

# HOWARD COUNTY

## Capital Project #D-1159

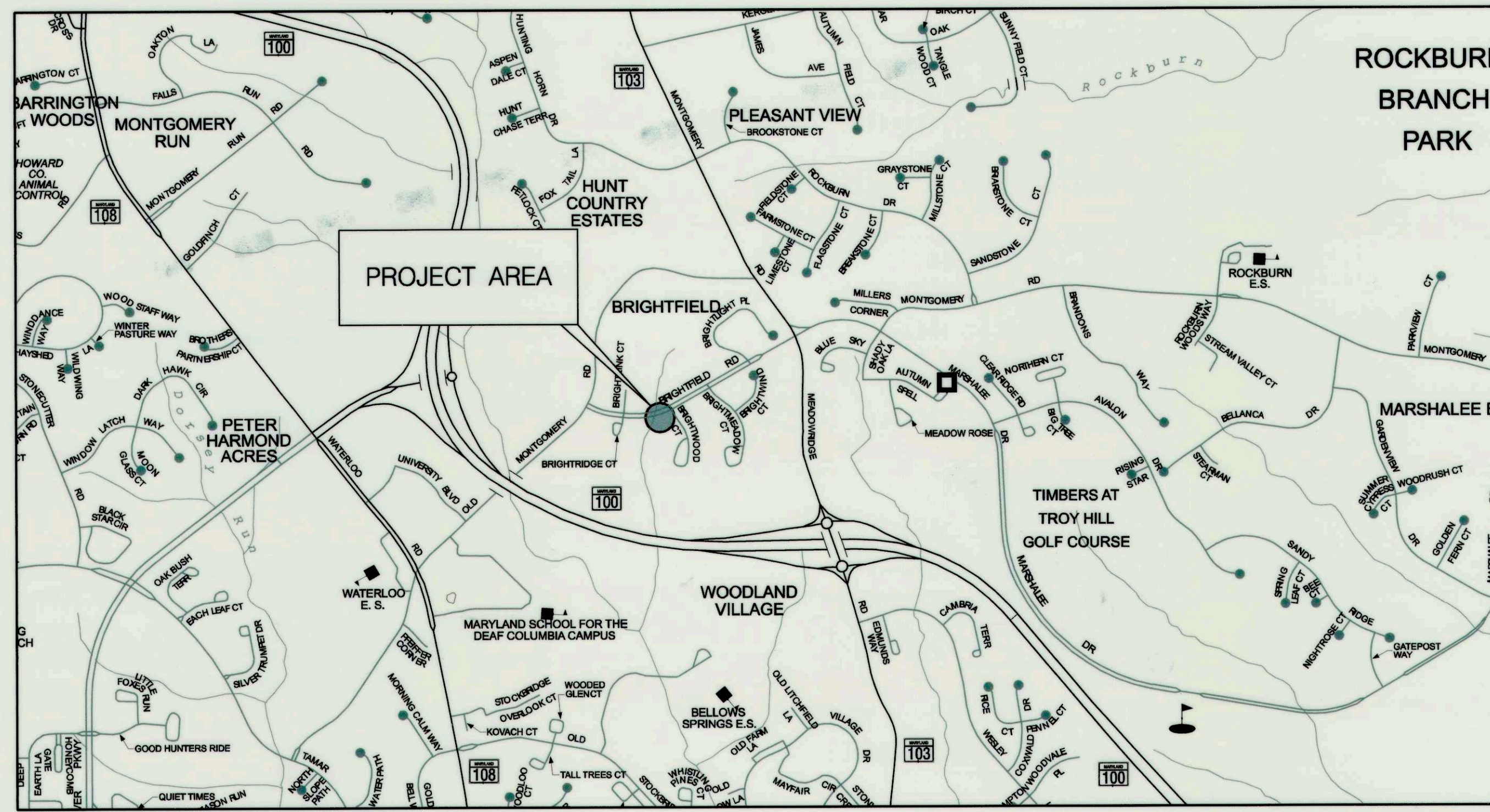
# Brightfield Road

# Principal Spillway Lining Project

### Storm Water Management Division Bureau Of Environmental Services

INDEX OF SHEETS	
SHEET NO.	TITLE
1	TITLE SHEET
2	SITE PLAN
3	STORMDRAIN PROFILE AND DETAIL SHEET
4	EROSION AND SEDIMENT CONTROL PLAN
5	EROSION AND SEDIMENT CONTROL NOTES
6	EROSION AND SEDIMENT CONTROL DETAIL SHEET

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	



- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MDSA 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-APRIL 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 APRIL 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 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 AS-BUILT PLANS FOR BRIGHTFIELD SECTION 1 AREA 1 (F-89-19).
  - A JOINT PERMIT APPLICATION HAS BEEN SUBMITTED TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR THIS PROJECT. (TRACKING NUMBER 201161123)
  - PROJECT IMPACTS INCLUDE WORK IN A USE 4-P STREAM. WORK MAY NOT BE CONDUCTED DURING THE PERIOD BETWEEN MARCH 1 THROUGH JUNE 1.

**PROFESSIONAL CERTIFICATION**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 32013, EXPIRATION DATE: 7/5/2013

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

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
WATER MANAGEMENT ADMINISTRATION  
DAM SAFETY DIVISION

V. P. DALAL  
SR. REGULATORY AND COMPLIANCE ENGINEER

4/12/12  
DATE

4-12-2012  
DATE

AMY L. HRIBAR  
DESIGNER'S SIGNATURE

MARYLAND REGISTRATION NUMBER 32013  
PRINTED NAME

4/19/12  
DATE

Howard E. Salterman  
OWNER/DEVELOPER SIGNATURE

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

I HEREBY CERTIFY THAT THE AS-BUILT PLANS WERE CONSTRUCTED AS SHOWN HEREON IN RED.



AS-BUILT 1/25/13

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

Howard E. Salterman  
CHIEF, STORMWATER MANAGEMENT DIVISION

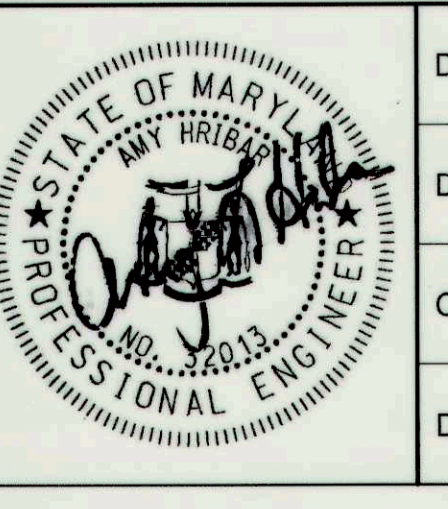
4/19/12  
DATE

**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



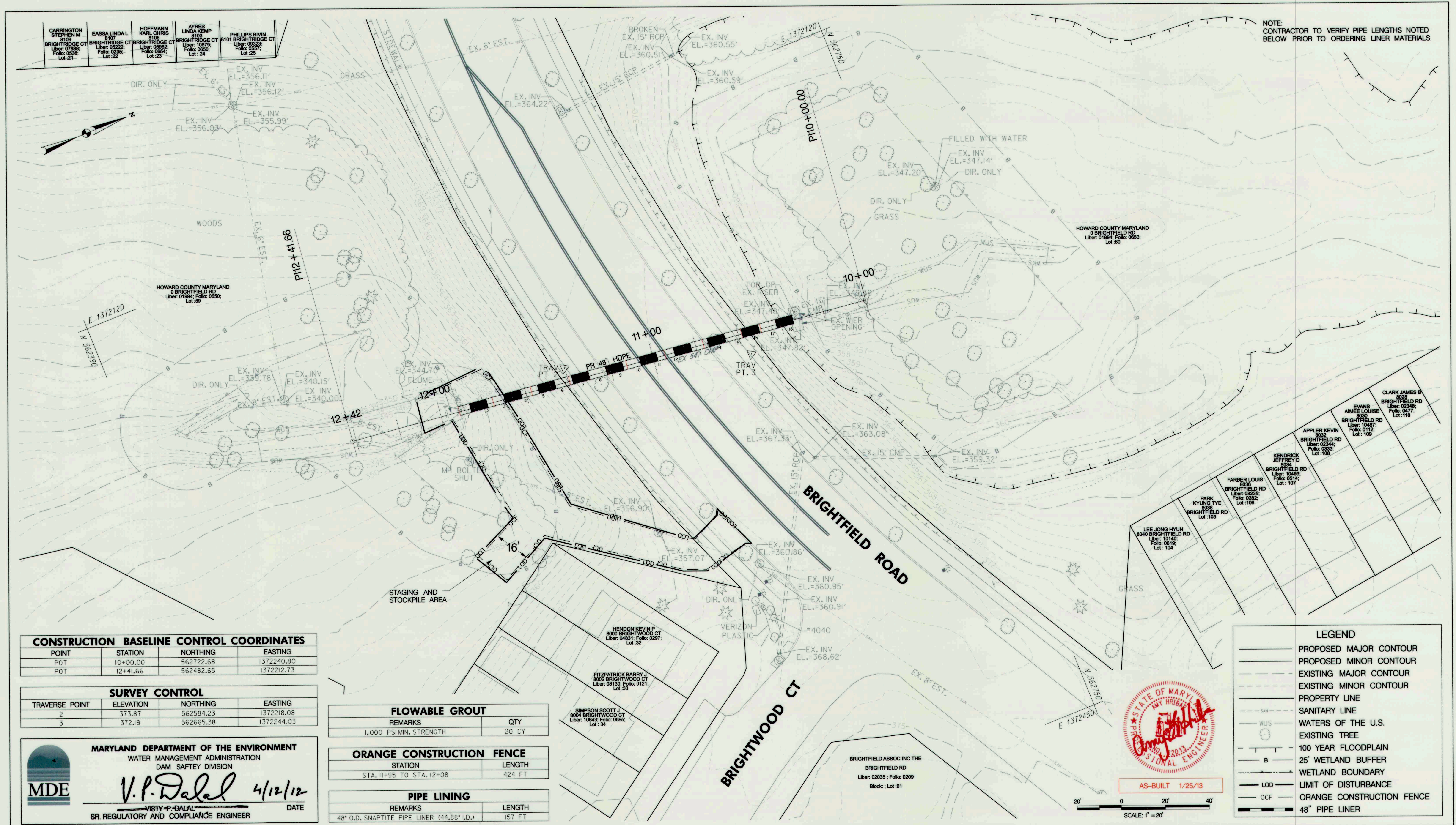
DES:	ALH	AS-BUILT	1/25/13
DRN:	MR		
CHK:	CB		
DATE:	3/28/12		
BY	NO.	REVISION	DATE

**BRIGHTFIELD ROAD  
PRINCIPAL SPILLWAY LINING PROJECT  
CAPITAL PROJECT #D-1159  
HOWARD COUNTY**

**AS-BUILT PLAN  
TITLE SHEET**

SCALE AS SHOWN  
SHEET 1 OF 6





NOTE:  
CONTRACTOR TO VERIFY PIPE LENGTHS NOTED  
BELOW PRIOR TO ORDERING LINER MATERIALS

**CONSTRUCTION BASELINE CONTROL COORDINATES**

POINT	STATION	NORTHING	EASTING
POT	10+00.00	562722.68	1372240.80
POT	12+41.66	562482.65	1372212.73

**SURVEY CONTROL**

TRAVERSE POINT	ELEVATION	NORTHING	EASTING
2	373.87	562584.23	1372218.08
3	372.19	562665.38	1372244.03

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
WATER MANAGEMENT ADMINISTRATION  
DAM SAFETY DIVISION

*V.P. Dalal* 4/12/12  
SR. REGULATORY AND COMPLIANCE ENGINEER

**FLOWABLE GROUT**

REMARKS	QTY
1,000 PSI MIN. STRENGTH	20 CY

**ORANGE CONSTRUCTION FENCE**

STATION	LENGTH
STA. 11+95 TO STA. 12+08	424 FT

**PIPE LINING**

REMARKS	LENGTH
48" O.D. SNAPTITE PIPE LINER (44.88" I.D.)	157 FT

**LEGEND**

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE
- SANITARY LINE
- WATERS OF THE U.S.
- EXISTING TREE
- 100 YEAR FLOODPLAIN
- 25' WETLAND BUFFER
- WETLAND BOUNDARY
- LIMIT OF DISTURBANCE
- ORANGE CONSTRUCTION FENCE
- 48" PIPE LINER

STATE OF MARYLAND  
Professional Engineer  
AS-BUILT 1/25/13

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

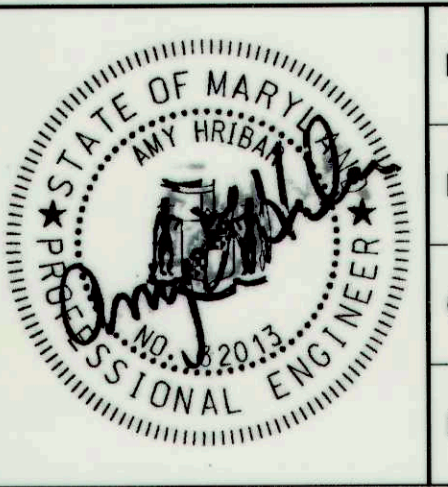
*Paul J. Gault* 4/19/12  
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

**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:	ALH	AS-BUILT	1/25/13
DRN:	MR		
CHK:	CB		
DATE:	3/28/12		
BY	NO.	REVISION	DATE

**BRIGHTFIELD ROAD**  
PRINCIPAL SPILLWAY LINING PROJECT  
CAPITAL PROJECT #D-1159  
HOWARD COUNTY

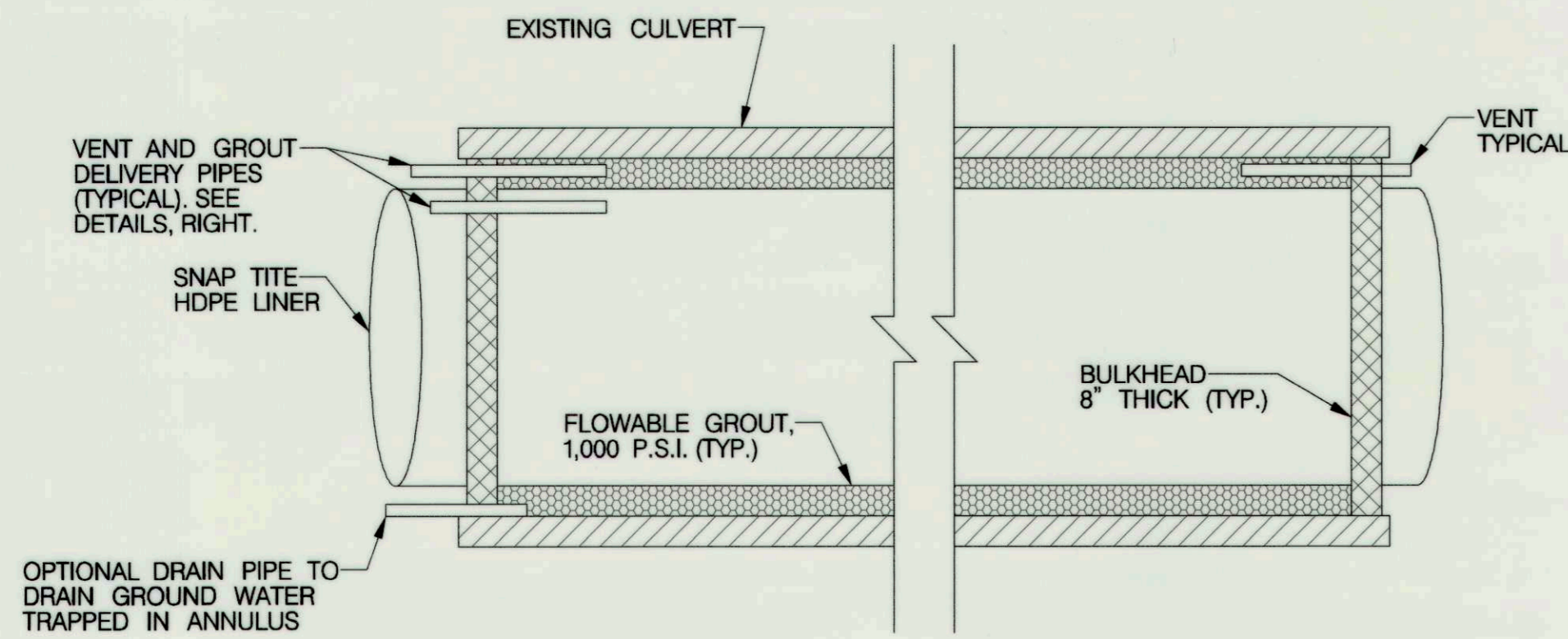
**AS-BUILT PLAN**  
SITE PLAN

SCALE: 1" = 20'

SHEET 2 OF 6



GROUT DELIVERY PIPES		
LEFT	CENTER	RIGHT
31.4 LF	125.6 LF	78.5 LF

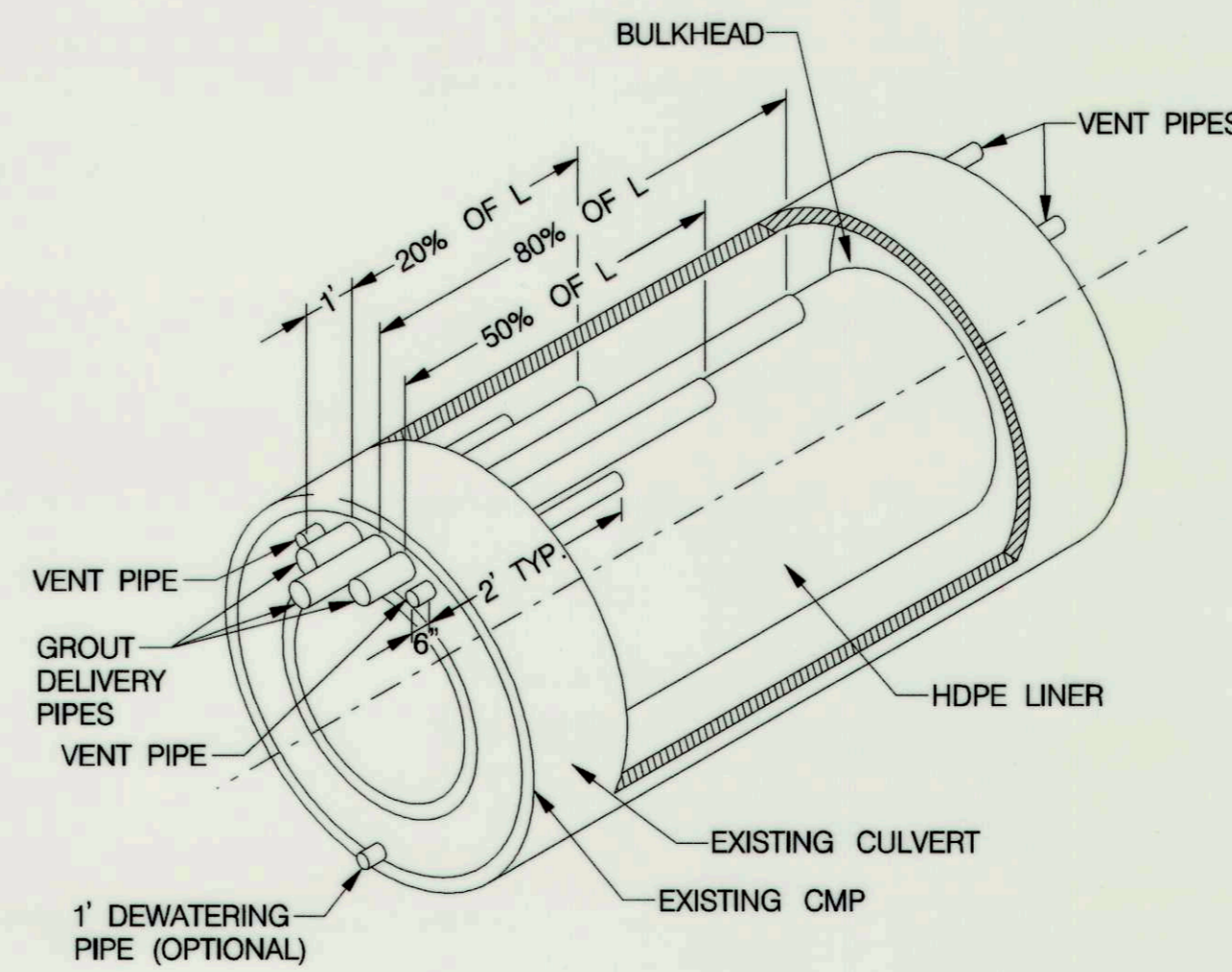


**BULKHEADING SPECIFICATIONS:**

THE ENDS OF THE PIPE SHALL BE BULKHEADED USING TWO COURSES OF BRICK AND MORTAR OR POURED CONCRETE 8" THICK MINIMUM. THE OUTSIDE OF THE BULKHEAD SHALL BE PARGED WITH MORTAR TO ACHIEVE A SMOOTH SURFACE. AT THE ENTRANCE END OF THE PIPE, THE BULKHEAD SHALL BE FORMED INTO A SMOOTH BEVELED ENTRANCE AT ROUGHLY A 45 DEGREE ANGLE, WITH THE PIPE LINER RECESSED FROM THE HEADWALL.

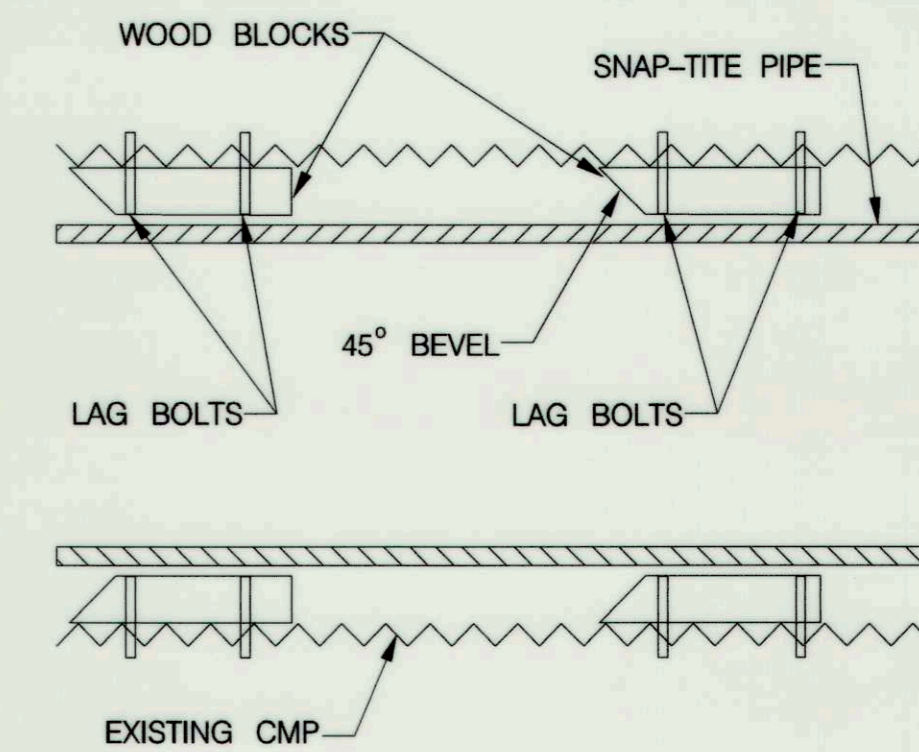
**TYPICAL GROUTING ARRANGEMENT**

SCALE: NOT TO SCALE



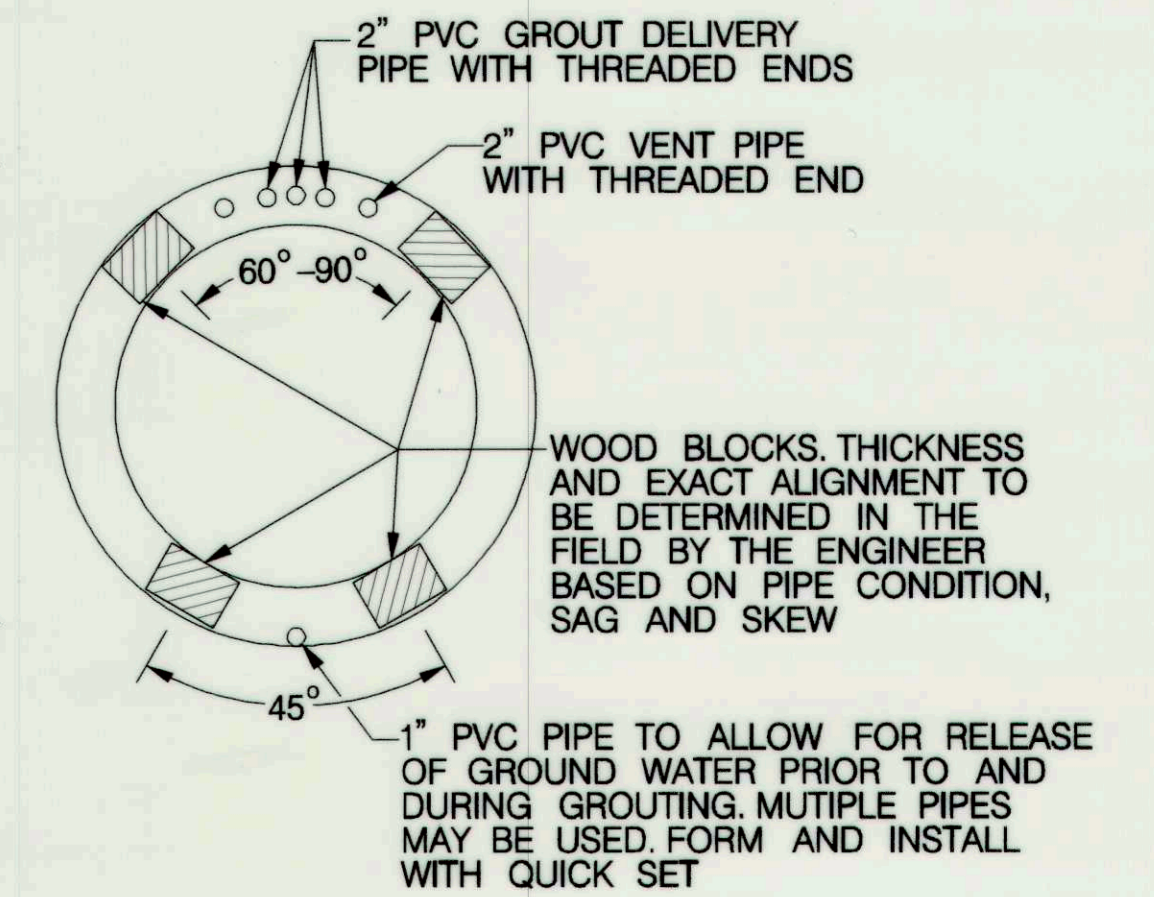
**SEALING THE ANNULAR SPACE**

SCALE: NOT TO SCALE

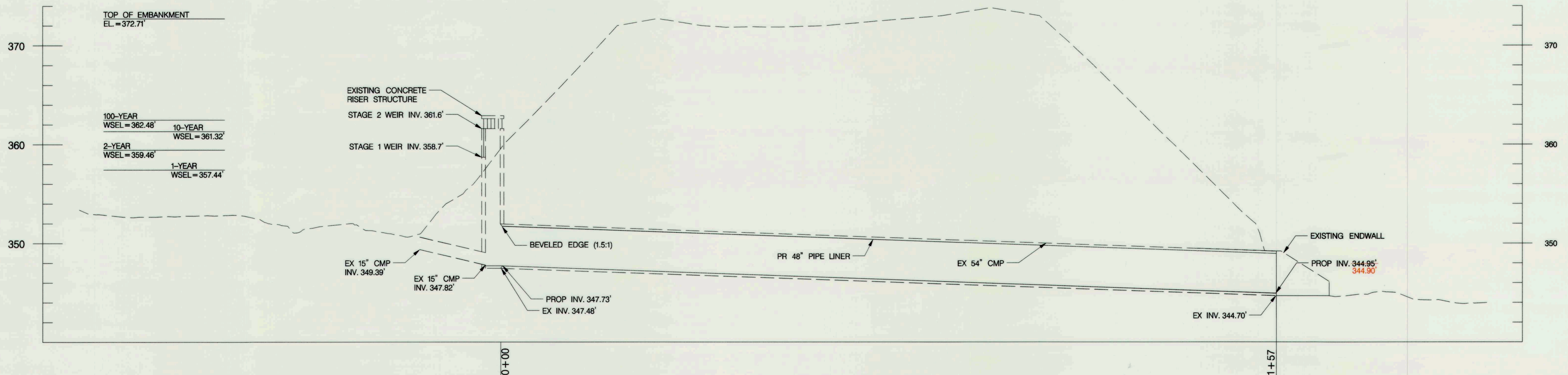


**BLOCKING DETAIL**

SCALE: NOT TO SCALE



AS-BUILT 1/25/13



**PRINCIPAL SPILLWAY PROFILE**

HORIZONTAL SCALE: 1" = 20'  
VERTICAL SCALE: 1" = 10'

MARYLAND DEPARTMENT OF THE ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION  
DAM SAFETY DIVISION

*V. P. Dalal* 4/12/12  
VISTY P. DALAL, SR. REGULATORY AND COMPLIANCE ENGINEER

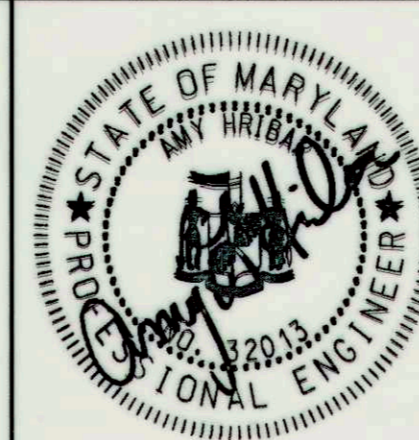
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

**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: AH	ALH	AS-BUILT	1/25/13
DRN: MR			
CHK: CB			
DATE: 3/28/12	BY	NO.	REVISION

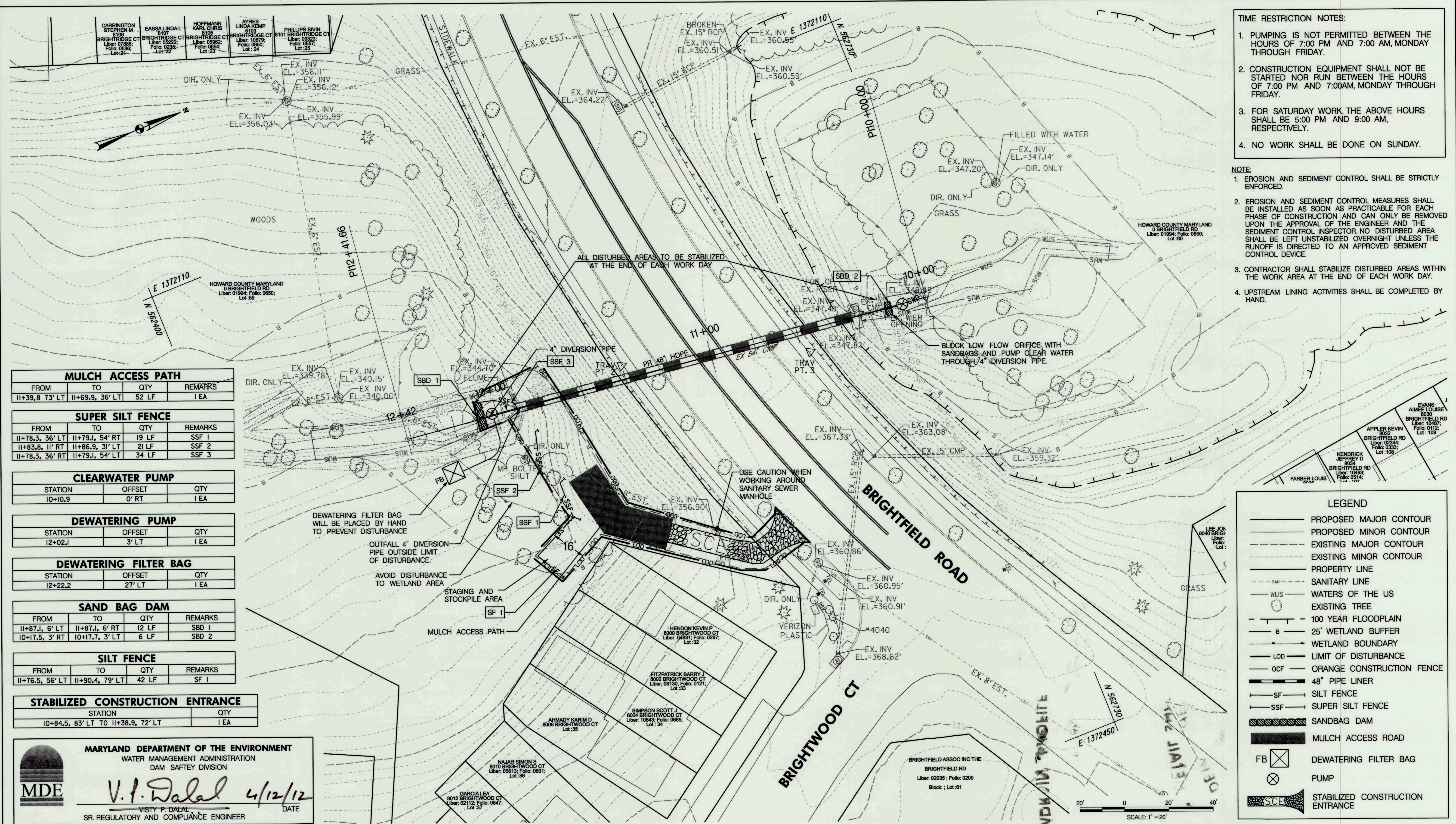
BRIGHTFIELD ROAD  
PRINCIPAL SPILLWAY LINING PROJECT  
CAPITAL PROJECT #D-1159  
HOWARD COUNTY  
**AS-BUILT PLAN**  
**STORMDRAIN PROFILE & DETAIL SHEET**

SCALE  
AS SHOWN  
SHEET  
3 OF 6

*Edy & Gould*  
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

4/19/12  
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. UPSTREAM LINING ACTIVITIES SHALL BE COMPLETED BY HAND.

**MULCH ACCESS PATH**

FROM	TO	QTY	REMARKS
11+39.8 73' LT	11+69.9, 36' LT	52 LF	1 EA

**SUPER SILT FENCE**

FROM	TO	QTY	REMARKS
11+78.3, 36' LT	11+79.1, 54' RT	19 LF	SSF 1
11+83.8, 11' RT	11+86.9, 31' LT	21 LF	SSF 2
11+78.3, 36' RT	11+79.1, 54' LT	34 LF	SSF 3

**CLEARWATER PUMP**

STATION	OFFSET	QTY
10+10.9	0' RT	1 EA

**DEWATERING PUMP**

STATION	OFFSET	QTY
12+02.1	3' LT	1 EA

**DEWATERING FILTER BAG**

STATION	OFFSET	QTY
12+22.2	27' LT	1 EA

**SAND BAG DAM**

FROM	TO	QTY	REMARKS
11+87.1, 6' LT	11+87.1, 6' RT	12 LF	SBD 1
10+17.5, 3' RT	10+17.7, 3' LT	6 LF	SBD 2

**SILT FENCE**

FROM	TO	QTY	REMARKS
11+76.5, 56' LT	11+90.4, 79' LT	42 LF	SF 1

**STABILIZED CONSTRUCTION ENTRANCE**

STATION	QTY
10+84.5, 83' LT TO 11+38.9, 72' LT	1 EA

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
 WATER MANAGEMENT ADMINISTRATION  
 DAM SAFETY DIVISION

*V. P. Dalal* 4/12/12  
 VISTY P. DALAL  
 SR. REGULATORY AND COMPLIANCE ENGINEER

**LEGEND**

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE
- SANITARY LINE
- WATERS OF THE US
- EXISTING TREE
- 100 YEAR FLOODPLAIN
- 25' WETLAND BUFFER
- WETLAND BOUNDARY
- LIMIT OF DISTURBANCE
- ORANGE CONSTRUCTION FENCE
- 48" PIPE LINER
- SILT FENCE
- SUPER SILT FENCE
- SANDBAG DAM
- MULCH ACCESS ROAD
- DEWATERING FILTER BAG
- PUMP
- STABILIZED CONSTRUCTION ENTRANCE

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

*Enders J. Lord*  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

4/12/12  
 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

DES: AH				
DRN: MR				
CHK: CB				
DATE: 3/28/12	BY	NO.	REVISION	DATE

**BRIGHTFIELD ROAD**  
 PRINCIPAL SPILLWAY LINING PROJECT  
 CAPITAL PROJECT #D-1159  
 HOWARD COUNTY

**EROSION AND SEDIMENT CONTROL PLAN**

SCALE: 1" = 20'

SHEET 4 OF 6



# 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 (.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

- OBTAIN MDE DAM SAFETY PERMIT (TRACKING NUMBER 201161123).
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK.
- 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)
- THE CONTRACTOR SHALL COORDINATE AN ON-SITE PRE-CONSTRUCTION MEETING WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, THE COUNTY PROJECT MANAGER, AND THE ENGINEER. (1 DAY)
- CONSTRUCT THE FOLLOWING PERIMETER CONTROLS AS SHOWN ON THE PLAN: STABILIZED CONSTRUCTION ENTRANCE, MULCH ACCESS PATH, SUPER SILT FENCE, AND SILT FENCE, CLEARING ONLY THE AREA NEEDED TO INSTALL THE E&S CONTROLS. (1 DAY)
- DURING A 5 DAY DRY FORECAST FROM THE NATIONAL WEATHER SERVICE, INSTALL THE SBD-1, SBD-2, CLEAR WATER PUMP, DEWATERING PUMP, AND FILTER BAG. (1 DAY)
- COMPLETE PIPE LINING AS SHOWN ON PLANS. (5 DAYS)
- REMOVE TEMPORARY CONSTRUCTION ACCESS AND GRADE TO FINAL ELEVATIONS REMOVING ALL RUTS. (2 DAYS)
- WHEN AREAS ARE FULLY STABILIZED REMOVE THE REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE ANY DISTURBED AREAS. (1 DAY)

## IN-CHANNEL PUMPING NOTES

- THE DISTURBED LENGTH SHALL NOT EXCEED THAT WHICH CAN BE COMPLETED IN ONE DAY. AT THE END OF EACH WORKDAY, 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 WHICH ARE INCLUDE ON THE PLANS.
- THE CONTRACTOR SHALL SIZE THE PUMP AND DIVERSION HOSES TO ACCOMMODATE A MINIMUM OF 206 GAL/MIN AND THE FLOWS ANTICIPATED DURING CONSTRUCTION IN THE CHANNEL SECTION.
- 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.
- NO CLAIMS WILL BE CONSIDERED FOR DELAYS RELATED TO WET CONDITIONS OR DETERIORATED SUB GRADE RESULTING FROM THE LACK OR PROPER MAINTENANCE OF AN EFFECTIVE TEMPORARY DEWATERING SYSTEM, DISTURBANCE OF THE SUB GRADE DUE TO POOR CONSTRUCTION PROCEDURES, OR FROM CONSTRUCTION WORK DURING UNFAVORABLE WEATHER CONDITIONS. THE CONTRACTOR SHALL BE AWARE OF WEATHER FORECASTS AND RAIN PREDICTIONS SO AS TO BE PROPERLY PREPARED TO MAINTAIN OR SHUT DOWN OPERATIONS WHEN APPROPRIATE.

## HOWARD SOIL CONSERVATION DISTRICT PERMANENT 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:

- 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.).
- 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

- 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).
- 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.
- 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.
- 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.
- 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.
- 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.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE	0.09 ACRES
AREA DISTURBED	0.09 ACRES
AREA TO BE ROOFED OR PAVED	0 SF
AREA TO BE VEGETATIVELY STABILIZED	0.09 ACRES
TOTAL CUT	0 CU. YDS.
TOTAL FILL	0 CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	SEE NOTE 12 BELOW
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.
- 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.
- 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:

- THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
- 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.
- THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
- 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 CINDERS, 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:


- 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.
- ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
- TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
- 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.

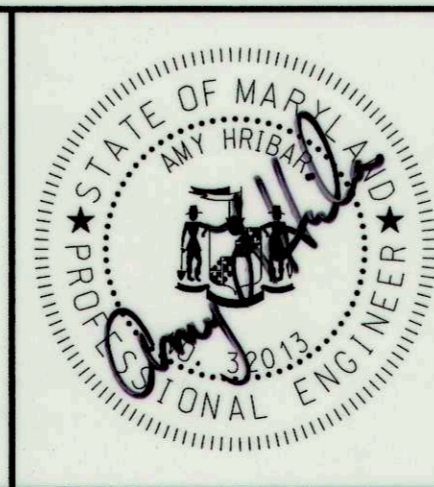
B. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION – SECTION VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. TOPSOIL APPLICATION

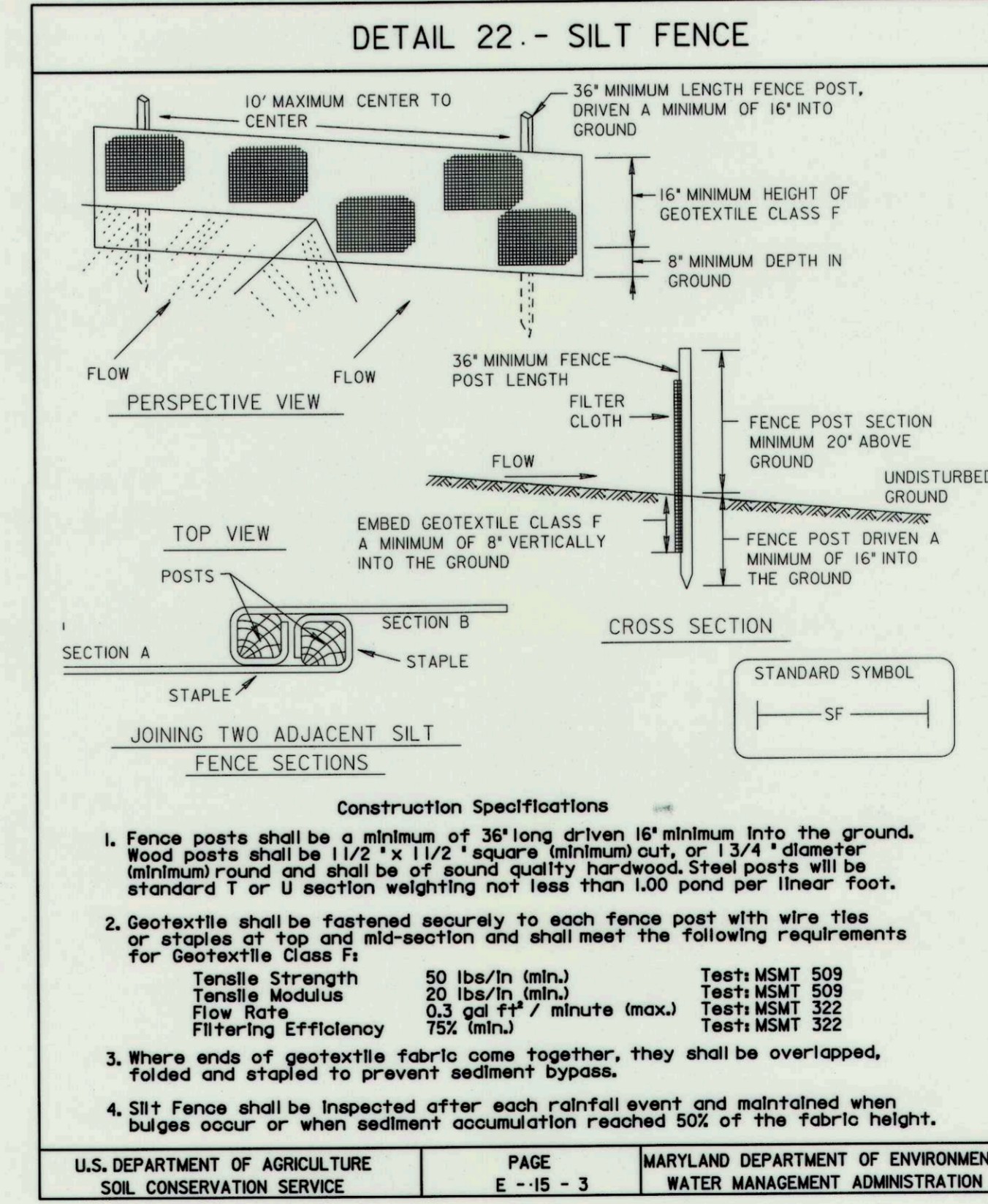
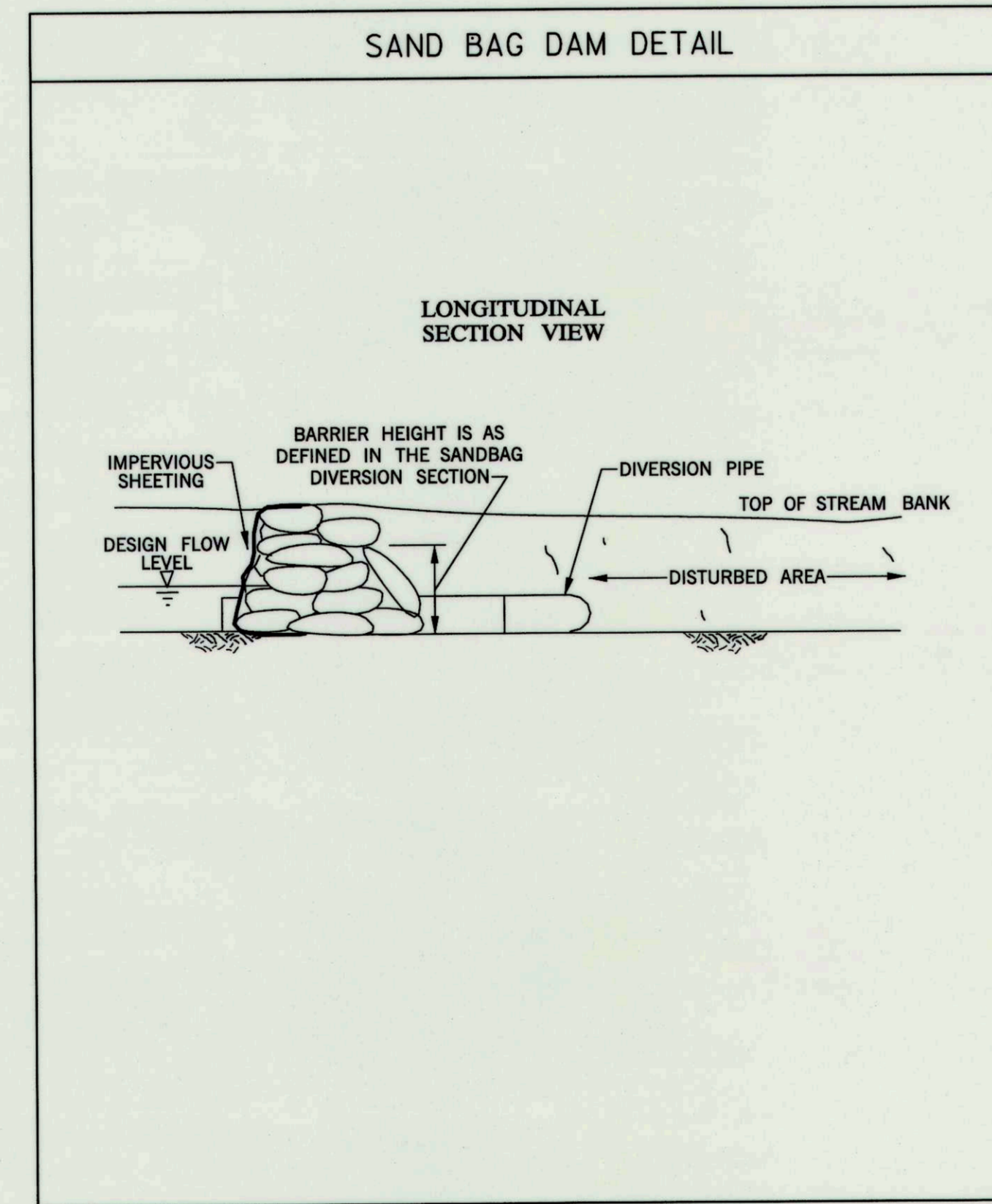
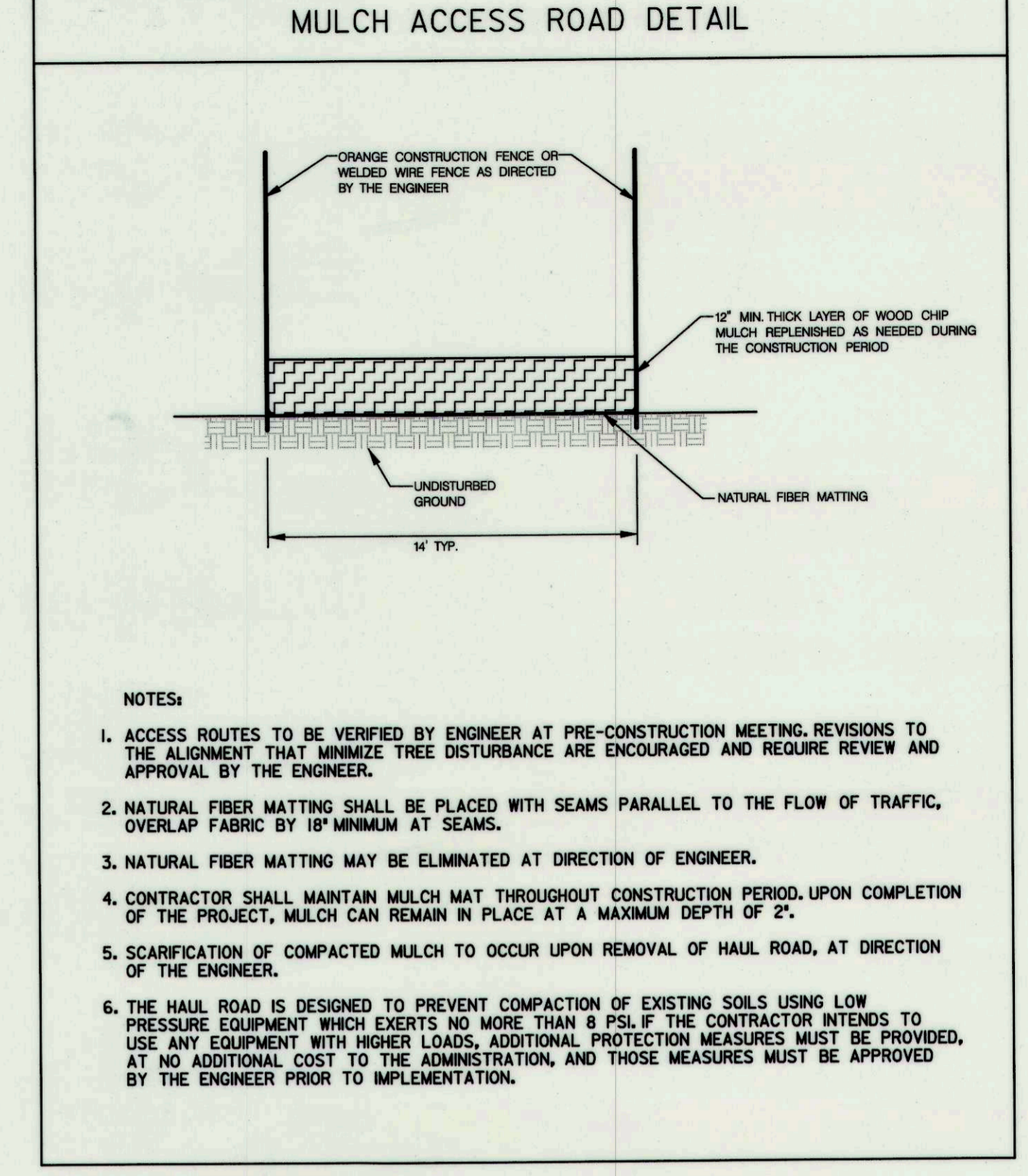
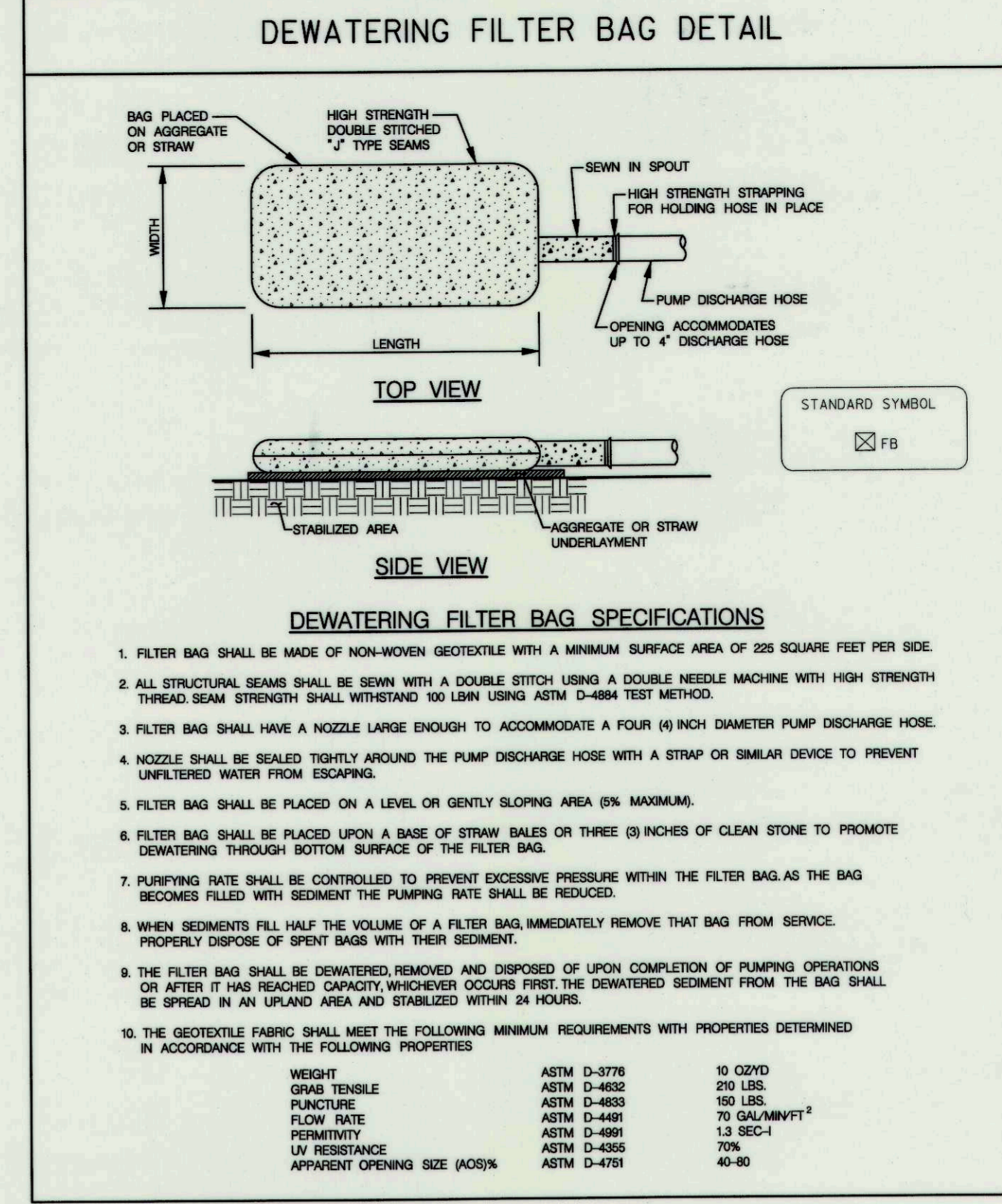
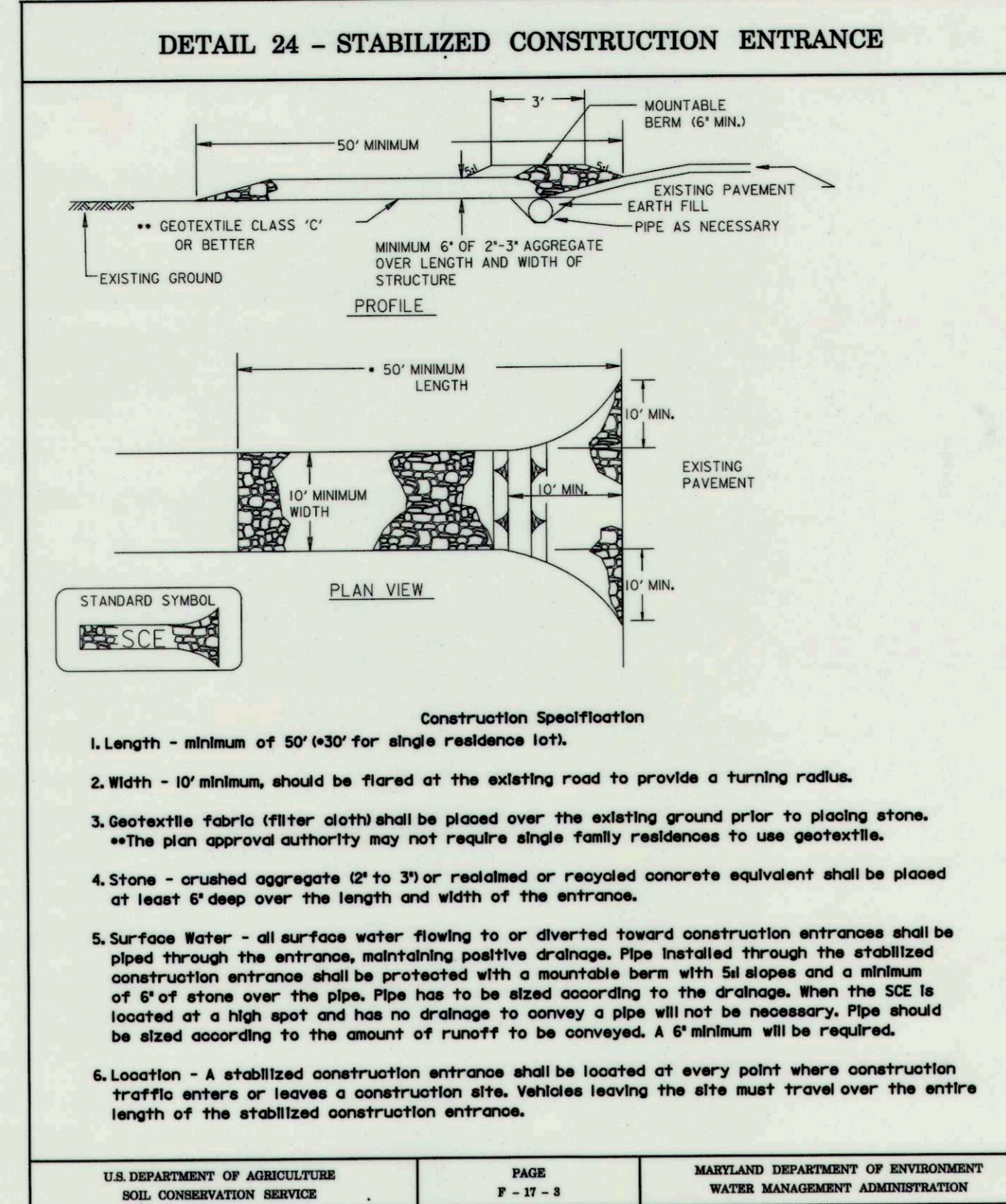
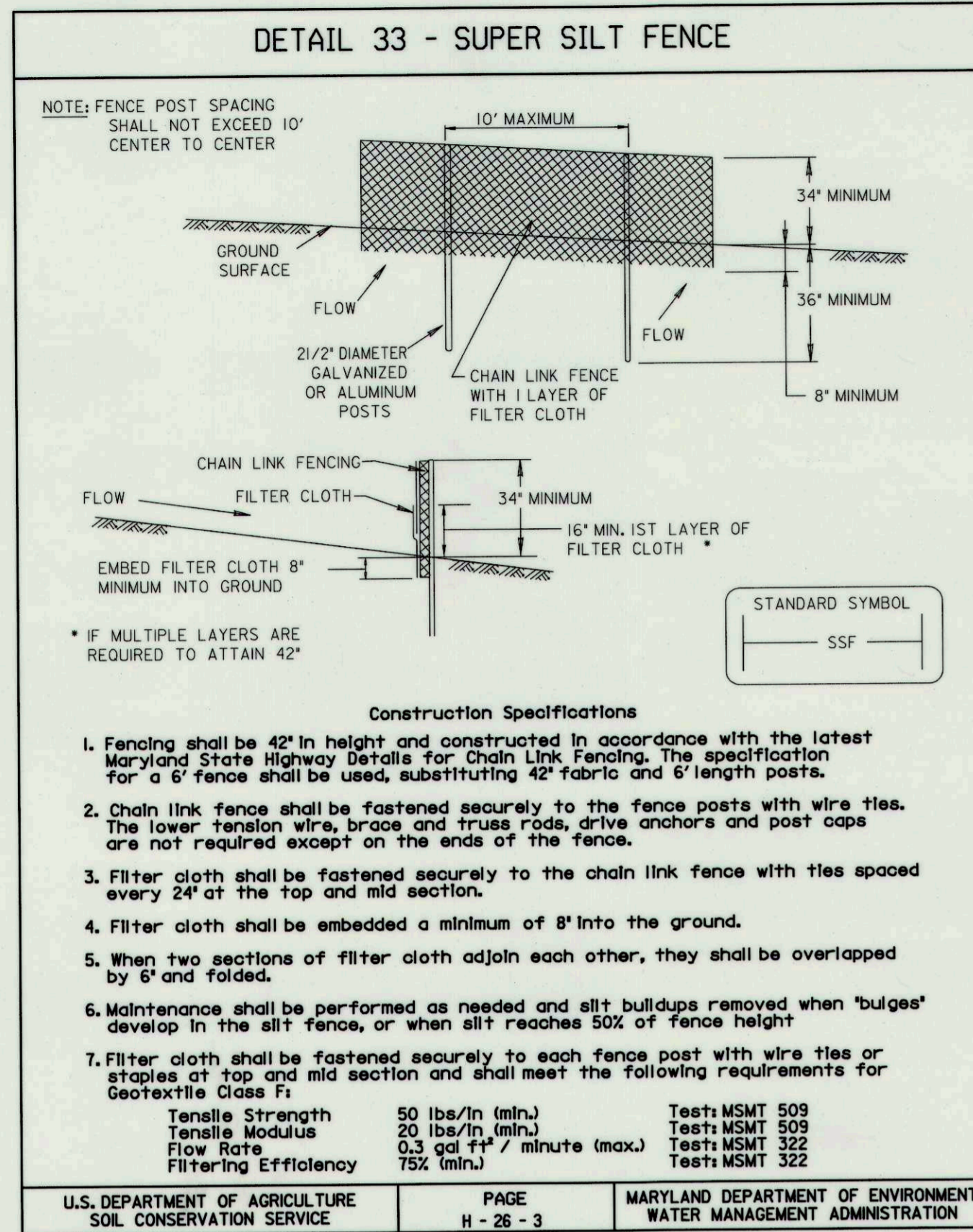
- WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
- GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" – 8" HIGHER IN ELEVATION.
- 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.
- 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.

 MARYLAND DEPARTMENT OF THE ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION  
DAM SAFETY DIVISION

*V. P. Dalal* 4/12/12  
VISTY P. DALAL, ENGINEER DATE  
SR. REGULATORY AND COMPLIANCE ENGINEER

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Evelyn E. Saut</i> 4/12/12 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE</p>	<p><b>McCormick Taylor</b> Engineers &amp; Planners Since 1946</p> <p>509 South Exeter Street 4th Floor Baltimore, Maryland 21202 (410) 662-7400</p>	<p><b>Howard County</b> 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></p>	<p>DES: AH</p> <p>DRN: MR</p> <p>CHK: CB</p> <p>DATE: 3/28/12</p>	<table border="1"> <tr> <td>BY</td> <td>NO.</td> <td>REVISION</td> <td>DATE</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	BY	NO.	REVISION	DATE					<p>BRIGHTFIELD ROAD PRINCIPAL SPILLWAY LINING PROJECT CAPITAL PROJECT #D-1159 HOWARD COUNTY</p> <p><b>EROSION AND SEDIMENT CONTROL NOTES</b></p>	<p>SCALE NOT TO SCALE</p> <p>SHEET 5 OF 6</p>
BY	NO.	REVISION	DATE												





### SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum)	(Maximum)
	Slope Length	Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Notes: In areas of less than 2% slope and sandy soils (USDA general classification system, soil class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

PAGE E - 15 - 3A

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MARYLAND DEPARTMENT OF THE ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION  
DAM SAFETY DIVISION

*V. P. Dalal* 4/12/12  
VISTY P. DALAL  
SR. REGULATORY AND COMPLIANCE ENGINEER

MDE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

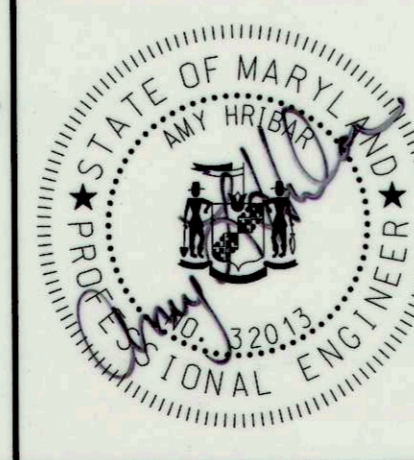
McCormick  
Engineers & Planners  
Since 1946  
Taylor

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

4/9/12  
DATE

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: AH				
DRN: MR				
CHK: CB				
DATE: 3/28/12	BY	NO.	REVISION	DATE

BRIGHTFIELD ROAD  
PRINCIPAL SPILLWAY LINING PROJECT  
CAPITAL PROJECT #D-1159  
HOWARD COUNTY

EROSION AND SEDIMENT  
CONTROL DETAIL SHEET

SCALE  
NOT TO  
SCALE

SHEET  
6 OF 6