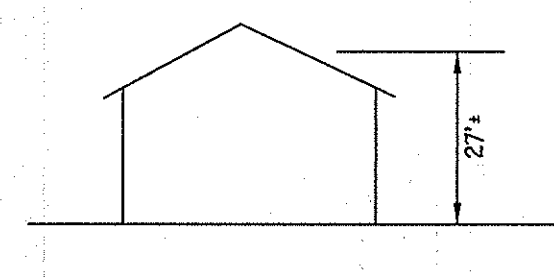
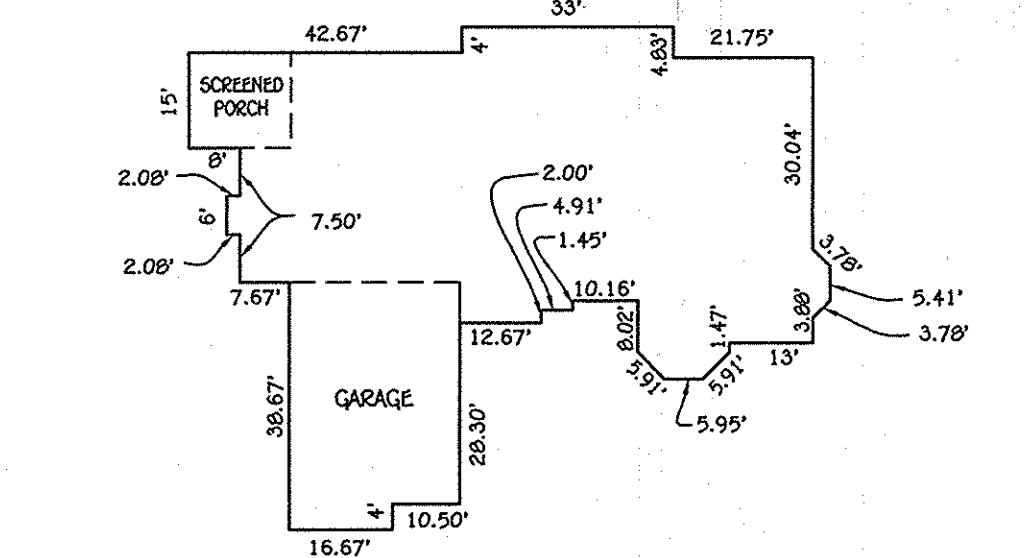


SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT AND SEDIMENT & EROSION CONTROL PLAN
3	SEDIMENT & EROSION CONTROL DETAILS & NOTES

STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
SITE	1,097	+1,174	MICROBIORETENTION (M-6) & NON-ROOFTOP DISCONNECTION (N-2)
TOTAL	1,097	+1,174	

* ESDV PROVIDED = 299 + 915 = 1,174 CU.FT.
 915 CU.FT. BY MICRO-BIORETENTION
 299 CU.FT. BY NON-ROOFTOP DISCONNECTION

SITE AREA = 1.14 ACRES
 RCN = 95.0
 TARGET Pe = 1.2"



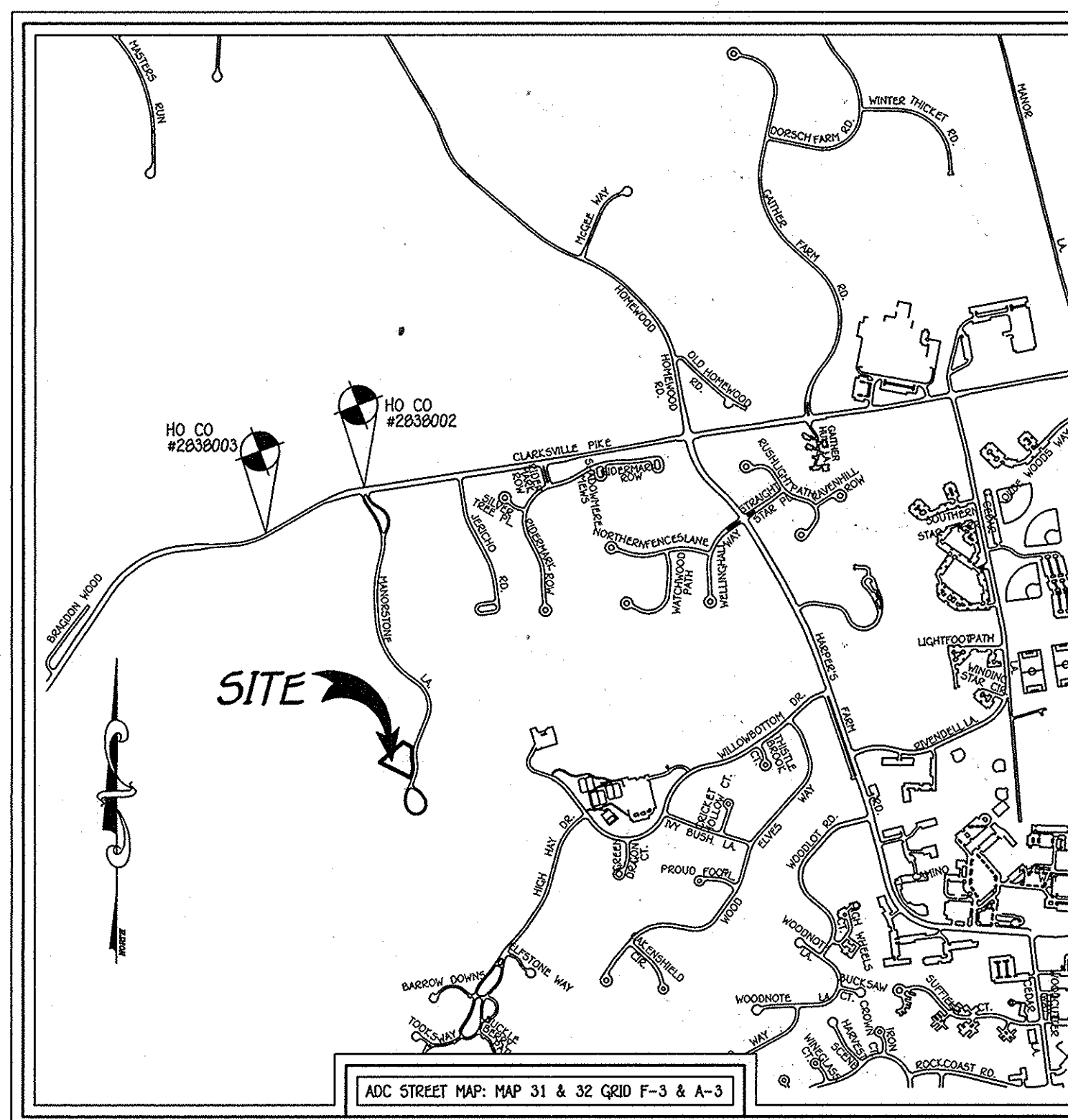
HOUSE DETAIL

SCALE: 1" = 30'

SITE DEVELOPMENT PLAN VILLAGE OF HARPERS CHOICE SECTION 5, AREA 9, PHASE 2 LOT 11

TAX MAP No. 29 GRID No. 15 PARCEL NO. 370
 FIFTEENTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
---	SILT FENCE
---	SUPER SILT FENCE
---	LIMIT OF DISTURBANCE
---	EXISTING FENCE LINE
---	EX. LIMIT OF TREES AND FOREST
---	PROPOSED LANDSCAPING
---	EXISTING TREES
---	PROPOSED GRAVEL / RIPRAP
---	15% TO 25% SLOPES
---	25% OR GREATER SLOPES
---	SOIL LINES AND TYPES
---	EXISTING STREAM BANKS



VICINITY MAP

SCALE: 1" = 1200'

GENERAL NOTES

- SUBJECT PROPERTY IS ZONED NT PER THE 10/06/2013 COMPREHENSIVE ZONING PLAN.
- TOTAL PROJECT AREA = 1.14 AC.
 AREA OF PLAN SUBMISSION = 1.14 AC.
 LIMIT OF DISTURBED AREA = 0.65 AC.
 EXISTING USE = RESIDENTIAL (SINGLE FAMILY DETACHED)
 PROPOSED USE = RESIDENTIAL (SINGLE FAMILY DETACHED)
 LOT COVERAGE (PRINCIPAL STRUCTURE) = 9.9% (15% MAXIMUM)
 NUMBER OF PARKING SPACES REQUIRED = 2.5 PER UNIT = 2.5 SPACES
 NUMBER OF PARKING SPACES PROPOSED = 4 SPACES (3 GARAGE SPACES AND 1 DRIVEWAY).
 DEED REFERENCE: LIBER 4573, FOLIO 505.
 LOCATION: 11540 MANORSTONE LANE, COLUMBIA, MARYLAND 21044.
 PREVIOUS OPZ FILE NUMBERS: CONT# 34-3307-D, WP#4-20, SP#92-21, WP#92-21B, F#93-141, FDP#3054-A-1317 THRU 1319; F#94-011, PLAT# 11366; ECP-14-056.
- THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
- THIS PROPERTY IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.
- THIS IS PART OF A PLANNED UNIT DEVELOPMENT WHICH HAD PRELIMINARY PLAN APPROVAL BEFORE DECEMBER 31, 1992.
- PER FDP-194-A, NO LESS THAN 4 OFF-STREET PARKING SPACES CONTAINING A MINIMUM AREA OF 180 SQUARE FEET PER EACH PARKING SPACE SHALL BE PROVIDED.
- PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS SITE. WATER AND SEWER SERVICE WILL BE PROVIDED BY EXISTING CONNECTIONS, CONTRACT #34-3307-D. HCE SHOWN IS BASED ON WATER & SEWER CONTRACT.
- SOIL BOUNDARIES ARE BASED ON NCCS WEBB/SOIL SURVEY.
- BOUNDARY SHOWN HEREON IS BASED ON RECORD PLAT #11366.
- TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD SURVEY BY SHANBERGER AND LANE AND SUPPLEMENTED WITH A FIELD SURVEY CONDUCTED BY FISHER, COLLINS & CARTER, INC. DATED JANUARY, 2014 AND HOWARD COUNTY GIS TOPOGRAPHY AT 5' CONTOUR INTERVAL INTERPOLATED FOR 2' CONTOUR INTERVAL.
- THERE ARE NO FLOODPLAINS, WETLANDS, WETLAND SCIENCES, STREAMS, HISTORIC STRUCTURES OR CEMETERIES ON THIS SITE.
- NO WETLANDS EXIST PER FIELD INVESTIGATION BY ECO-SCIENCE PROFESSIONALS DATED FEBRUARY 2014.
- STEEP SLOPES AND STREAM BUFFER EXIST ON-SITE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

STATE HIGHWAY ADMINISTRATION	410.531.5533
BGE (CONTRACTOR SERVICES)	410.850.4820
BGE (UNDERGROUND DAMAGE CONTROL)	410.787.9068
MISS UTILITY	1.800.257.7777
COLONIAL PIPELINE COMPANY	410.795.1390
HOWARD COUNTY, DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES	410.313.4900
HOWARD COUNTY HEALTH DEPARTMENT	410.313.2240
AT&T	1.800.252.1133
VERIZON	1.800.743.0033/410.224.9210
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- 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.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY IN ADDITION TO MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE RECORD DRAWINGS, AND MISS UTILITY MARKINGS. APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES.
- ALL TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLING TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING REQUIREMENTS:
 - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE);
 - SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MINIMUM);
 - GEOMETRY - MAXIMUM 14% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS;
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING);
 - ORANGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE;
 - MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- ALL DITCHES AND SWALES WILL HAVE EROSION CONTROL MATTING.
- STORMWATER MANAGEMENT (SWM) IS PROVIDED FOR THIS PROJECT. THE ON-SITE Pe OF 1.2" IS BEING TREATED THROUGH USE OF MICRO-BIORETENTION AND NON-ROOFTOP DISCONNECTION.
- IN ACCORDANCE WITH FDP PHASE 194 (VOHC, SEC 5, AREA 9 #3054A1317), BAY WINDOWS OR CHIMNEYS NOT MORE THAN 10 FEET IN WIDTH MAY PROJECT MORE THAN 4 FEET INTO ANY SETBACK; PORCHES OR DECKS MAY PROJECT NOT MORE THAN 3 FEET INTO THE FRONT OR REAR YARD SETBACKS. EXTERIOR BASEMENT AREAWAYS/STARWAYS MAY NOT ENCRUCH INTO ANY 8'x8' DRIVEWAY ENTRANCE TO BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY, DESIGN MANUAL IV, STANDARD DETAIL 2-6.05.
- LOT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS SINCE IT IS A PART OF THE PLANNED UNIT DEVELOPMENT OF THE VILLAGE OF HARPERS CHOICE, SECTION 5, AREA 9. AN FDP IS ON FILE.
- SEWER HOUSE CONNECTION (SHC) TO BE AT 2.0% UNLESS OTHERWISE NOTED. CLEANOUTS ARE TO BE PROVIDED AT ALL BENDS.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. THIS LOT IS EXEMPT FROM THE PROVISIONS OF THE LANDSCAPE MANUAL SINCE IT IS AN EXISTING LOT OF RECORD.
- 95% COMPACTION IN FILL AREAS SHALL BE IN ACCORDANCE WITH ASTM T-180 STANDARDS.
- A SOIL BORING IS REQUIRED FOR THIS PROJECT. ONLY VERIFICATION OF DEPTH TO GROUNDWATER OR ROCK. NO ROCK OR WATER WAS OBSERVED DURING EXCAVATION.
- STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. NON-STRUCTURAL PRACTICES IN ACCORDANCE WITH CHAPTER 5 ARE BEING UTILIZED.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S), OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.

Table B.4. Materials Specifications for Micro-Bioretenion, Rain Gardens & Landscape Infiltration

Material	Specification	Size	Notes
Plantings	see Appendix A Table A.4	n/a	plantings are site-specific
Planting soil (12" to 4" deep)	loamy sand 60-65% compost 35-40% or sandy loam 30% coarse sand 30% compost 40%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel diaphragm	pea gravel: ASTM-D-440	No. 8 or No. 9 (1/8" to 3/8")	
Curbin drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile	n/a	n/a	Pc Type 1 nonwoven
Gravel (underdrains and infiltration berms)	ASTM H-43	No. 57 or No. Aggregate (3/8" to 3/4")	
Underdrain piping	F 750, Type P5 28 or ASTM H-276	4" to 6" rigid schedule 40 PVC or SDR35	slotted or perforated pipe: 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipe; not necessary underdrain pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f = 3500 psi at 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved state or local standards requires design drawings and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.6.2.1, vertical loading H-10 or H-20; allowable horizontal loading (based on soil pressure); and analysis of potential cracking
Sand	ASTM-H-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Gneiss (ASTM) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dump" can be used for sand.

BENCHMARK INFORMATION

B.M.#1 - HOWARD COUNTY CONTROL STATION #2838002 - HORIZONTAL - NAD '27)
 N 509424.956
 E 825,625.556
 ELEVATION = 434.527 - VERTICAL - (NAVD '27)

B.M.#2 - HOWARD COUNTY CONTROL STATION #2838003 - HORIZONTAL - (NAD '27)
 N 509916.632
 E 824,630.474
 ELEVATION = 367.204 - VERTICAL - (NAVD '27)

SITE ANALYSIS DATA CHART

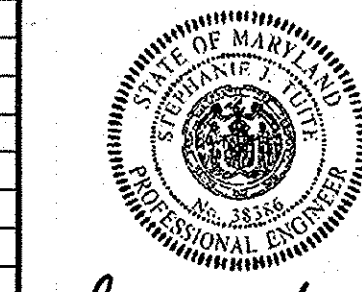
- TOTAL AREA OF THIS SUBMISSION = 1.140 AC.
- LIMIT OF DISTURBED AREA = 0.74 AC. (32,031 SQ.FT.)
- PRESENT ZONING DESIGNATION = NT
(PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
- PROPOSED USE: RESIDENTIAL
- BUILDING COVERAGE OF SITE: N/A
- PREVIOUS HOWARD COUNTY FILES: F-94-11, CONT# 34-3307-D, WP-94-20, SP-92-21, WP-92-21B, F-93-141, FDP-3054-A-1317 THRU 1319, ECP-14-056.
- TOTAL AREA OF FLOODPLAIN LOCATED ON SITE: 0.00 AC.
- TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.69 AC. (25% SLOPES OR GREATER = 0.30 AC.)
- TOTAL AREA OF ERODIBLE SOILS = 0.003 AC.
- TOTAL AREA OF STREAMS AND STREAM BUFFERS = 0.09 AC.
- TOTAL AREA OF WETLANDS (INCLUDING BUFFERS) = 0.00 AC.
- TOTAL AREA OF FOREST = 1.14 AC. (0.51 ACRES OF TREES TO BE RETAINED)
- TOTAL GREEN OPEN AREA = 0.44 AC.
- TOTAL IMPERVIOUS AREA = 0.22 AC.

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
11	11540 MANORSTONE LANE

DESIGN BY: SJT
 DRAWN BY: AF/SJT
 CHECKED BY:

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. 38366, EXPIRATION DATE: 01/12/2016.



Stephen Tuttle
 PROFESSIONAL ENGINEER
 DATE: _____

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer: *Stephen Tuttle* Date: *6/4/14*

DEVELOPER'S CERTIFICATE

"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer: *John P. ...* Date: *6/24/14*

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Signature of Howard SCD: *John K. Robertson* Date: *6/5/14*

OWNERS	DEVELOPER
RONALD M. STOUTINGTON & CHARLOTTE STOUTINGTON 9497 SYLVAN DELL COLUMBIA, MD 21045 410-391-9267	HAGAN & HAMILTON 20 E. TIMONUM ROAD, SUITE 209 TIMONUM, MARYLAND 21093 410-561-1004 ATTN: PATRICK HAGAN

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: *Doreen ...* Date: *8-1-14*

Signature: *John ...* Date: *7-31-14*

Signature: *J.P.* Date: *7-29-14*

PROJECT	SECTION/AREA	PARCEL NO.
VILLAGE OF HARPERS CHOICE	5/9	370

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
11367-11368	15	NT	29	FIFTEENTH	605502

WATER CONTRACT	SEWER CONTRACT
#34-3307-D	#34-3307-D

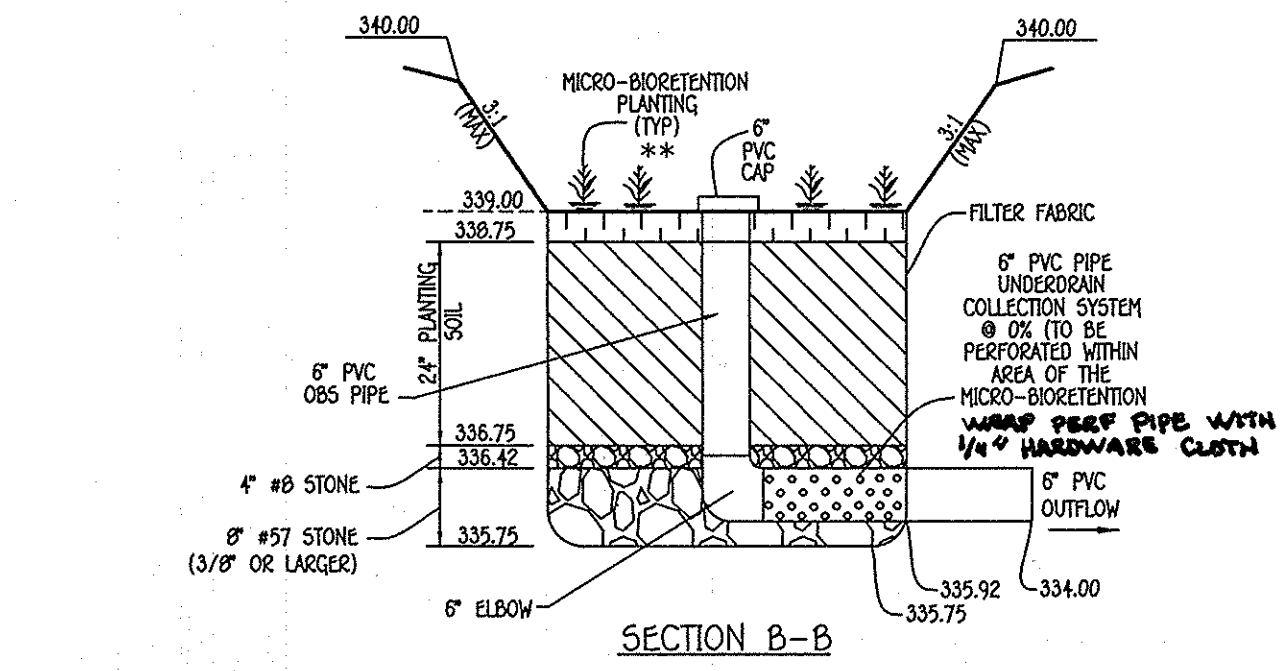
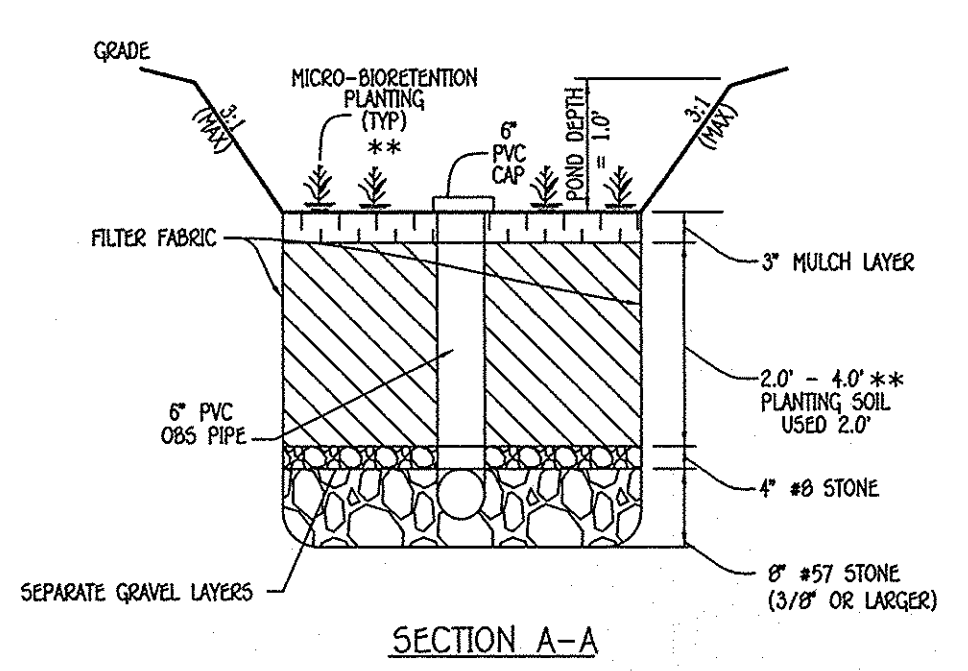
TITLE SHEET

VILLAGE OF HARPERS CHOICE

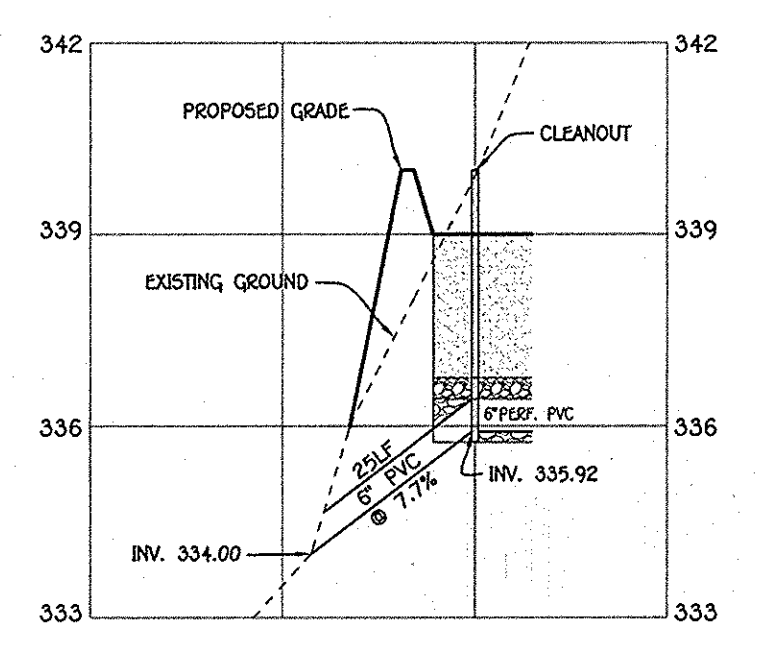
SECTION 5, AREA 9, PHASE 2
 LOT 11

ZONED NT
 TAX MAP No. 29 GRID No. 15 PARCEL No. 370
 FIFTEENTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: JUNE, 2014
 SHEET 1 OF 3

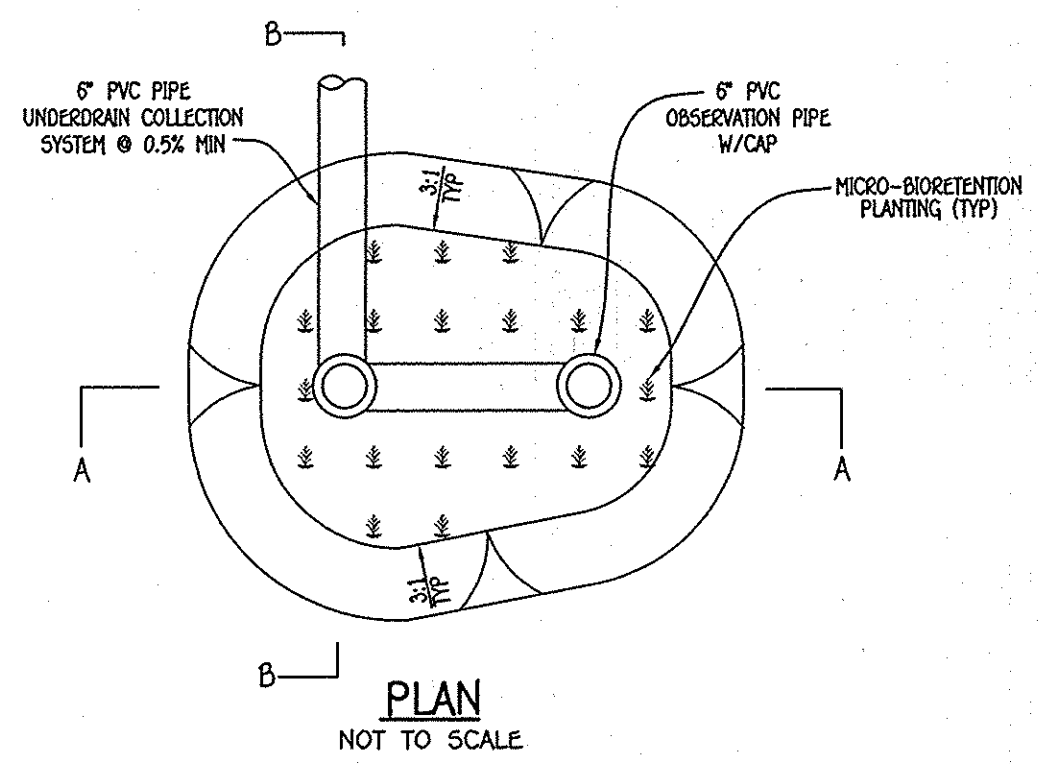
DATE	DESCRIPTION	REVISION BLOCK



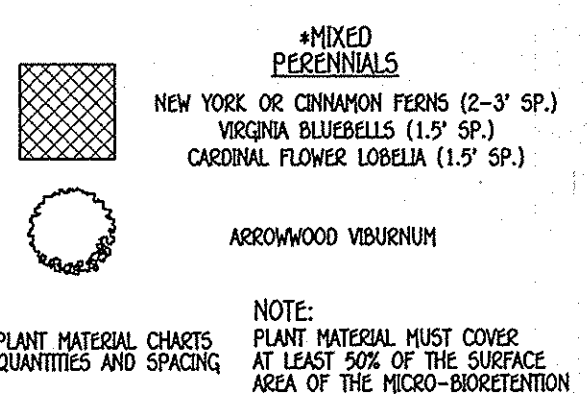
MICRO-BIORETENTION DETAIL (M-6)
NOT TO SCALE



UNDERDRAIN OUTFALL DETAIL
HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=3'



PLAN
NOT TO SCALE

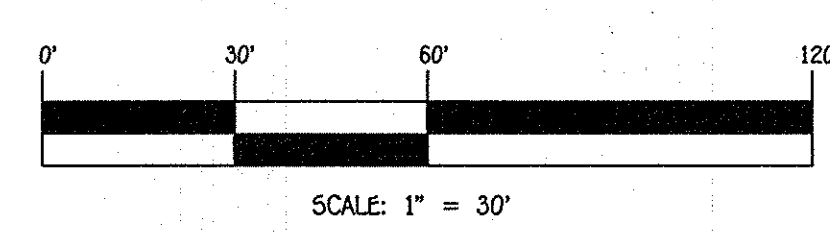


MICRO-BIORETENTION PLANTING DETAIL
NOT TO SCALE

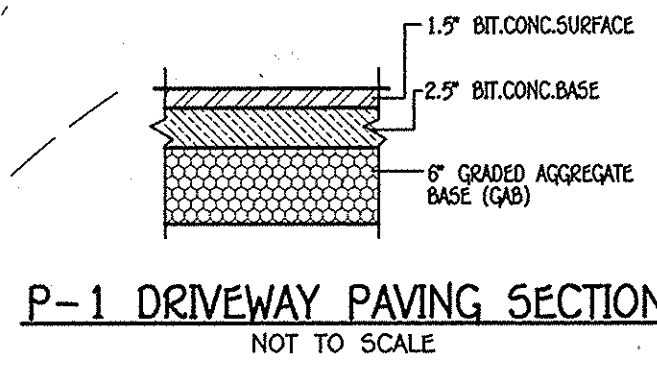
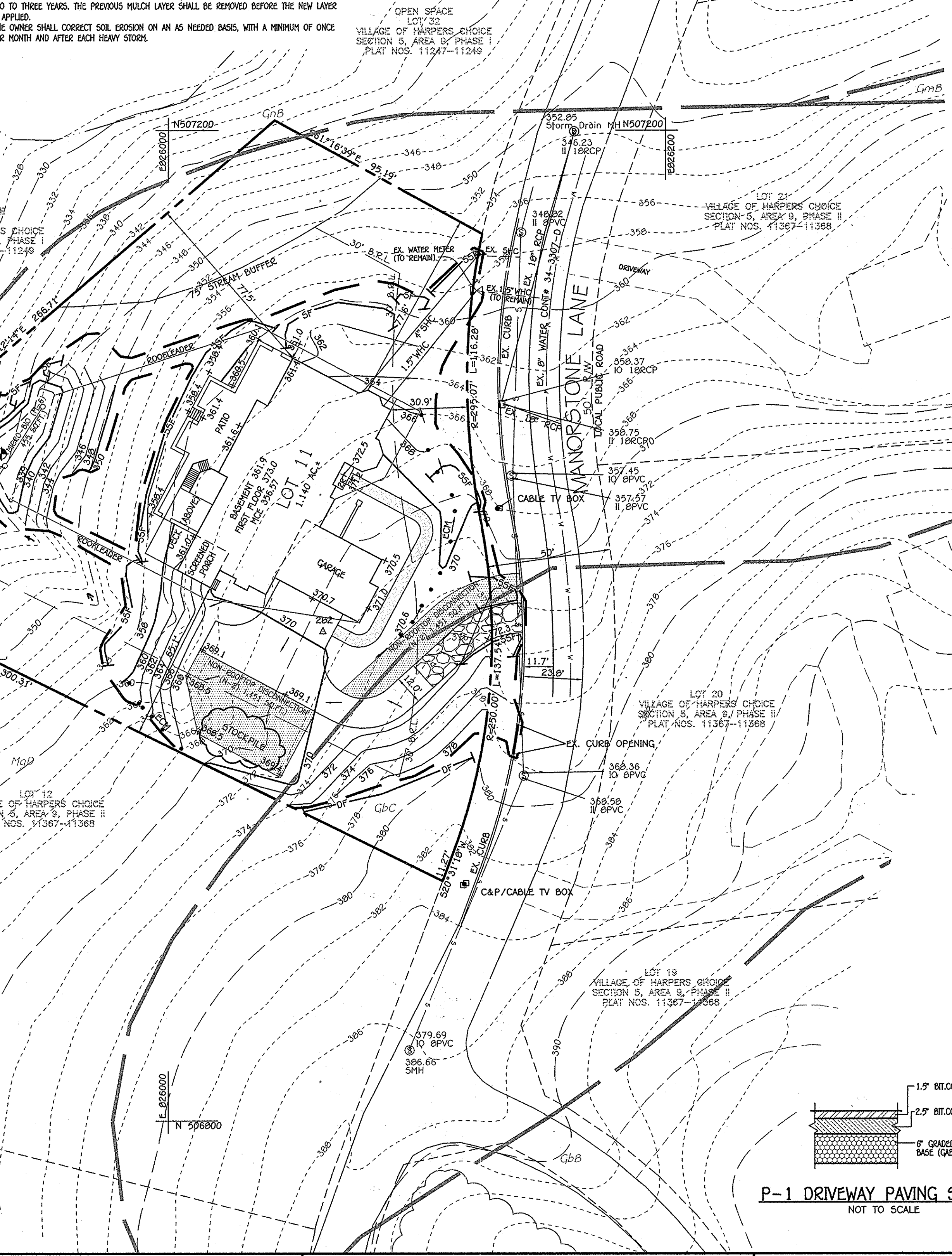
OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- B. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- C. THE OWNER SHALL INSPECT THE MULCH OF EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

MICRO-BIORETENTION PLANT MATERIAL		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
50	MIXED PERENNIALS	1.5 TO 3.0 FT.
1	ARROWWOOD VIBURNUM	PLANT AWAY FROM INFLOW LOCATION



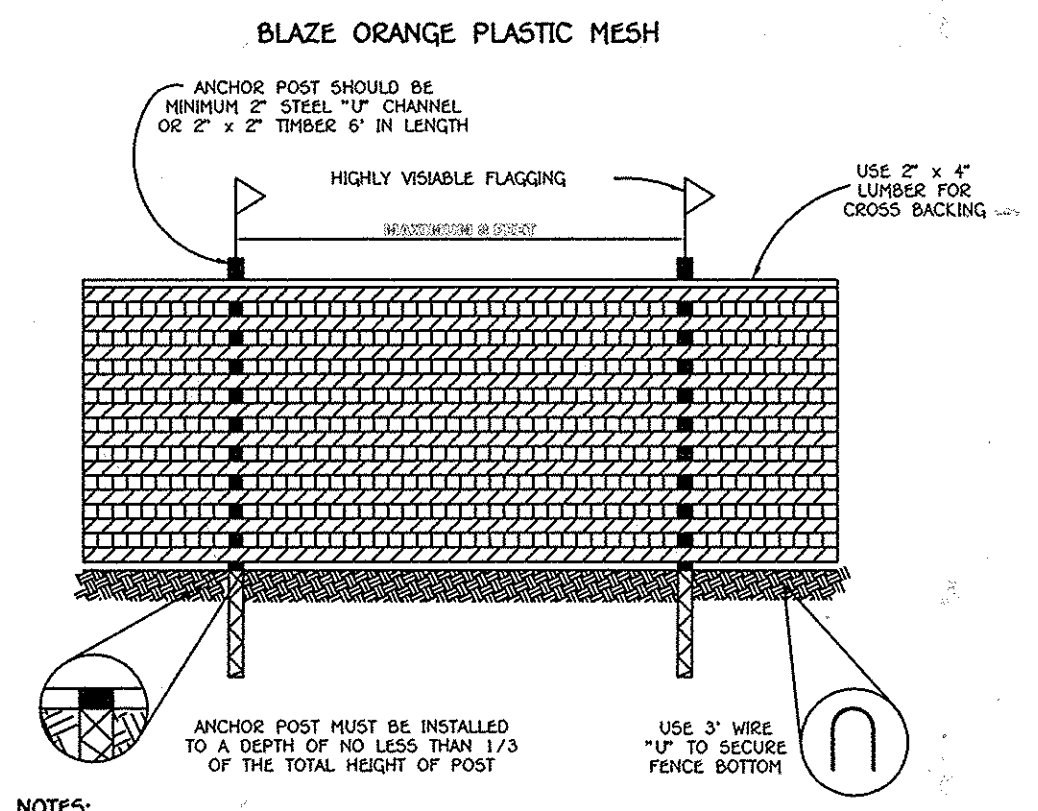
PLAN VIEW
SCALE: 1" = 30'



P-1 DRIVEWAY PAVING SECTION
NOT TO SCALE

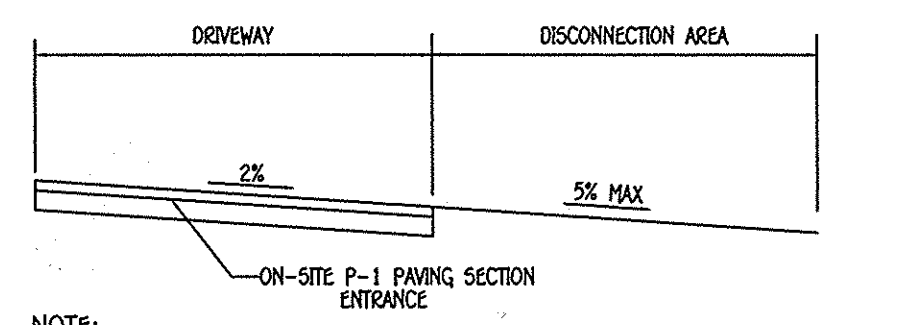
SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
GbB	Gladstone loam, 3 to 8 percent slopes	B	.20
GbC	Gladstone loam, 8 to 15 percent slopes	B	.20
GmB	Glenville silt loam, 3 to 8 percent slopes	C	.37
GnB	Glenville-Balle silt loams, 0 to 8 percent slopes	C	.37
MdD	Manor loam, 15 to 25 percent slopes	B	.24
MgD	Manor-Bannertown sandy loams, 15 to 25 percent slopes, rocky	B	.24

- NOTE: 1. LOT COVERAGE (PRINCIPAL STRUCTURE) = 9.9% (15% MAXIMUM)
2. EITHER TEMPORARY OR PERMANENT STABILIZATION IS TO BE PROVIDED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE INTERVALS REQUIRED BY THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL WHICHEVER IS MORE STRINGENT.
3. SPOIL FROM THE TRENCHING OPERATION IS REQUIRED TO BE PLACED ON THE UPHILL SIDE OF THE TRENCH.



- NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMMERS SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL
NOT TO SCALE



DRIVEWAY - CROSS SLOPE SECTION
NOT TO SCALE

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED, DISCONNECTION OF NONROOFTOP RUNOFF (N-2)

1. MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA IN COMMERCIAL AREAS FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

DESIGN BY: SJT
DRAWN BY: AF/SJT
CHECKED BY:

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
(410) 461-2895

DATE	DESCRIPTION	REVISION

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. 38386, EXPIRATION DATE: 01/12/2016.

ENGINEER'S CERTIFICATE
I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Stephanie Tuite 6/4/14
Signature of Engineer Date

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

John K. Robertson 6/15/14
Signature of Developer Date

Stephanie Tuite 6/27/14
Signature of Developer Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John L. Lawrence 8-1-14
Director - Department of Planning and Zoning Date

Chief, Division of Land Development *John J. ...* 7-31-14 Date
Chief, Development Engineering Division *John J. ...* 7-23-14 Date

PROJECT: VILLAGE OF HARPERS CHOICE SECTION/AREA 5/9 PARCEL NO. 370

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
11367-11368	15	NT	29	FIFTEENTH	605502

WATER CONTRACT #34-3307-D SEWER CONTRACT #34-3307-D

OWNERS
RONALD M. STOUGHTON & CHARLOTTE STOUGHTON
9457 SVLAN DELL
COLUMBIA, MD 21045
410-381-9267

DEVELOPER
HAGAN & HAMILTON
20 E. THOMNUM ROAD, SUITE 209
THOMNUM, MARYLAND 21093
410-561-1004
ATTN: PATRICK HAGAN

SITE DEVELOPMENT AND SEDIMENT & EROSION CONTROL PLAN

VILLAGE OF HARPERS CHOICE
SECTION 5, AREA 9, PHASE 2
LOT 11

ZONED NT
TAX MAP No. 29 GRID No. 15 PARCEL No. 370
FIFTEENTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JUNE, 2014
SHEET 2 OF 3

SDP-14-060

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

A. Soil Preparation

1. Temporary Stabilization

a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows, or rollers mounted on construction equipment. After the soil is loosened, it must be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

2. Permanent Stabilization

a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:

- Soil pH between 6.0 and 7.0.
- Soluble salts less than 500 parts per million (ppm).
- Soil contains less than 40 percent clay (fine grained material greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lowgrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
- Soil contains 1.5 percent minimum organic matter by weight.
- Soil contains sufficient pore space to permit adequate root penetration.

b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.

c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

d. Mix soil amendments as specified on the approved plan or as indicated by the results of a soil test.

e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Make lawn areas to smooth the surface, and topsoil to a depth of 2 to 3 inches. Topsoil should be applied to the surface. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, high salt content, or are otherwise unsuitable for vegetation.

2. Topsoil salvaged from an existing site may be used provided 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-NRCS.

3. Topsoiling 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.

4. Areas having slopes steeper than 2:1 require special consideration and design.

5. Topsoil Specifications: Topsoil to be used as topsoil must meet the following criteria:

- Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must be a mixture of contrasting textures and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, trash, or other materials larger than 1 1/2 inches in diameter.
- Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, filaria, or others as specified.
- 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.

6. Topsoil Application

- Erosion and sediment control practices must be maintained when applying topsoil.
- Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to 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 must be corrected in order to prevent the formation of depressions or water ponds.
- Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil analysis plans for engineering purposes may also be used for chemical analyses.

2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Mixtures may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must be delivered to the site fully baled according to the applicable laws and must bear the name, trade or trademark and identity of the producer.

3. Lime materials must be ground limestone (hydrated or burnt lime) but shall not be substituted except when hydroxydized, which contains at least 50 percent total oxide (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #200 mesh sieve.

4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.

5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 6 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

The application of seed and mulch to establish vegetative cover.

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

A. Seeding

- Specifications
 - All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
 - Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding method must be applied when the ground thaws.
 - Incubators: The incubator for testing legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Incubators must not be used later than the date indicated on the container. Add fresh incubators as directed on the package. Use four times the recommended rate when hydroxydized. Note: It is very important to keep incubators cool, as possible until used. Temperatures above 70 to 80 degrees Fahrenheit can weaken bacteria and make the incubator less effective.
 - Soil of seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
- Application
 - Dr Seeding: This includes use of conventional drag or broadcast spreaders.
 - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.
 - Drill or Outdragger Seeding: Mechanized seeders that apply and cover seed with soil.
 - Outdragger seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm planting.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - Incubators: Apply seed uniformly with hydroxydized legume (slurry including seed and fertilizer).
 - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P₂O₅ (phosphorus), 200 pounds per acre; K₂O (potassium), 200 pounds per acre.
 - Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroxydizing). Normally, not more than 2 tons are applied by hydroxydizing at any one time. Do not use burnt or hydrated lime when hydroxydizing.
 - Mix seed and fertilizer on site and seed immediately and without interruption.
 - When hydroxydizing do not incorporate seed into the soil.
- Mulching
 - Mulch Materials (in order of preference):
 - Straw conditioned through wind, eye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, coated, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
 - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical state.

B. Sod

To provide quick cover on disturbed areas (2:1 grade or flatter).

- General Specifications
 - Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
 - Sod must be machine cut of uniform soil thickness to 3/4 inch, plus or minus 1/8 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
 - Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the sod.
 - Sod must not be harvested or transported with moisture content (percentage dry of wet) may adversely affect its survival.
 - Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transported within this period must be approved by an agronomist or soil scientist prior to its installation.
- Sod Installation
 - During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
 - Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints between rows. Ensure that sod is not stretched or overlapped and that all joints are buffed tight in order to prevent weeds which would cause air drying of the sods.
 - Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
 - Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping, and irrigating for any piece of sod within eight hours.
- Sod Maintenance
 - In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
 - After the first week, sod watering is required as necessary to maintain adequate moisture content.
 - Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Mow at a grass height of at least 3 inches unless otherwise specified.

TEMPORARY SEEDING NOTES (B-4-4)

Definition

To establish disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3A.1.B and maintain until the next seeding season.

Temporary Seeding Summary

Hardness Zone (from Figure B.3):	Seeding Dates	Fertilizer Rate (10-20-20)	Lime Rate
Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths
436 lb/acre	2 tons/acre		
100 lb/acre	90 lb/acre		

TEMPORARY SEEDING NOTES (B-4-5)

A. Seed Mixtures

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose listed on Table B.2. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications such as straw mulch, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
- Turfgrass Mixtures
 - Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)	Lime Rate
436 lb/acre	2 tons/acre				
100 lb/acre	90 lb/acre				

Notes:

- Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"
- Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of cultivar protection and assures a pure genotype and genetic purity.
- Ideal Times of Seeding for Turf Grass Mixtures: Western MD: March 15 to June 1, August 1 to October 1 (Hardness Zones: 5b, 6a) Central MD: March 15 to May 15, August 15 to October 15 (Hardness Zones: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardness Zones: 7a, 7b)
- It will areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the area to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
- If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Hardness Zone (from Figure B.3):	Seeding Dates	Fertilizer Rate (10-20-20)	Lime Rate				
No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	N	P ₂ O ₅	K ₂ O
90	TALL FESCUE	100	Mar. 1-May 15 Aug. 15-Oct. 15	1 1/4-1 1/2 in.	45 lbs. per acre (1.0 lb/1000 sq ft)	90 lb/acre (0.9 lb/1000 sq ft)	2 tons/acre (2.0 lb/1000 sq ft)

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. 38368, EXPIRATION DATE: 01/12/2016.

Stephanie Nite
Signature of Engineer
6/14/14
Date

ENGINEER'S CERTIFICATE

I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

John K. Robertson
Signature of Engineer
6/15/14
Date

DEVELOPER'S CERTIFICATE

I certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible persons on the construction project will have a Certificate of Attendance at a Department of the Environment approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

John K. Robertson
Signature of Developer
6/23/14
Date

B-4-B STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

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

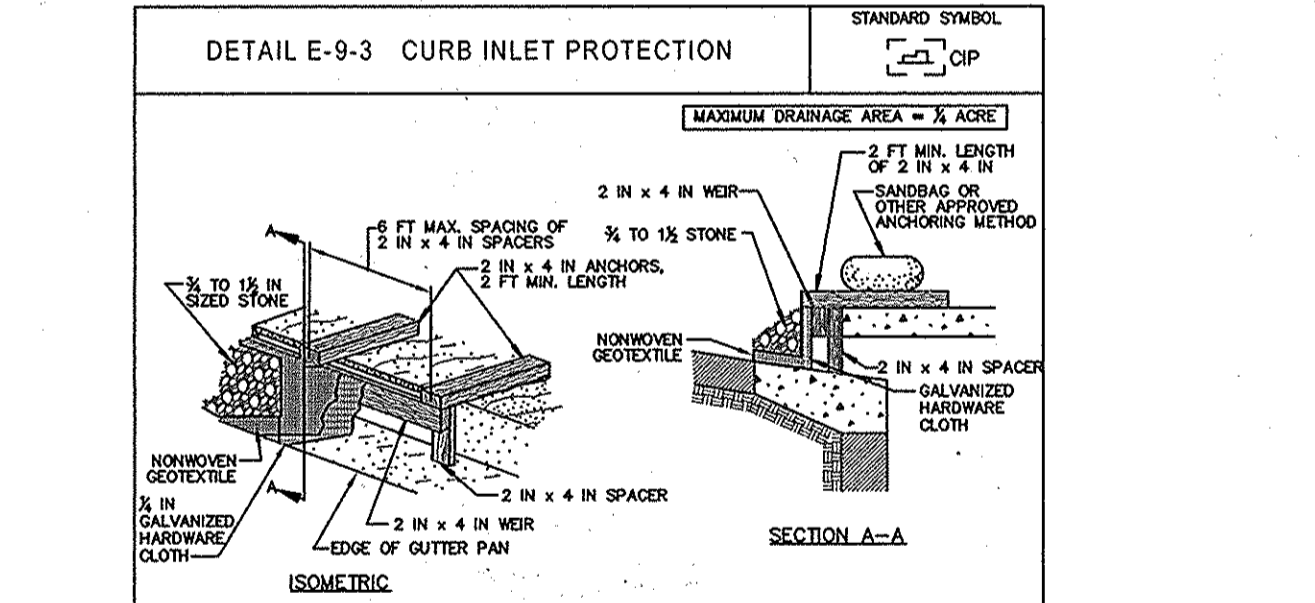
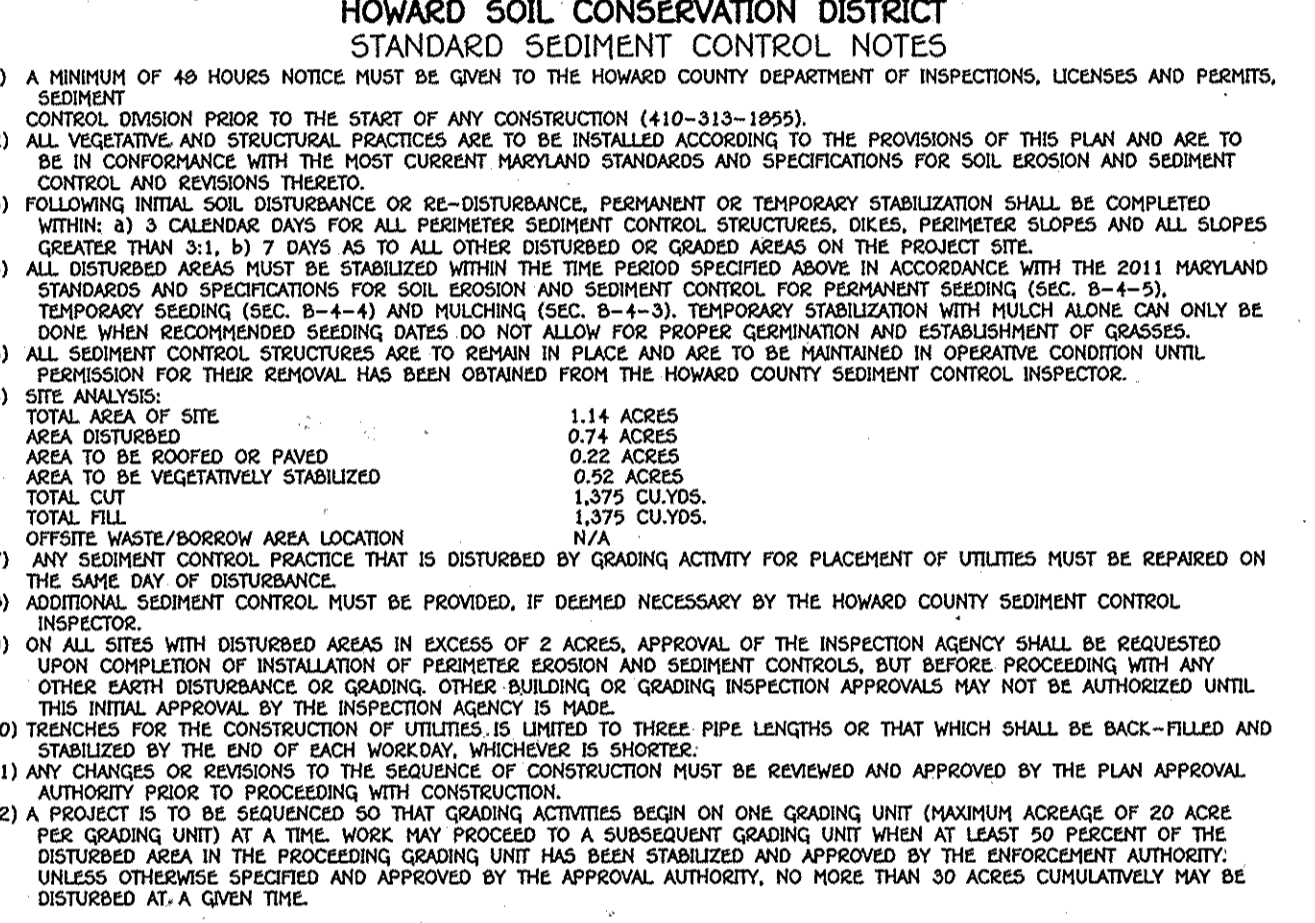
Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
- The topography of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no greater than 2:1. Berms or ditches must be provided in accordance with Section B-4-Land Grading.
- Runoff from the stockpile area must drain to a suitable sediment control practice.
- Access the stockpile area from the up-slope side.
- 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.
- Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
- 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.
- 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 contained in accordance with Section 6-4-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 6-4-Vegetative Stabilization.

HOWARD SOIL 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, CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).
- 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 SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR SOIL DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. 31 DAYS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. PERMANENT 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 BE PLACED AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 - TOTAL AREA OF SITE: 1.14 ACRES
 - AREA TO BE ROOFED OR PAVED: 0.74 ACRES
 - AREA TO BE VEGETATIVELY STABILIZED: 0.56 ACRES
 - TOTAL CUT: 5.95 CUBIC YARDS
 - TOTAL FILL: 1.379 CUBIC YARDS
- OFFSITE WASTE/BORROW AREA LOCATION: AS SHOWN ON THE PLAN.
- ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED:
 - 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 SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. 31 DAYS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 - OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR SEDIMENTATION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS PERMITS ARE OBTAINED BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 - ANY CHANGES TO THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKING DAY.
 - ANY TRENCHES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH SUCH CHANGES.
 - A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM AVERAGE OF 20 ACRE GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREAS OF THE PREVIOUS GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.



CONSTRUCTION SPECIFICATIONS

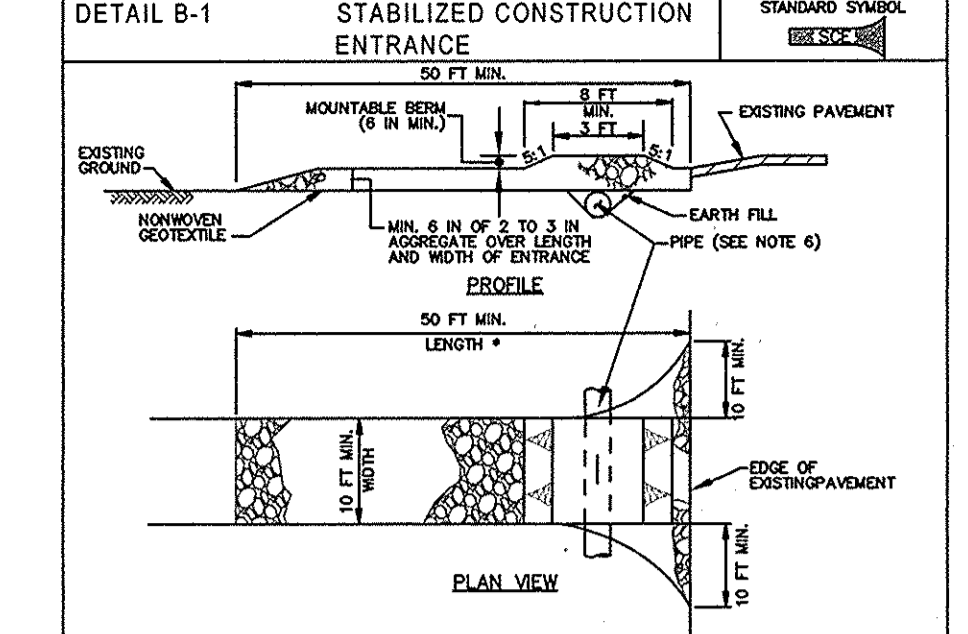
- USE NOMINAL 2 INCH X 4 INCH LUMBER
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS
- NAIL THE 2x4 W/ 2 TO 3 INCH VERTICAL SPACERS (MINIMUM 6 FEET APART)
- ATTACH A CONTINUOUS PIECE OF 1/2 INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 W/ 2 INCH SPACERS ON EACH SIDE.
- PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 W/ 2 INCH SPACERS.
- IF AN ASSUMED ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 HARDWARE (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED HARDWARE METHOD.
- INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
- FORM THE HARDWARE CLOTH AND GEOTEXTILE TO THE CONCRETE CURB AND FACE OF CURB TO SPAN THE INLET OPENING, COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN 1/2 TO 1 1/2 INCH SAND OR GRANULAR FINE SAND CONCRETE.
- AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
- STORM DRAIN INLET PROTECTION REMAINS PRESENT 24 HOURS AFTER REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS FROM THE THROAT OPENING AND AROUND PERIMETER EDGE OF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 48 HOURS AFTER A STORM EVENT. IF IT IS CLOGGED, WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE.

OWNERS

RONALD H. STOUGHTON & CHARLOTTE STOUGHTON
9497 SYLVAN DELL
COLUMDIA, MD 21041
410-381-9267

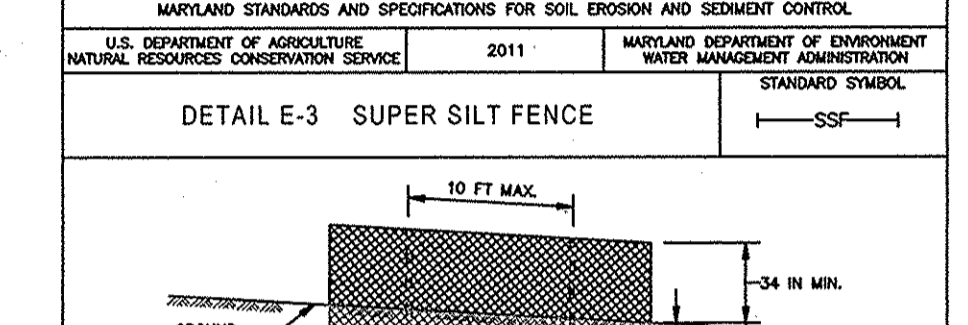
DEVELOPER

HAGAN & HAMILTON
20 E. TONIUM ROAD, SUITE 209
TIMonium, MARYLAND 21093
ATTN: PATRICK HAGAN



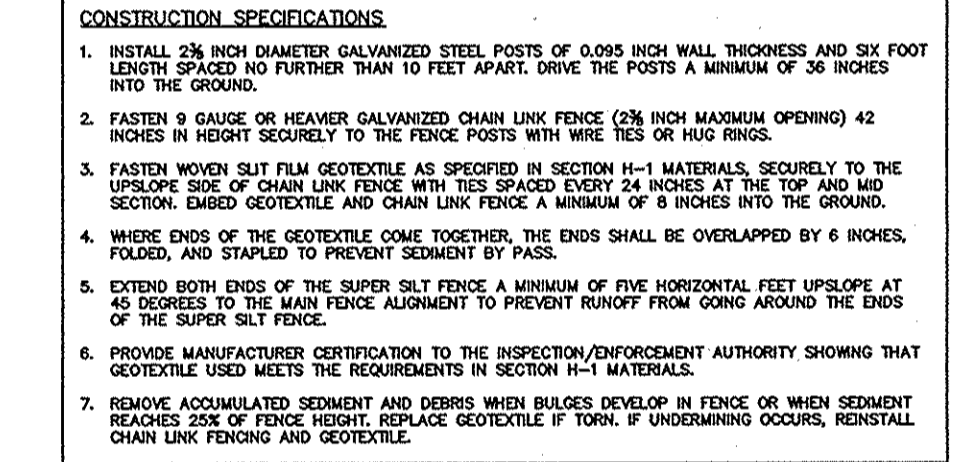
CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (40 FEET FOR SINGLE RESIDENCE LOTS). USE MINIMUM WIDTH OF 10 FEET. FLARE SIDE TO 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- USE ALL SURFACE WATER FLOWING TO OR DIVERTED THROUGH THE SCE UNDER THE ENTRANCE. MAINTAIN PROTECTIVE CHANNELS, PROTECTIVE PIPE INSTALLED THROUGH THE SCE WITH A MINIMUM OF 18 INCHES ABOVE THE GROUND SURFACE. PROTECTIVE PIPE SHALL BE INSTALLED THROUGH THE SCE WITH A MINIMUM OF 18 INCHES ABOVE THE GROUND SURFACE. PROTECTIVE PIPE SHALL BE INSTALLED THROUGH THE SCE WITH A MINIMUM OF 18 INCHES ABOVE THE GROUND SURFACE. PROTECTIVE PIPE SHALL BE INSTALLED THROUGH THE SCE WITH A MINIMUM OF 18 INCHES ABOVE THE GROUND SURFACE.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (3 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST A MINIMUM WIDTH OF 10 FEET. FLARE SIDE TO 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT AND STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE. MAINTAIN CLEAN SURFACE AND FREQUENTLY WATER. IMMEDIATELY REMOVE STONE AND/OR SPILLAGE, SPILLED, DROPPED, OR TRACKED ON ADJACENT ROADWAY BY WASHING, SCRAPING, AND/OR SHEETING. WASHING ROADWAY TO REMOVE TRACKED ONTO ROADWAY IS NOT ACCEPTABLE UNLESS IT IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.



CONSTRUCTION SPECIFICATIONS

- INSTALL 2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.063 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN A GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (24 INCH MAXIMUM OPENING) TO THE POSTS IN ORDER TO PREVENT FENCE POSTS FROM BEING TIPPED OVER.
- FASTEN WOVEN SILT FIRM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE POSTS IN ORDER TO PREVENT FENCE POSTS FROM BEING TIPPED OVER.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES. FENCE POSTS SHALL BE PLACED AT THE POINTS OF OVERLAP.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN TOP OF FENCE OR WHEN EXCESSIVE SIDE OF FENCE HEIGHT REACHES 10 FEET. IF UNDERDRAINING OCCURS, REINSTALL FENCE AT THAT LOCATION.



CONSTRUCTION SPECIFICATIONS

- USE 2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.063 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
- INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
- FORM THE HARDWARE CLOTH AND GEOTEXTILE TO THE CONCRETE CURB AND FACE OF CURB TO SPAN THE INLET OPENING, COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN 1/2 TO 1 1/2 INCH SAND OR GRANULAR FINE SAND CONCRETE.
- AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
- STORM DRAIN INLET PROTECTION REMAINS PRESENT 24 HOURS AFTER REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS FROM THE THROAT OPENING AND AROUND PERIMETER EDGE OF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 48 HOURS AFTER A STORM EVENT. IF IT IS CLOGGED, WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE.

CONSTRUCTION SPECIFICATIONS

- USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (24 INCH MAXIMUM OPENING)
- INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
- FORM THE HARDWARE CLOTH AND GEOTEXTILE TO THE CONCRETE CURB AND FACE OF CURB TO SPAN THE INLET OPENING, COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN 1/2 TO 1 1/2 INCH SAND OR GRANULAR FINE SAND CONCRETE.
- AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
- STORM DRAIN INLET PROTECTION REMAINS PRESENT 24 HOURS AFTER REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS FROM THE THROAT OPENING AND AROUND PERIMETER EDGE OF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 48 HOURS AFTER A STORM EVENT. IF IT IS CLOGGED, WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

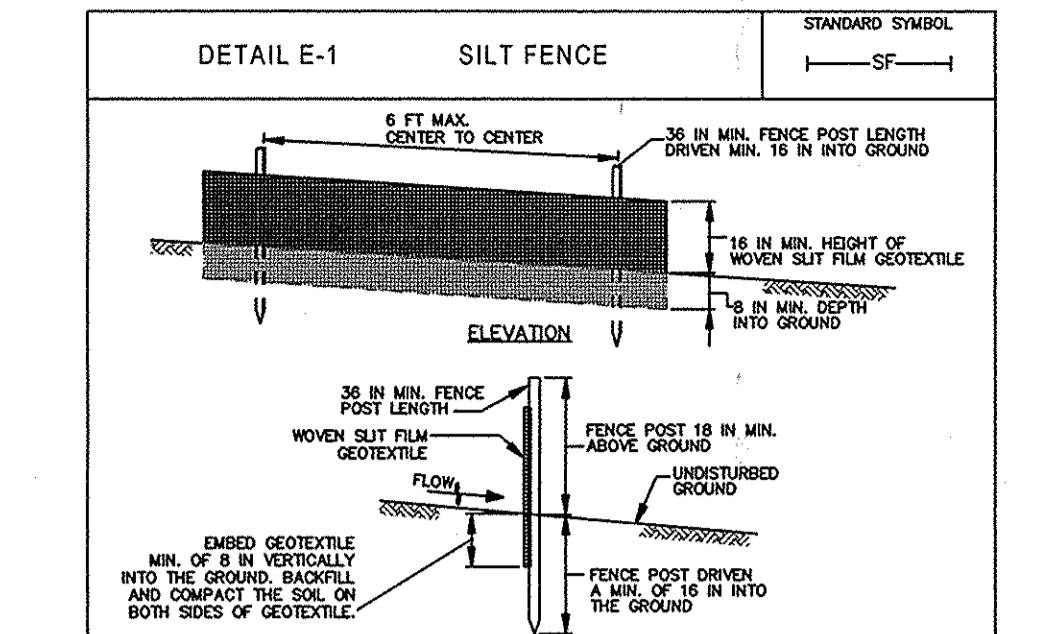
Stephanie Nite
Signature of Planning and Zoning
6/15/14
Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

John K. Robertson
Signature of Planning and Zoning
6/15/14
Date

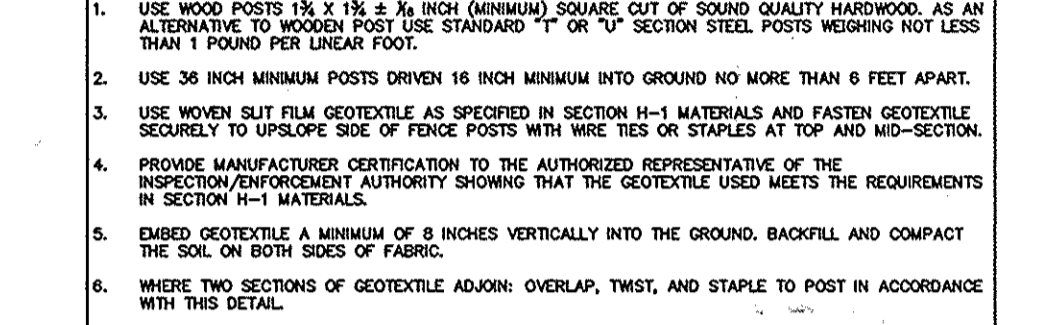
APPROVED: DEPARTMENT OF PLANNING AND ZONING

John K. Robertson
Signature of Planning and Zoning
6/15/14
Date



CONSTRUCTION SPECIFICATIONS

- USE WOVEN SILT FIRM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO WOVEN SILT FIRM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- USE 36 INCH MINIMUM POSTS DRIVEN 18 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SILT FIRM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO WOVEN SILT FIRM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- WHERE ENDS OF GEOTEXTILE ADJOIN, OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS TABLE.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN TOP OF FENCE OR WHEN EXCESSIVE SIDE OF FENCE HEIGHT REACHES 10 FEET. IF UNDERDRAINING OCCURS, REINSTALL FENCE AT THAT LOCATION.



CONSTRUCTION SPECIFICATIONS

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR NON-WEAVING AND NON-EROSIVE. THE MATTING SHALL BE PLACED ON THE SOIL OR GRANULAR SAND AND SHALL BE STAPLED TO THE MATTING POSTS WITH SOIL OR GRANULAR SAND. THE MATTING SHALL BE STAPLED TO THE MATTING POSTS WITH SOIL OR GRANULAR SAND. THE MATTING SHALL BE STAPLED TO THE MATTING POSTS WITH SOIL OR GRANULAR SAND.
- SECURE MATTING USING STEEL STAPLES OR WOOD STAPLES. STAPLES MUST BE "U" OR "T" SHAPED STEEL. PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE INSPECTION/ENFORCEMENT AUTHORITY. THE MATTING SHALL BE STAPLED TO THE MATTING POSTS WITH SOIL OR GRANULAR SAND. THE MATTING SHALL BE STAPLED TO THE MATTING POSTS WITH SOIL OR GRANULAR SAND.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN TOP OF FENCE OR WHEN EXCESSIVE SIDE OF FENCE HEIGHT REACHES 10 FEET. IF UNDERDRAINING OCCURS, REINSTALL FENCE AT THAT LOCATION.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
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