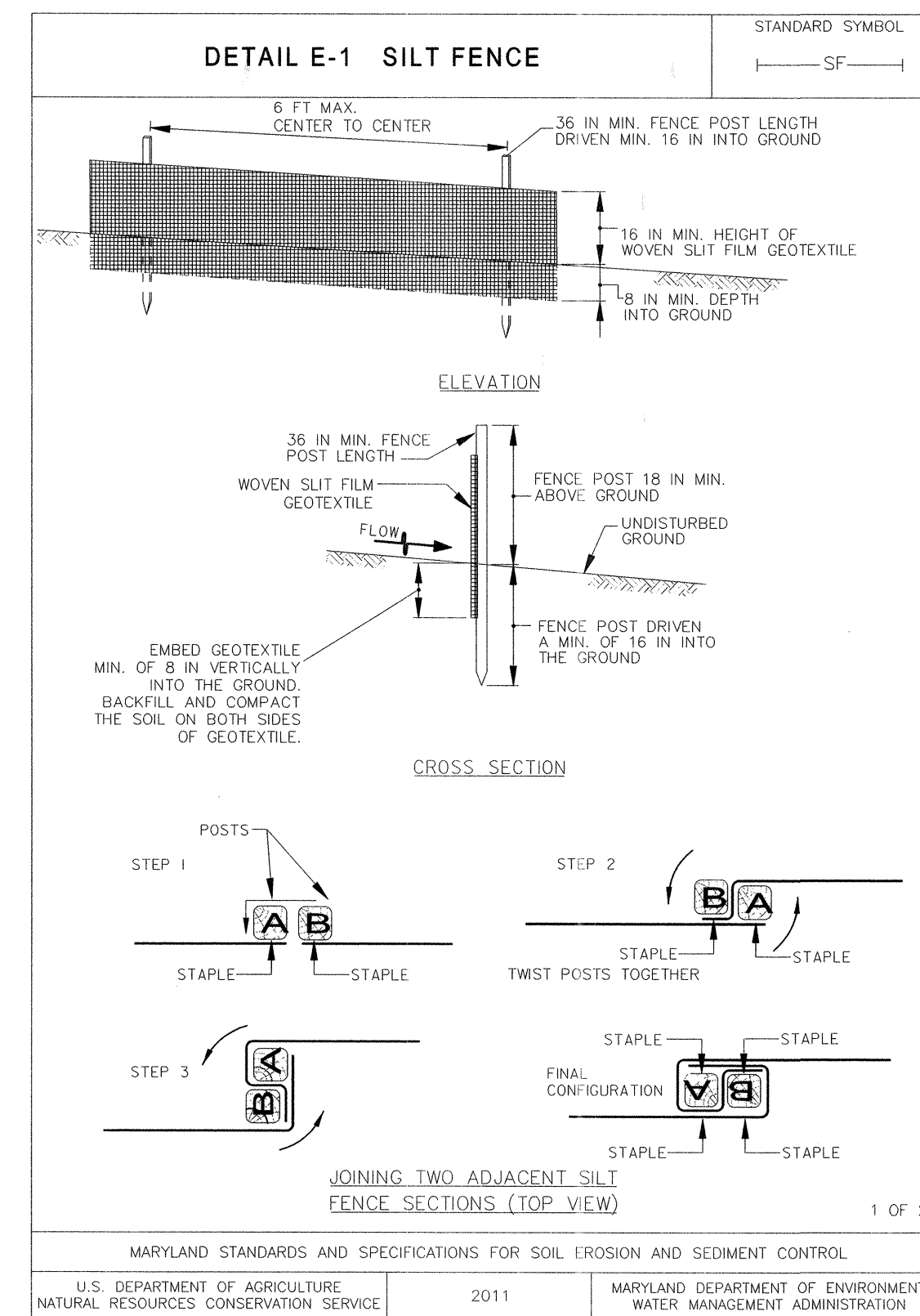
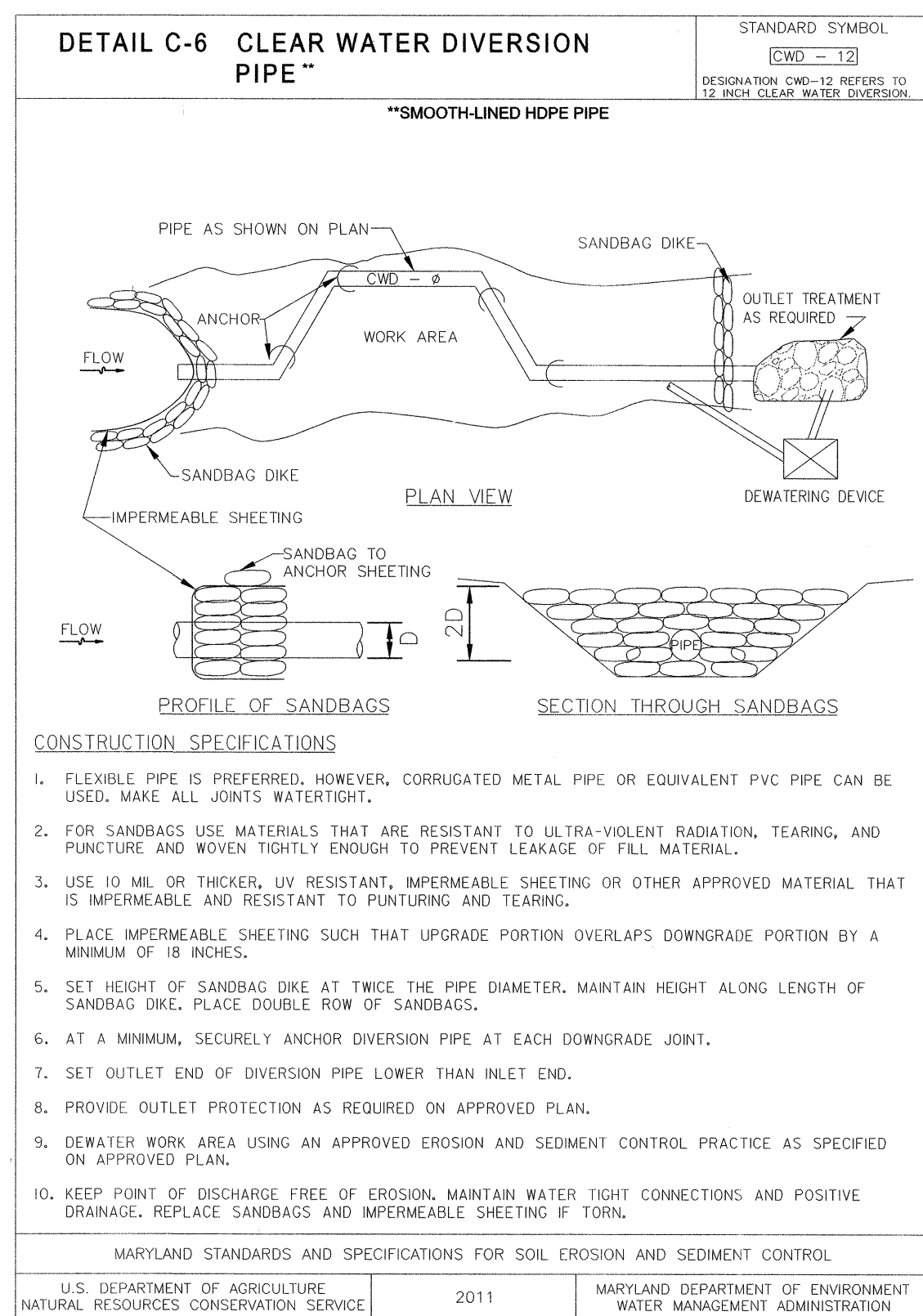
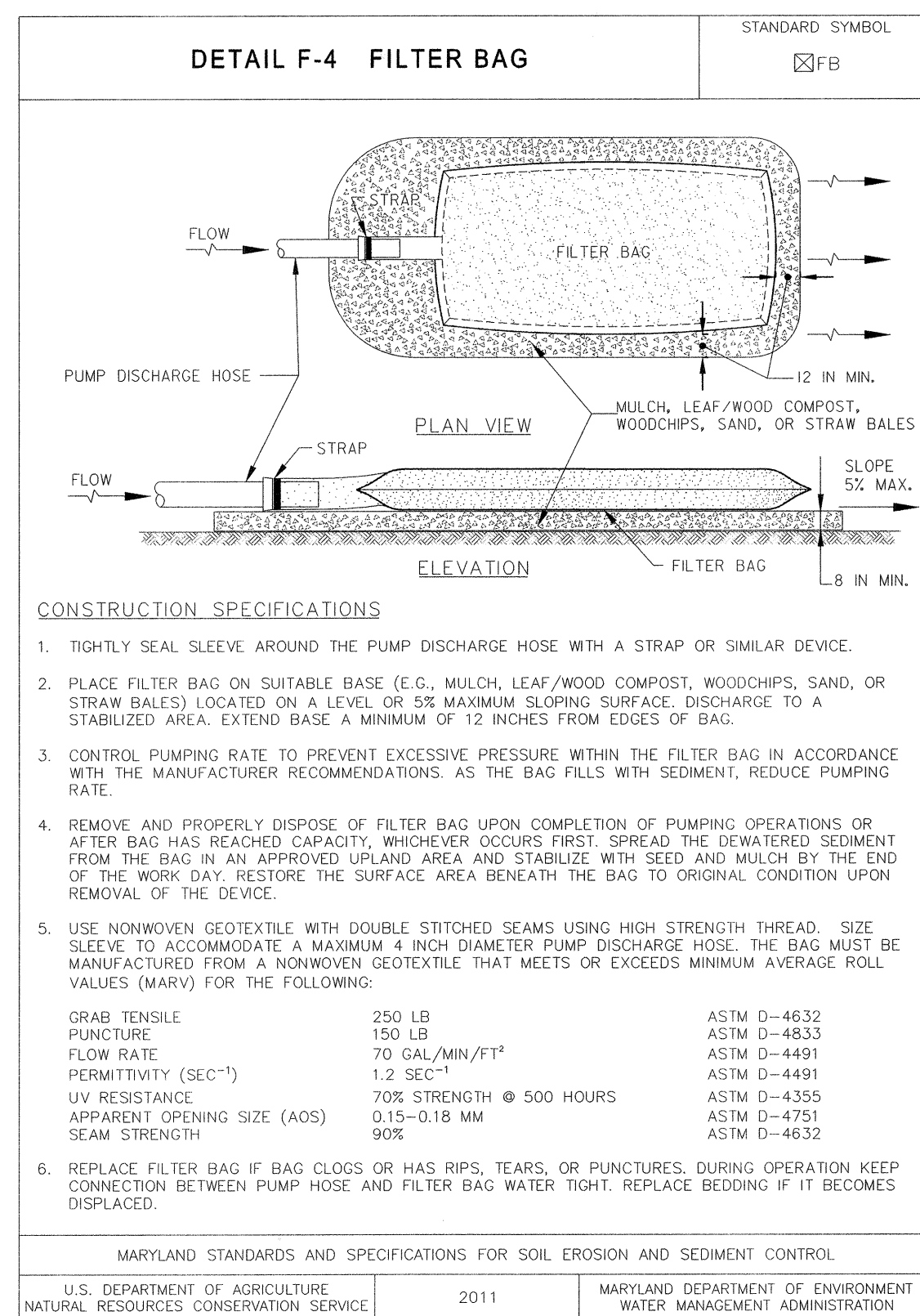
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**GLENMAR POND #2 PRINCIPAL SPILLWAY REPLACEMENT PROJECT**  
**HOWARD COUNTY CAPITAL PROJECT #D-1159**  
HSCD #: EP-17-40  
MD DAM NO. 577

**EROSION AND SEDIMENT CONTROL PLAN**

SCALE: 1" = 20'  
SHEET 9 OF 12





DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]*  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

8/27/18 DATE

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DES: EZS/CLR					
DRN: MER					
CHK: ALH					
DATE: 8/21/18	BY	NO.	REVISION	DATE	

GLENMAR POND #2 PRINCIPAL SPILLWAY  
 REPLACEMENT PROJECT  
 HOWARD COUNTY CAPITAL PROJECT #D-1159  
 HSCD #: EP-17-40  
 MD DAM NO. 577

**EROSION AND SEDIMENT CONTROL DETAIL SHEET**

SCALE: NOT TO SCALE  
 SHEET: 11 OF 17

**B-4.8 STANDARDS AND SPECIFICATIONS**

**FOR STOCKPILE AREA**

**Definition**

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

**Purpose**

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

**Conditions Where Practice Applies**

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

**Criteria**

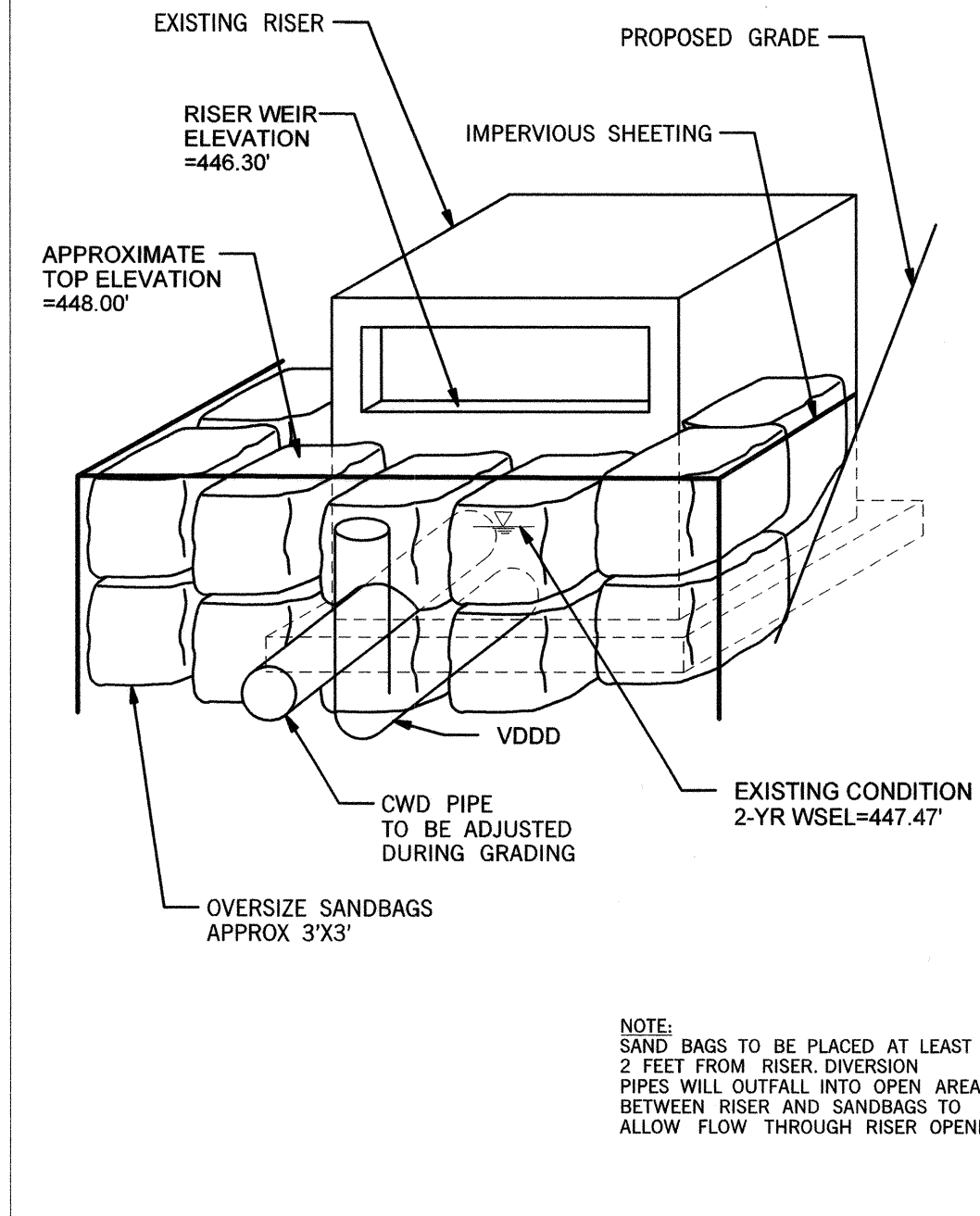
1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

**Maintenance**

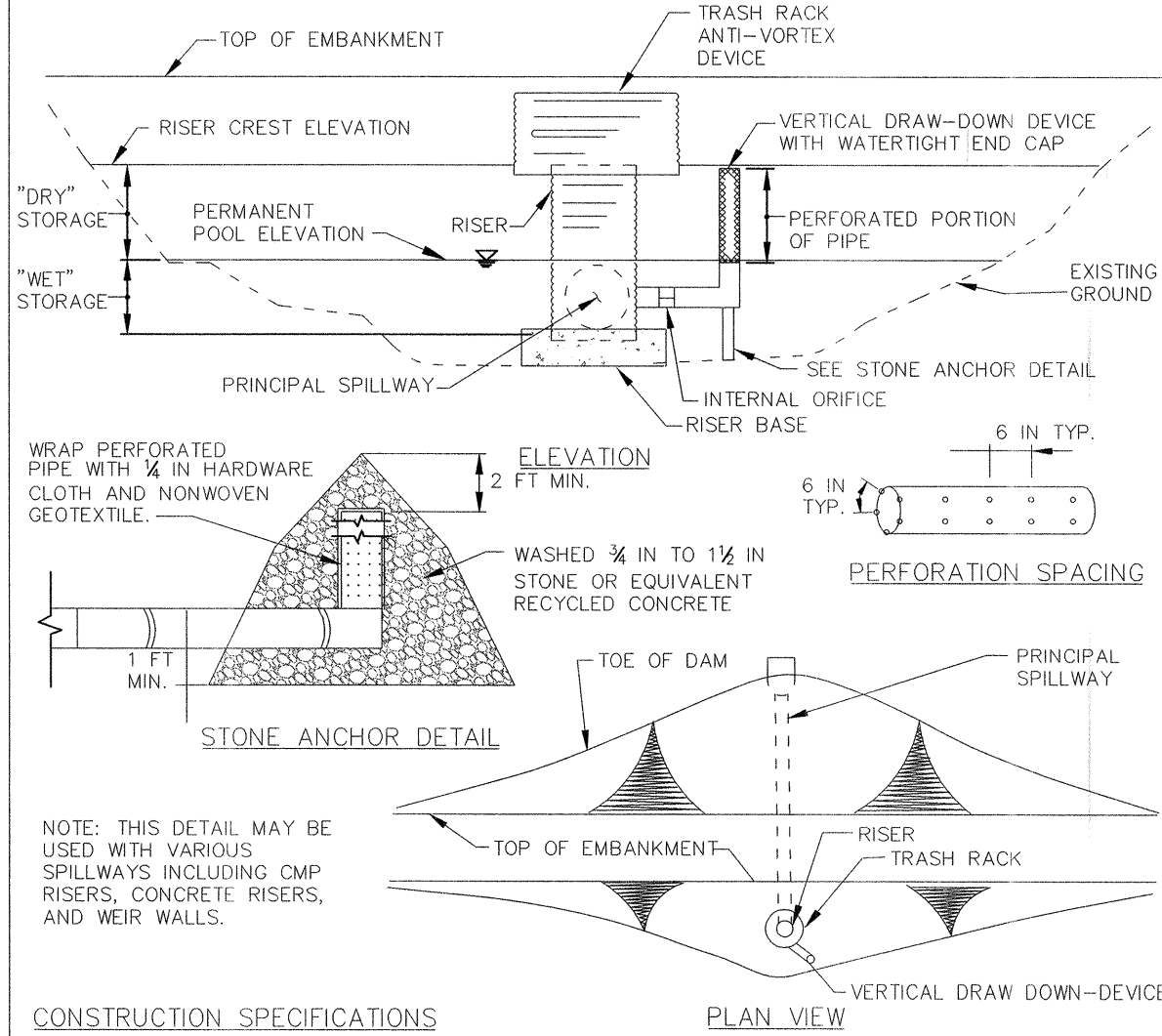
The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

B.43

**SAND BAG (SB-2) RISER CONNECTION DETAIL**



**DETAIL G-2-7 SEDIMENT BASIN SCHEMATIC VERTICAL DRAW-DOWN DEVICE**



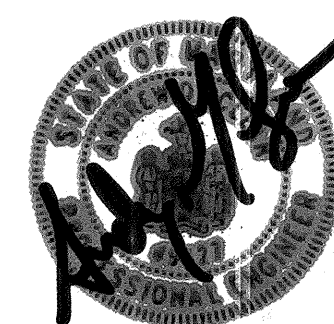
- CONSTRUCTION SPECIFICATIONS**
1. PERFORATE PIPE WITH 1 INCH DIAMETER PERFORATIONS SPACED 6 INCHES APART LONGITUDINALLY AND RADIIALLY OR IN ACCORDANCE WITH APPROVED PLAN.
  2. DO NOT EXTEND PERFORATIONS IN THE DRAW-DOWN DEVICE INTO WET STORAGE.
  3. WRAP THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE FIRST WITH 1/4 INCH GALVANIZED HARDWARE CLOTH, THEN WITH NONWOVEN GEOTEXTILE. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE.
  4. AS AN ALTERNATE TO STONE ANCHORING, SECURE DRAW-DOWN DEVICE WITH TWO 1 INCH STEEL ANGLES SET 3 FEET MINIMUM INTO THE GROUND ATTACHED TO DRAW-DOWN DEVICE BY A 1 INCH WIDE GALVANIZED STEEL STRAP OR 12 GAUGE OR HEAVIER WIRE.
  5. REMOVE SEDIMENT WHEN IT ACCUMULATES TO CLEANOUT ELEVATION (50% OF THE WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA IN A SUCH A MANNER THAT IT WILL NOT ERODE. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.

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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

**McCORMICK TAYLOR**  
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: EZS/CLR					
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DATE: 8/21/18	BY	NO.	REVISION	DATE	

**GLENMAR POND #2 PRINCIPAL SPILLWAY  
REPLACEMENT PROJECT  
HOWARD COUNTY CAPITAL PROJECT #D-1159  
HSCD #: EP-17-40  
MD DAM NO. 577  
EROSION AND SEDIMENT  
CONTROL DETAIL SHEET**

SCALE  
NOT TO SCALE  
SHEET  
12 OF 17

*Michael D. ...*  
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES  
8/22/18 DATE



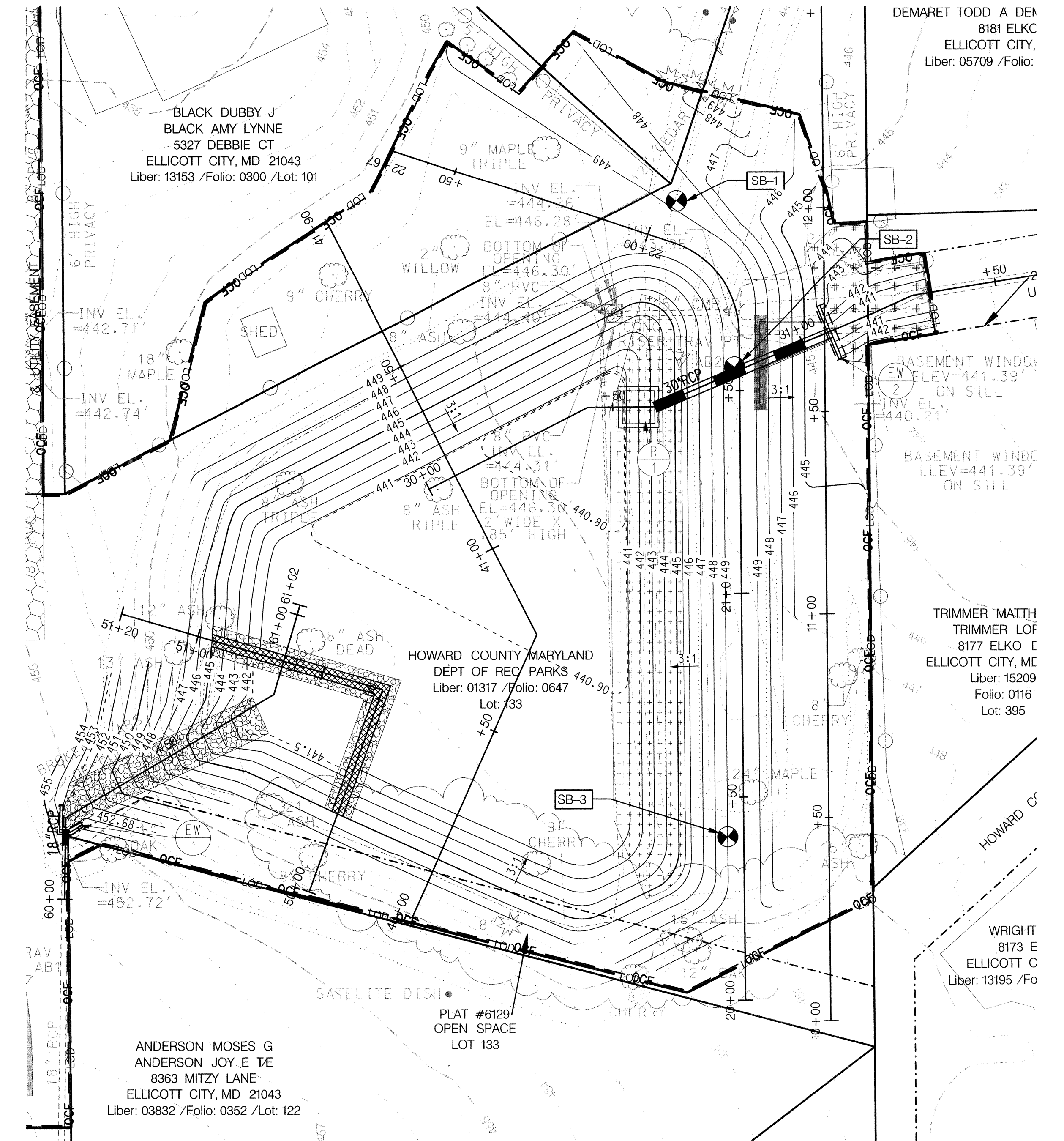




Project No. 2013055.96		LOG OF BOREHOLE SB-1		Sheet 1 of 1
CLIENT: McCormick Taylor, Inc		PROJECT: Glenmar SWM Pond Retrofit		
ARCHITECT/ENGINEER:		SITE: Howard County, Maryland		
SURFACE ELEV.: 449.0 ft.		GRAPHIC LOG		
0.3 - 4" Topsoil		Medium dense light brown CLAYEY SAND (SC) with gravel (Fill)		
5.5 - 8		Firm brown and gray FINE SANDY CLAY (CL) with roots and organic (Possible Fill)		
2.0		Stiff light brown LEAN CLAY (CL) with sand and mica		
12.0		Medium dense light brown SILTY SAND (SM) with clay		
15.0		End of Boring @ 15 ft		
Borehole was backfilled with bentonite mix after 24 hours water reading				
WATER LEVEL OBSERVATIONS		AB Consultants, Inc.		
WL	Dry @ Drilling	DATE: 3/17/17	FINISH: 3/17/17	
WL	Dry, cased in 6.5 ft @ 0 Hrs	DRILLER: ABC	DRILLING: CME-550	
WL	Dry, cased in 7.5 ft @ 24 Hrs	DRILLER: WJK	ASST DRILLER:	

Project No. 2013055.96		LOG OF BOREHOLE SB-2		Sheet 1 of 1
CLIENT: McCormick Taylor, Inc		PROJECT: Glenmar SWM Pond Retrofit		
ARCHITECT/ENGINEER:		SITE: Howard County, Maryland		
SURFACE ELEV.: 449.0 ft.		GRAPHIC LOG		
0.3 - 4" Topsoil		Medium dense yellowish brown CLAYEY SAND (SC) with gravel (Fill)		
5.5		Stiff light brown FINE SANDY CLAY (CL) (Possible Fill)		
7.0		Stiff light brown FINE SANDY CLAY (CL) with gravel		
8.5		Dense to loose light brown SILTY SAND (SM) with mica		
15.0		Firm tan LEAN CLAY (CL)		
15.0		End of Boring @ 15 ft		
Borehole was backfilled with bentonite mix after 24 hours water reading				
WATER LEVEL OBSERVATIONS		AB Consultants, Inc.		
WL	Dry @ Drilling	DATE: 3/17/17	FINISH: 3/17/17	
WL	Dry, cased in 6.5 ft @ 0 Hrs	DRILLER: ABC	DRILLING: CME-550	
WL	Dry, cased in 5.5 ft @ 24 Hrs	DRILLER: WJK	ASST DRILLER:	

Project No. 2013055.96		LOG OF BOREHOLE SB-3		Sheet 1 of 1
CLIENT: McCormick Taylor, Inc		PROJECT: Glenmar SWM Pond Retrofit		
ARCHITECT/ENGINEER:		SITE: Howard County, Maryland		
SURFACE ELEV.: 447.0 ft.		GRAPHIC LOG		
0.3 - 4" Topsoil		Firm yellowish brown LEAN CLAY (CL) (Fill)		
6.0		Medium dense to loose light brown SILTY FINE SAND (SM)		
13.0		Soft dark greenish gray LEAN CLAY (CL) with mica		
15.0		End of Boring @ 15 ft		
Borehole was backfilled with bentonite mix after 24 hours water reading				
WATER LEVEL OBSERVATIONS		AB Consultants, Inc.		
WL	13.5 @ Drilling	DATE: 3/17/17	FINISH: 3/17/17	
WL	13 @ 0 Hrs	DRILLER: ABC	DRILLING: CME-550	
WL	6.5 @ 24 Hrs	DRILLER: WJK	ASST DRILLER:	



**BORING PLAN VIEW**  
1" = 20'  
AS-BUILT GRADING NOT SHOWN. SEE SITE PLAN FOR REVISED GRADING.

Maryland Department of the Environment  
Water and Science Administration  
Dam Safety Division

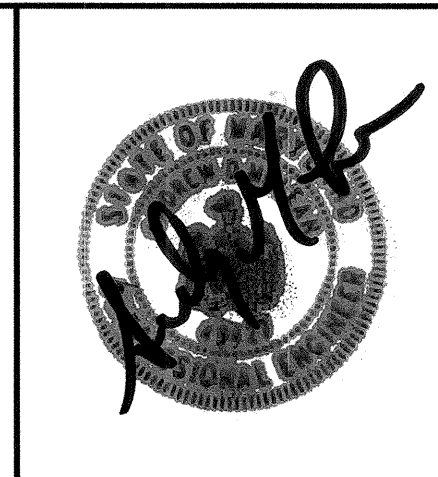
*V. P. Dalal* 10/30/18  
Visty P. Dalal Sr. Regulatory & Compliance Engineer Date  
Permit # 18-MR-0010

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 8/27/18  
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

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**Howard County**  
MARYLAND  
Storm Water Management Division  
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DES:	EZS/CLR			
DRN:	MER			
CHK:	ALH			
DATE:	8/21/18	ADM	AS-BUILT SURVEY	8/1/19
BY:	NO.		REVISION	DATE

**GLENMAR POND #2 PRINCIPAL SPILLWAY REPLACEMENT PROJECT**  
**HOWARD COUNTY CAPITAL PROJECT #D-1159**  
**HSCD #: EP-17-40**  
**MD DAM NO. 577**

**BORING LOGS**

SCALE: 1" = 20'  
SHEET: 16 OF 17



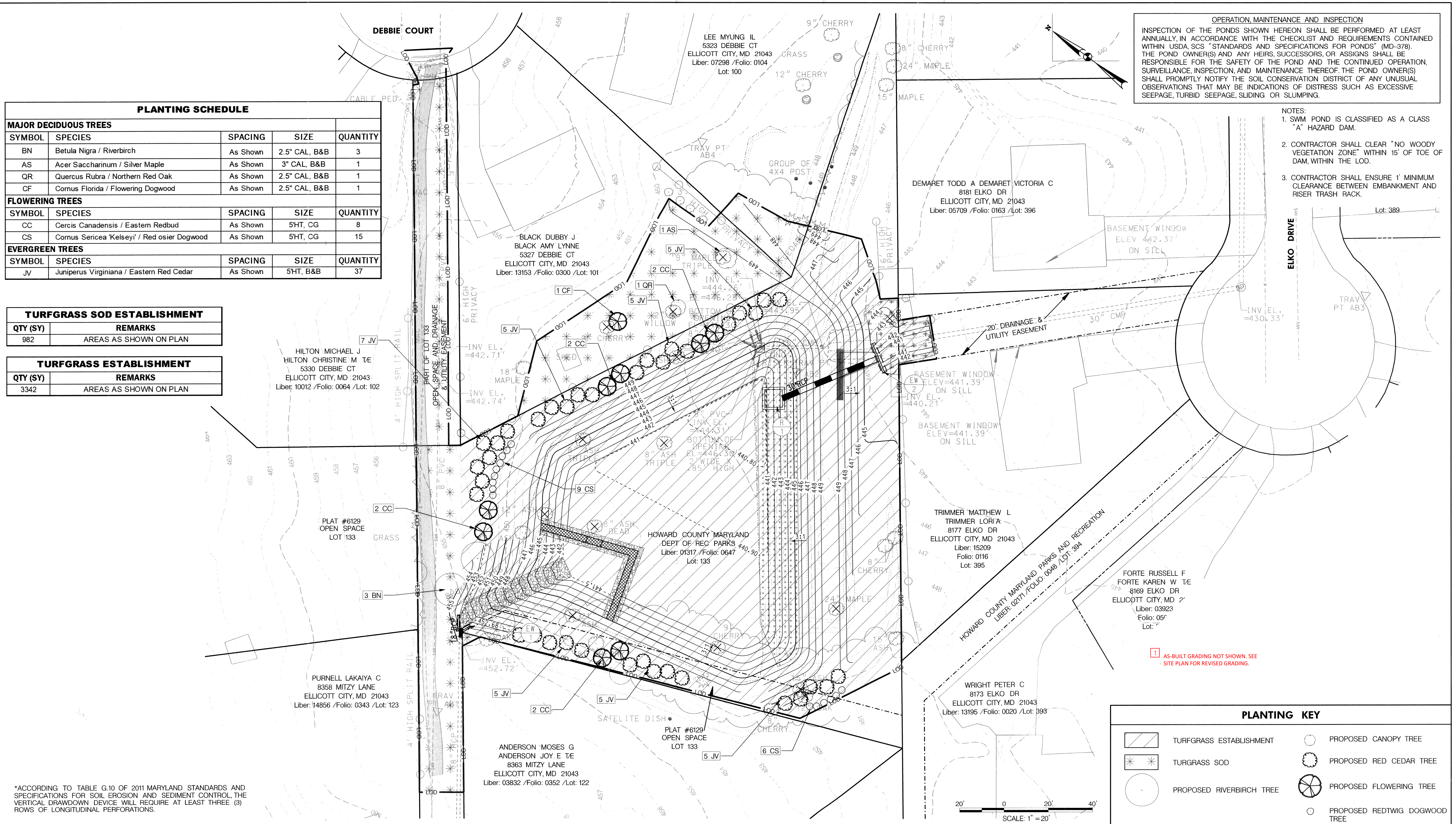
PLANTING SCHEDULE				
MAJOR DECIDUOUS TREES				
SYMBOL	SPECIES	SPACING	SIZE	QUANTITY
BN	Betula Nigra / Riverbirch	As Shown	2.5" CAL, B&B	3
AS	Acer Saccharinum / Silver Maple	As Shown	3" CAL, B&B	1
QR	Quercus Rubra / Northern Red Oak	As Shown	2.5" CAL, B&B	1
CF	Cornus Florida / Flowering Dogwood	As Shown	2.5" CAL, B&B	1
FLOWERING TREES				
SYMBOL	SPECIES	SPACING	SIZE	QUANTITY
CC	Cercis Canadensis / Eastern Redbud	As Shown	5HT, CG	8
CS	Cornus Sericea 'Kelsey' / Red osier Dogwood	As Shown	5HT, CG	15
EVERGREEN TREES				
SYMBOL	SPECIES	SPACING	SIZE	QUANTITY
JV	Juniperus Virginiana / Eastern Red Cedar	As Shown	5HT, B&B	37

TURFGRASS SOD ESTABLISHMENT	
QTY (SY)	REMARKS
982	AREAS AS SHOWN ON PLAN

TURFGRASS ESTABLISHMENT	
QTY (SY)	REMARKS
3342	AREAS AS SHOWN ON PLAN

**OPERATION, MAINTENANCE AND INSPECTION**  
 INSPECTION OF THE PONDS SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

- NOTES:
1. SWM POND IS CLASSIFIED AS A CLASS "A" HAZARD DAM.
  2. CONTRACTOR SHALL CLEAR "NO WOODY VEGETATION ZONE" WITHIN 15' OF TOE OF DAM, WITHIN THE LOD.
  3. CONTRACTOR SHALL ENSURE 1' MINIMUM CLEARANCE BETWEEN EMBANKMENT AND RISER TRASH RACK.



\*ACCORDING TO TABLE G.10 OF 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE VERTICAL DRAWDOWN DEVICE WILL REQUIRE AT LEAST THREE (3) ROWS OF LONGITUDINAL PERFORATIONS.

AS-BUILT GRADING NOT SHOWN. SEE SITE PLAN FOR REVISED GRADING.

PLANTING KEY			
	TURFGRASS ESTABLISHMENT		PROPOSED CANOPY TREE
	TURFGRASS SOD		PROPOSED RED CEDAR TREE
	PROPOSED RIVERBIRCH TREE		PROPOSED FLOWERING TREE
			PROPOSED REDTWIG DOGWOOD TREE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

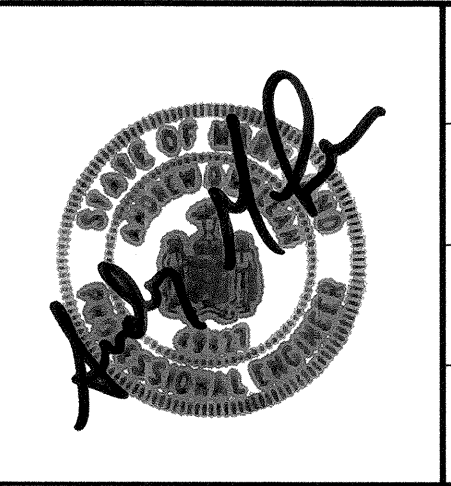
*[Signature]*  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

8/27/18  
 DATE

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DES: SHB				
DRN: DLD				
CHK: ALH				
DATE: 6/12/18	ADM		AS-BUILT SURVEY	8/1/19
BY:	NO.		REVISION	DATE

GLENMAR POND #2 PRINCIPAL SPILLWAY  
 REPLACEMENT PROJECT  
 CAPITAL PROJECT #D-1159  
 HOWARD COUNTY  
 HSCD #: EP-17-40

**LANDSCAPE PLAN**

SCALE  
 1" = 20'  
 SHEET  
 17 OF 17