

HOWARD COUNTY

Capital Project #D-1159

Bonnie Brae

Principal Spillway Replacement Project

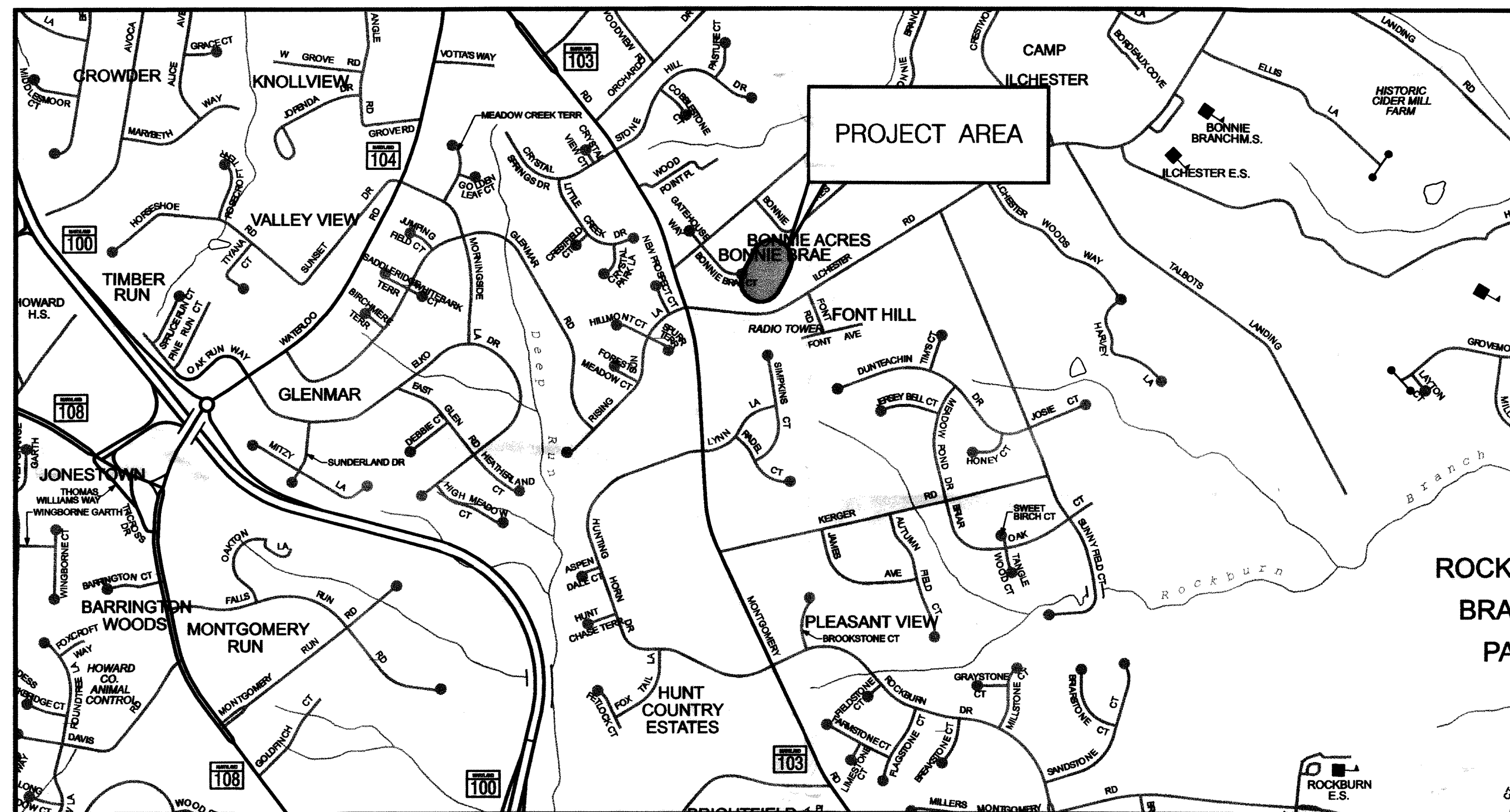
Storm Water Management Division
Bureau Of Environmental Services

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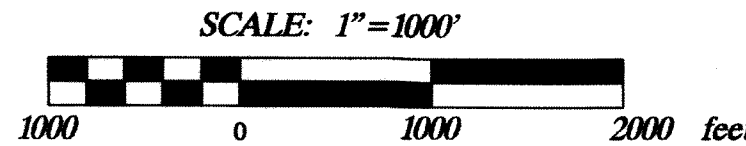
SHEET NO.	TITLE
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3	STORMWATER PROFILE
4	RISER AND OUTFALL DETAIL SHEET
5	EROSION AND SEDIMENT CONTROL PLAN
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LEGEND

PROPOSED MEDIAN BARRIER	
ELECTRICAL HAND BOX - SIGNALS	
FLOW LINE	
STATE, COUNTY OR CITY LINES	
PROPOSED TRAFFIC BARRIER	
EXISTING TRAFFIC BARRIER	
PROPOSED FENCE LINE	
EXISTING FENCE LINE	
RIGHT OF WAY LINE	
EXISTING ROADWAY	
BASE OR SURVEY LINE	
TRAVERSE POINT	
APPROXIMATE LIMITS OF CUT AND/OR FILL	
PROPOSED MAJOR CONTOUR	
PROPOSED MINOR CONTOUR	
LIMIT OF DISTURBANCE	
EXISTING MAJOR CONTOURS	
EXISTING MINOR CONTOURS	
EXISTING PIPE/CULVERT	
EXISTING DROP INLET	
WETLAND	
HEDGE / TREE LINE	
BUSH / TREE	
CONIFEROUS TREE	
LIGHT POLE	



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. - JUNE 2010.
- 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 JUNE 2010.
- 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 CONTRACTOR'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 PLANS FOR BONNIE BRAE SECTION 1 (F-86-78).
- ORIGINAL POND AS-BUILT WAS APPROVED BY HSCD ON AUGUST 22, 1989.

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: 25/2013

DESIGN CERTIFICATION

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, 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. 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.

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 SHALL 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

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

John R. Robertson
HOWARD SOIL CONSERVATION DISTRICT
DATE: 4/5/12

DATE: 3-28-12
DESIGNER'S SIGNATURE: *Chris Brooks*
MARYLAND REGISTRATION NUMBER: 25819
CHRIS BROOKS
PRINTED NAME

DATE: 3/30/12
OWNER/DEVELOPER SIGNATURE: *Howard E. Saltzman*
HOWARD E. SALTZMAN
PRINTED NAME AND TITLE
Chief, Stormwater Management Division

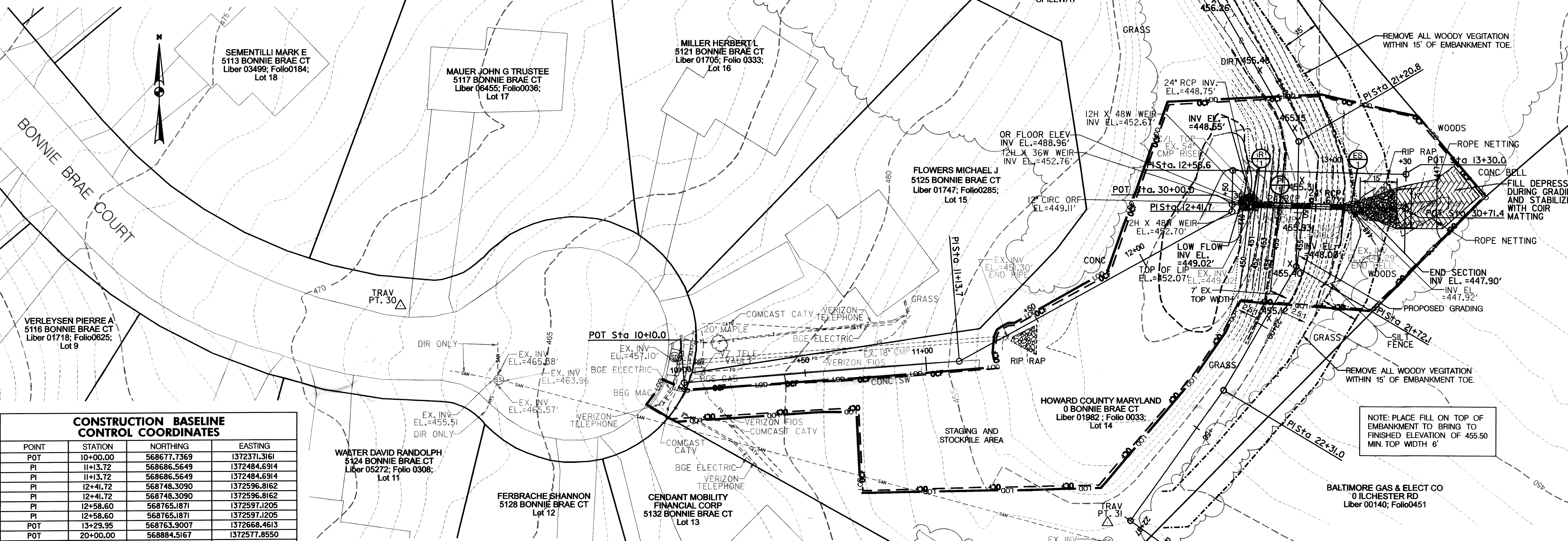
<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>John R. Robertson</i> 4/5/12 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Howard E. Saltzman</i> 3/30/12 CHIEF, STORMWATER MANAGEMENT DIVISION DATE</p>	<p>McCormick Engineers & Planners Since 1946</p> <p>509 South Exeter Street 4th Floor Baltimore, Maryland 21202 (410) 662-7400</p>	<p>Howard County MARYLAND</p> <p>Storm Water Management Division Bureau of Environmental Services 6751 Columbia Gateway Drive, Suite 514 Columbia, Maryland 21046-3143 (410) 313-6444</p>	<p>STATE OF MARYLAND PROFESSIONAL ENGINEER No. 25819</p>	<table border="1"> <thead> <tr> <th>DES:</th> <th>ALH</th> <th>AS-BUILT</th> <th>8/16/12</th> </tr> </thead> <tbody> <tr> <td>WC</td> <td></td> <td></td> <td></td> </tr> <tr> <td>MR</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>DATE: 3/27/12</td> <td>BY</td> <td>NO.</td> <td>REVISION</td> </tr> </tbody> </table>	DES:	ALH	AS-BUILT	8/16/12	WC				MR				CB				DATE: 3/27/12	BY	NO.	REVISION	<p>BONNIE BRAE PRINCIPAL SPILLWAY REPLACEMENT PROJECT CAPITAL PROJECT #D-1159 HOWARD COUNTY</p> <p>TITLE SHEET</p> <p>SCALE AS SHOWN SHEET 1 OF 8</p>
DES:	ALH	AS-BUILT	8/16/12																						
WC																									
MR																									
CB																									
DATE: 3/27/12	BY	NO.	REVISION																						

EP 11-016

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.

NOTE:
SWM POND EMBANKMENT IS CLASSIFIED AS A CLASS "A" LOW HAZARD DAM.



CONSTRUCTION BASELINE CONTROL COORDINATES

POINT	STATION	NORTHING	EASTING
POT	10+00.00	568677.7369	1372371.3161
PI	11+13.72	568686.5649	1372484.6914
PI	11+13.72	568686.5649	1372484.6914
PI	12+41.72	568748.3090	1372596.8162
PI	12+41.72	568748.3090	1372596.8162
PI	12+58.60	568765.1871	1372597.1205
POT	13+29.95	568763.9007	1372668.4613
POT	20+00.00	568884.5167	1372577.8550
PI	20+09.76	568876.9027	1372583.9536
PI	20+09.76	568876.9027	1372583.9536
PI	20+37.33	568849.3708	1372582.4313
PI	20+37.33	568849.3708	1372582.4313
PI	21+20.82	568777.1184	1372624.2592
PI	21+20.82	568777.1184	1372624.2592
PI	21+72.06	568725.8826	1372623.3353
PI	21+72.06	568725.8826	1372623.3353
PI	22+31.04	568674.9867	1372593.5388
PI	22+31.04	568674.9867	1372593.5388
POT	22+96.31	568621.3822	1372555.2499
POT	30+00.00	568751.1894	1372596.8681
POT	30+71.35	568749.9030	1372668.2089

SURVEY CONTROL

TRAVERSE POINT	ELEVATION	NORTHING	EASTING
30	468.06	568709.4220	1372254.5580
31	456.18	568620.6080	1372545.7360
900	456.38	568848.5067	1372581.5194

STABILIZATION MATTING

QUANTITY (SY)	REMARKS
560	BIODEGRADABLE STRAW MATTING

COIR MATTING

QUANTITY (SY)	REMARKS
64	FOR OUTFALL STABILIZATION

STANDARD CONCRETE END SECTION H.C. STD D-5.51, ES-1

STATION	QTY (EA)	REMARKS
STA. 13+05, 14' RT	1	SEE DETAIL D-5.51 ON SHEET 7

EMBANKMENT CLAY

QUANTITY (CY)	REMARKS
49	FOR CLAY CORE

CLASS 1 RIP RAP

STATION	QTY (S.Y.)
STA. 13+16, 14' RT	23

24" RCP-ASTM C-361, CLASS B-25, P-1

STATION	QTY (L.F.)
STA. 12+67 TO STA. 13+05	38

GEOTEXTILE

QUANTITY (SY)	REMARKS
23	CLASS SE

EXCAVATION

QUANTITY (CY)	REMARKS
122	EMBANKMENT, OUTFALL AND EMERGENCY SPILLWAY

RISER STRUCTURE, R-1

STATION	QTY (EA)
STA. 12+67, 14' RT	1

ORANGE CONSTRUCTION FENCE

FROM	TO	QTY (LF)
10+00	13+30	868

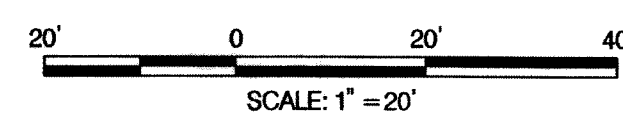
TOPSOIL

QUANTITY (CY)	REMARKS
155	FOR VEGETATIVE STABILIZATION OF DISTURBED AREAS

NOTE: PLACE FILL ON TOP OF EMBANKMENT TO BRING TO FINISHED ELEVATION OF 455.50 MIN. TOP WIDTH 6'

LEGEND

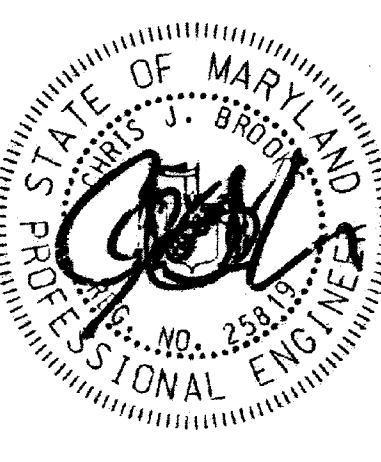
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- - - EXISTING MAJOR CONTOUR
- - - EXISTING MINOR CONTOUR
- TOE OF DAM
- PROPERTY LINE
- EXISTING TREE
- CLASS 1 RIP RAP
- ▨ COIR MATTING
- LOD LIMIT OF DISTURBANCE
- OCF ORANGE CONSTRUCTION FENCE
- 24" RCP



REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
John R. Robinson
HOWARD SOIL CONSERVATION DISTRICT
DATE: 4/15/12

McCormick Taylor
Engineers & Planners Since 1946
509 South Exeter Street
4th Floor
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MARYLAND
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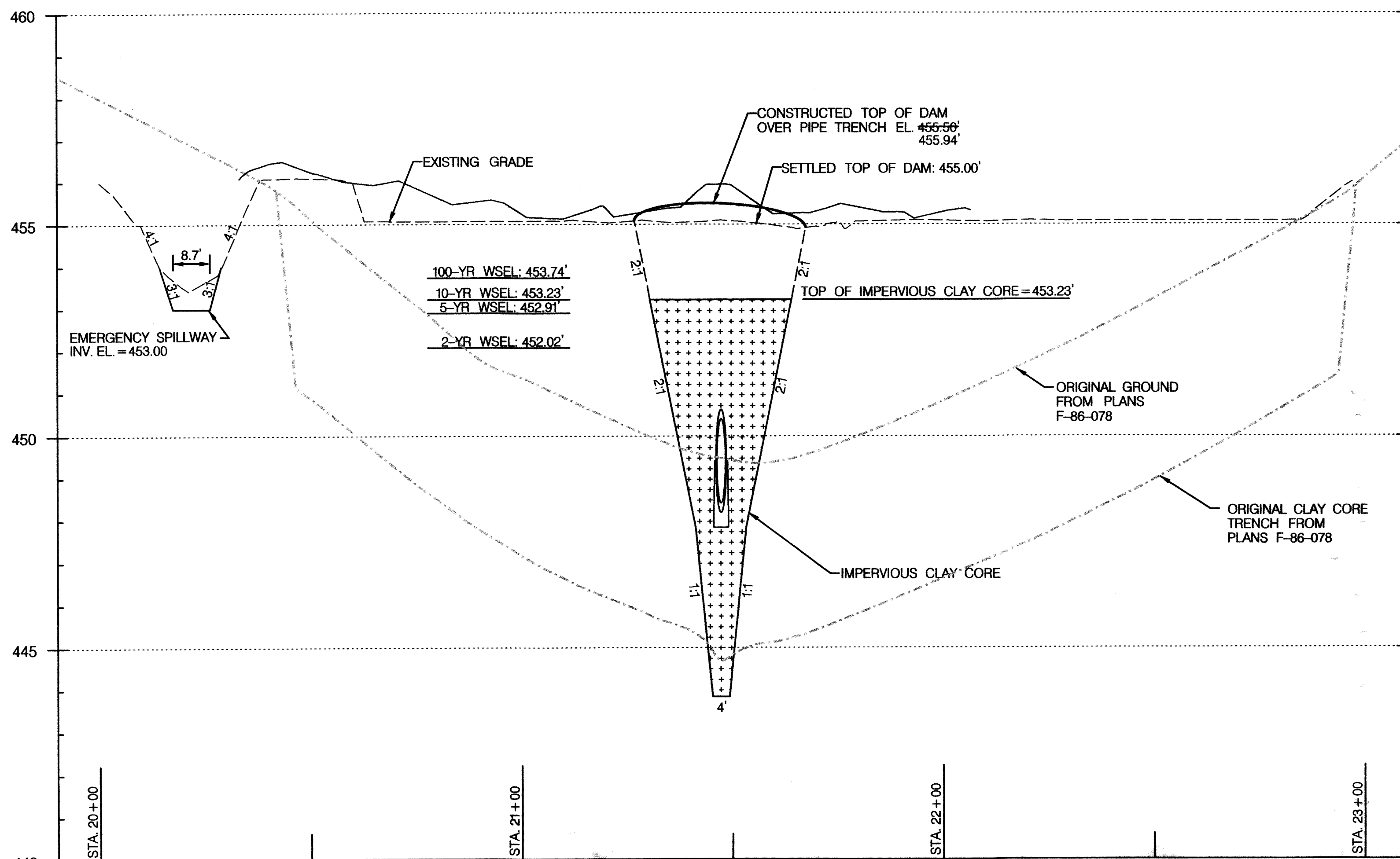


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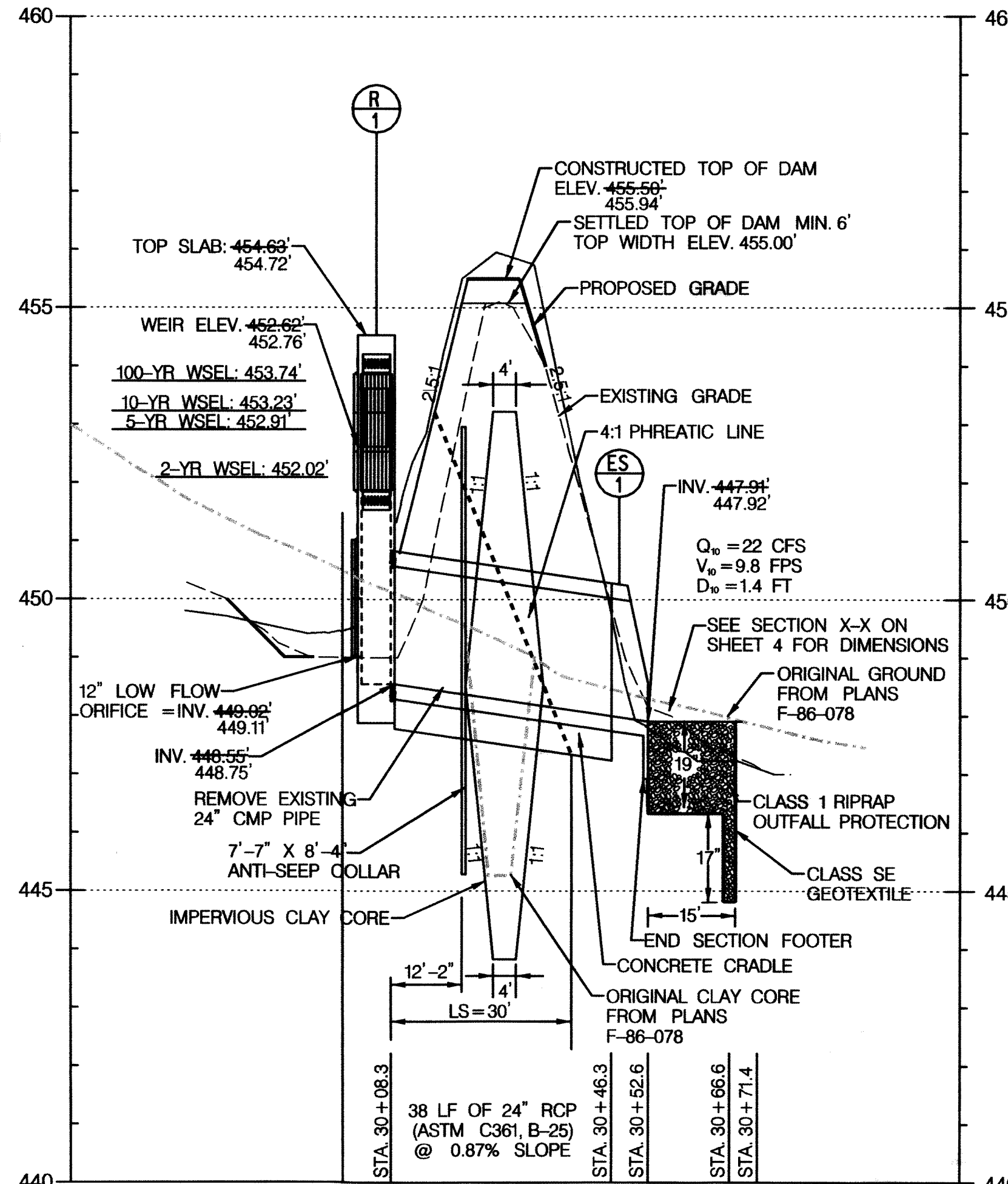
BONNIE BRAE
PRINCIPAL SPILLWAY REPLACEMENT PROJECT
CAPITAL PROJECT #D-1159
HOWARD COUNTY

SITE PLAN

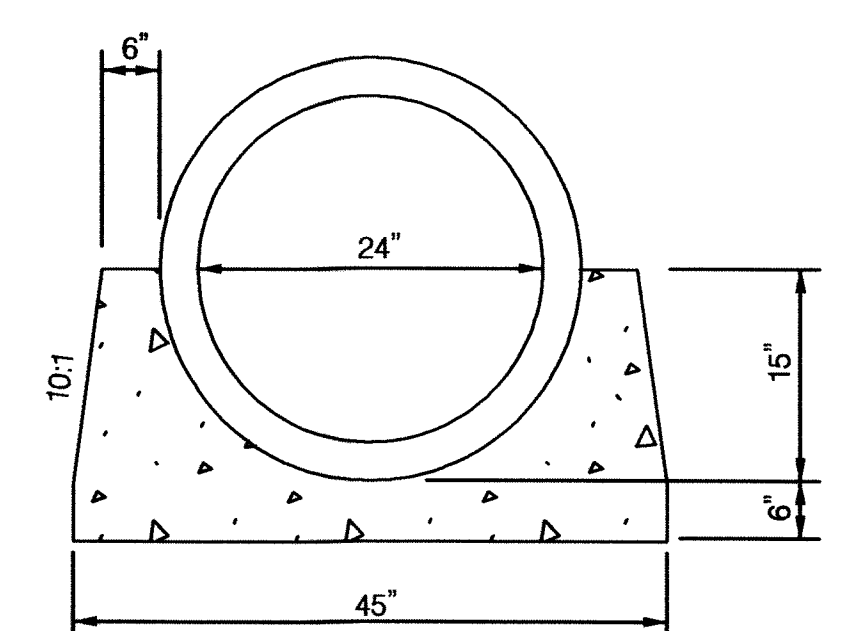
SCALE: 1" = 20'
SHEET: 2 OF 8



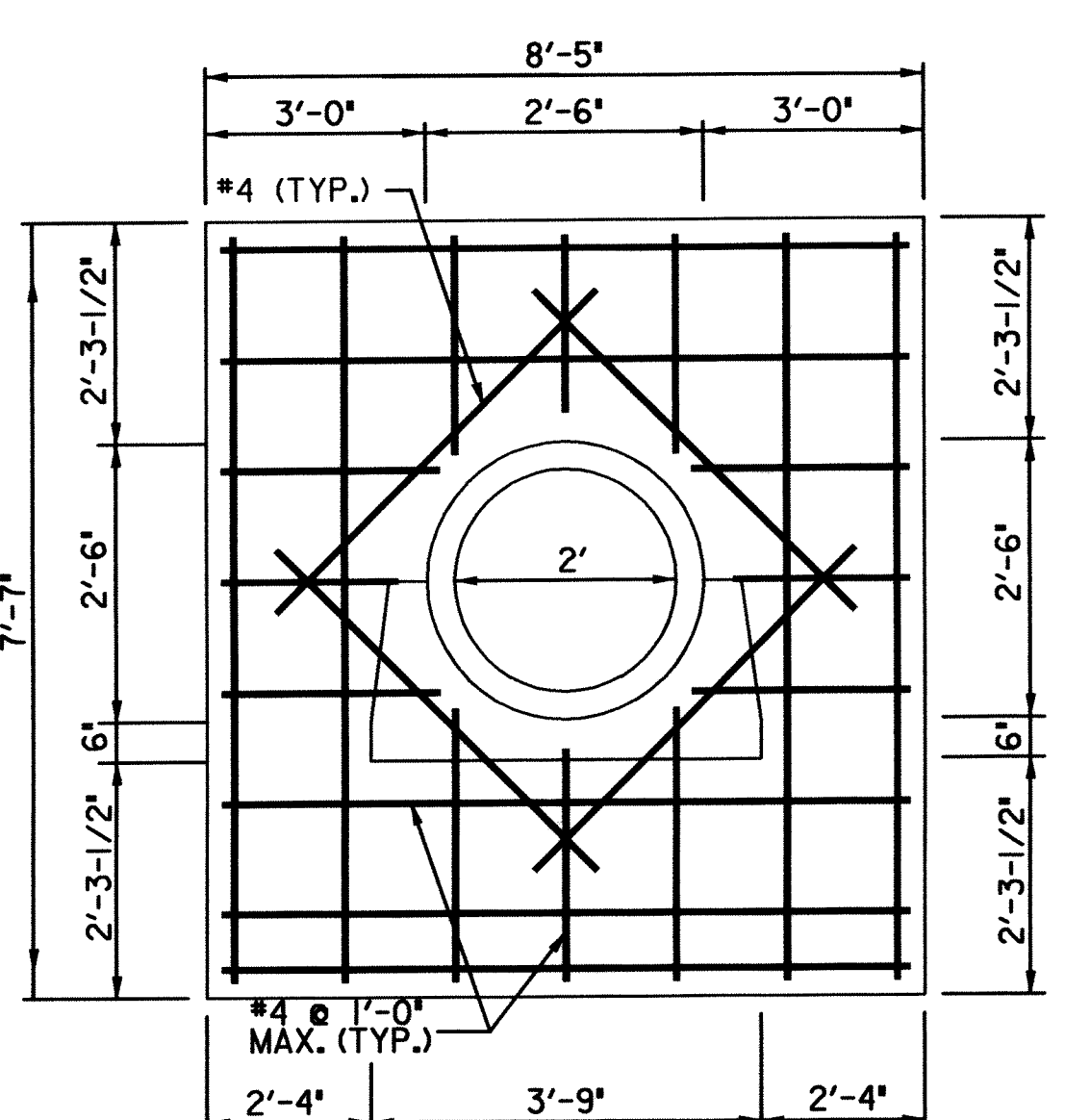
CENTERLINE EMBANKMENT PROFILE
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 2'



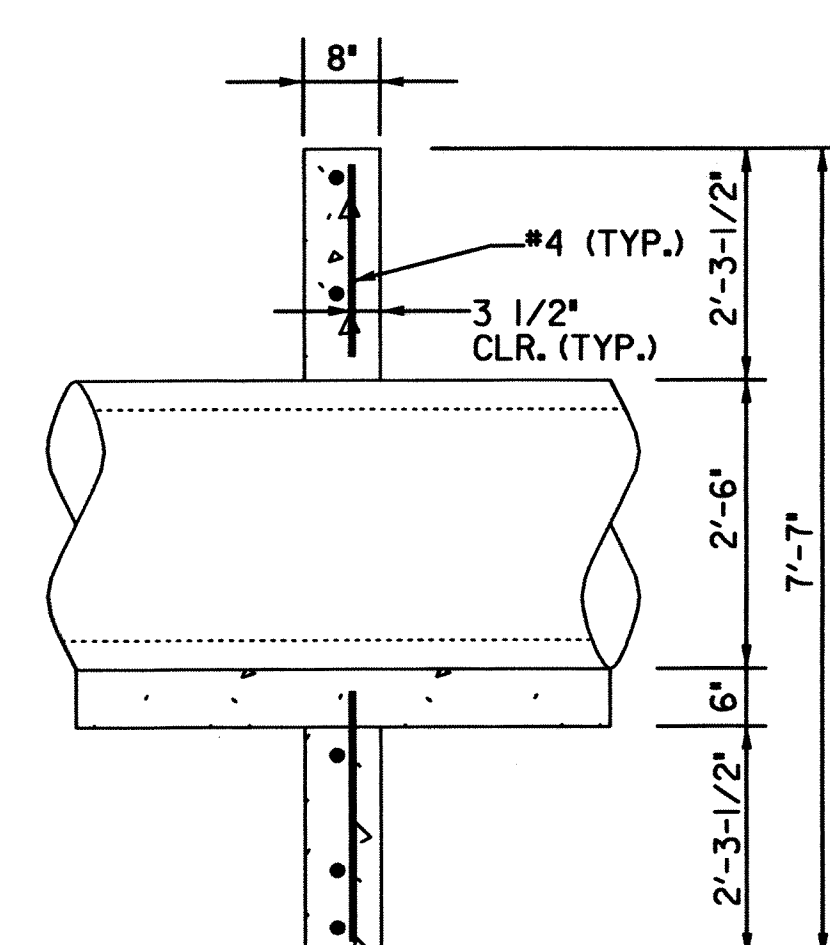
SPILLWAY PIPE PROFILE
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 2'



CONCRETE CRADLE DETAIL
 NOT TO SCALE



CONCRETE ANTI-SEEP COLLAR
 NOT TO SCALE



- NOTES:**
1. PROVIDE MINIMUM 3" CLEAR COVER FOR ALL REINFORCEMENT, EXCEPT AS NOTED.
 2. USE MIX NO. 6 CEMENT CONCRETE ($f'c = 4500$ psi) FOR ANTI-SEEP COLLAR AND CRADLE.
 3. USE GRADE 60 REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF ASTM A615/A615M, A616/A616M, A617/A617M AND A706/A706M. DO NOT WELD REINFORCING STEEL BARS UNLESS SPECIFIED.
 4. INSTALL "VOLCLAY" BRAND "WATERSTOP-RX" OR APPROVED EQUAL ON PERIPHERY OF RCP AT CENTERLINE OF CONCRETE COLLAR

CONSTRUCTION

1. THE CONTRACTOR SHALL FURNISH HOWARD COUNTY WITH SPECIFICATIONS AND A SOURCE OF SOIL STABILIZATION MATTING FOR REVIEW AND APPROVAL.
2. TOPSOIL AND SEEDING SHALL BE COMPLETED BEFORE THE SOIL STABILIZATION MATTING IS INSTALLED. THE MATTING SHALL BE PLACED WITHIN 24 HOURS AFTER SEEDING OPERATIONS HAVE BEEN COMPLETED. MATTING SHALL BE LAID SMOOTHLY AND SECURELY UPON THE SEEDED BED IN THE DIRECTION OF WATER FLOW. STRETCHING SHALL BE AVOIDED.
3. WHERE MORE THAN ONE WIDTH OF MATTING IS REQUIRED, THE ENDS OF EACH STRIP SHALL OVERLAP AT LEAST 6 INCHES FOR BOTH VERTICAL AND HORIZONTAL OVERLAPS. OVERLAPPING SHALL BE DONE WITH THE HIGHER MAT OVERLAPPING THE LOWER MAT AND UPSTREAM MATTING OVERLAPPING DOWNSTREAM MATTING. MATTING SHALL BE FIRMLY FASTENED IN PLACE WITH STAPLES DRIVEN VERTICALLY INTO THE SOIL AND FLUSH WITH THE SURFACE. STAPLES SHALL BE PLACED A MAXIMUM OF 2 FEET APART ALONG THE EDGES AND THROUGHOUT THE MATTING.
4. ON ALL OVERLAPPING EDGES, STAPLES SHALL BE PLACED 18 INCHES APART. AT ALL ENDS OF MATTING, STAPLES SHALL BE PLACED 12 INCHES APART.
5. THE CONTRACTOR SHALL EXCAVATE A 6" DEEP TRENCH ALONG ALL EDGES OF THE MATTING. THE MATTING SHALL BE PLACED INTO THE TRENCH, PINNED, AND THE TRENCH BACKFILLED AND TAMPED.

DESCRIPTION

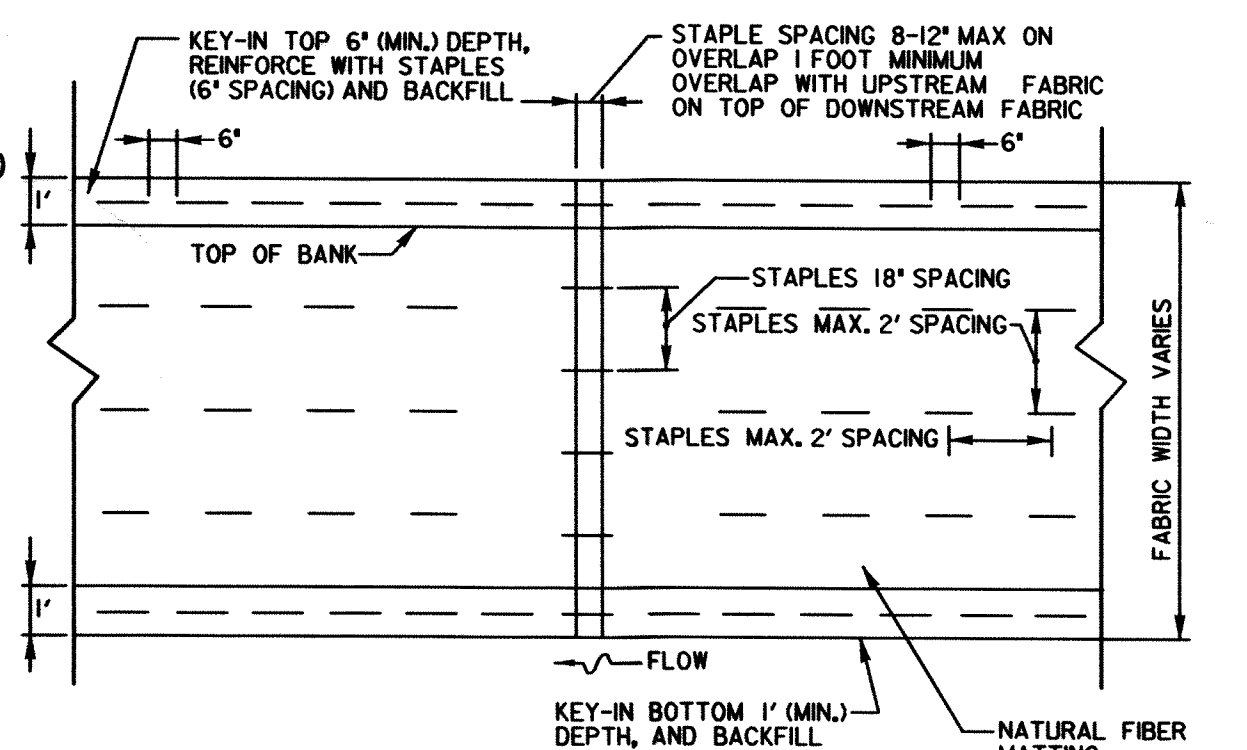
1. SOIL STABILIZATION MATTING SHALL BE PLACED TO THE DETAILS ON THE CONSTRUCTION PLANS AND AS DIRECTED BY THE ENGINEER.

MATERIALS

1. SOIL STABILIZATION MATTING SHALL BE DEGRADABLE MATTING OR AN EQUIVALENT MATTING CONSISTING OF MACHINE PRODUCED MATTING MEETING THE FOLLOWING MINIMUM SPECIFICATIONS:

Material	Natural Fiber
Thickness	0.25 Inches
Weight	9.6 oz/SY
Tensile Strength	4.7 lb./in.
Netting Opening	2.0 x 1.0 in. or less

2. STAPLES FOR SECURING THE SOIL STABILIZATION MATTING SHALL BE U STEEL WIRE WITH A MINIMUM GAUGE OF 8. THE U SHAPED STAPLES SHALL AVERAGE 1 TO 1.5 INCHES WIDE. THE LENGTH OF THE STAPLES SHALL BE 6 INCHES MINIMUM.

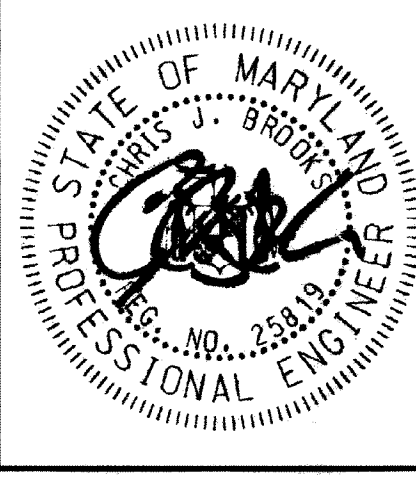


SOIL STABILIZATION MATTING
 NOT TO SCALE

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BONNIE BRAE
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 HOWARD COUNTY
STORMWATER PROFILE AND DETAIL SHEET

SCALE
 AS SHOWN
 SHEET
 3 OF 8