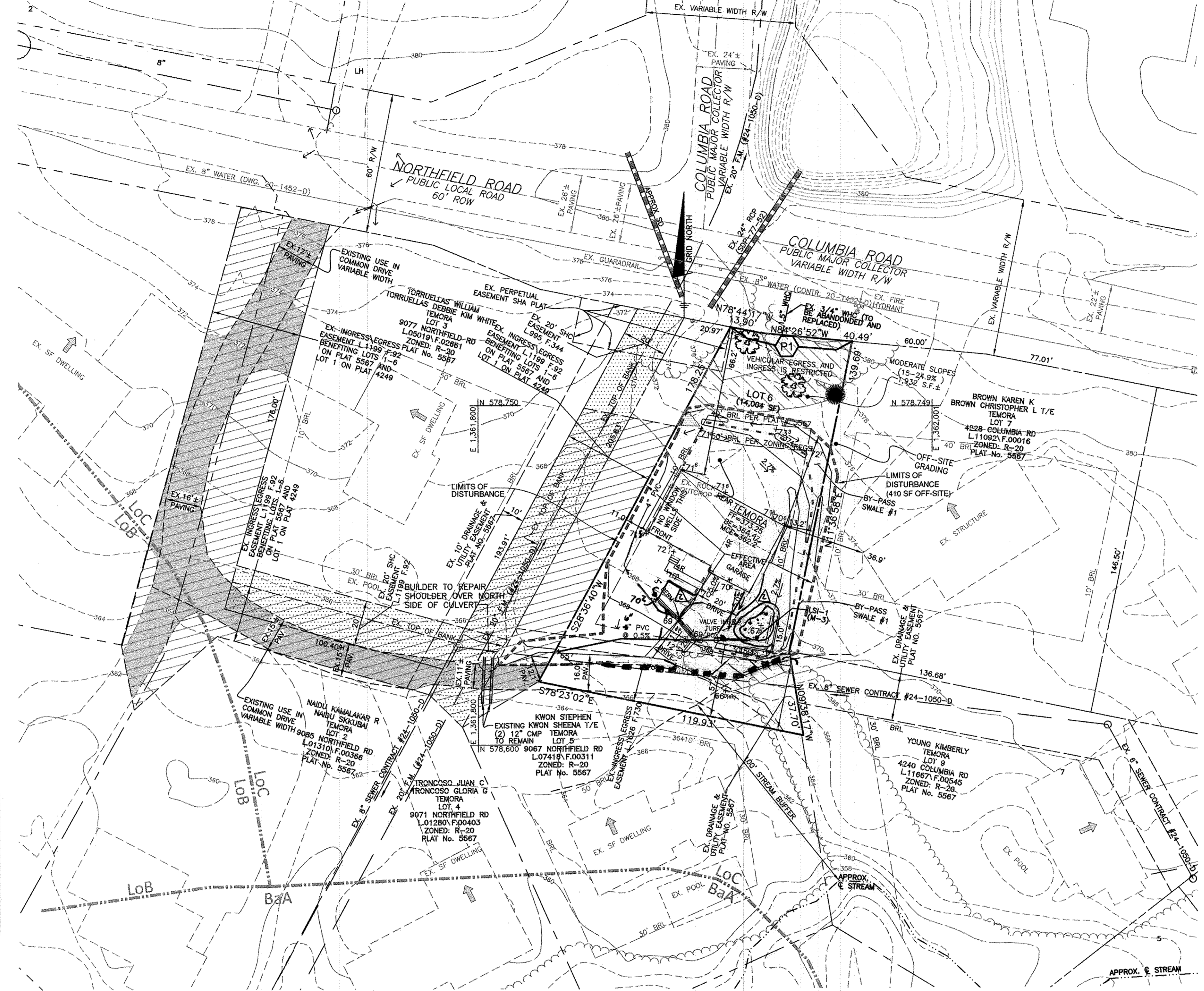


GENERAL NOTES

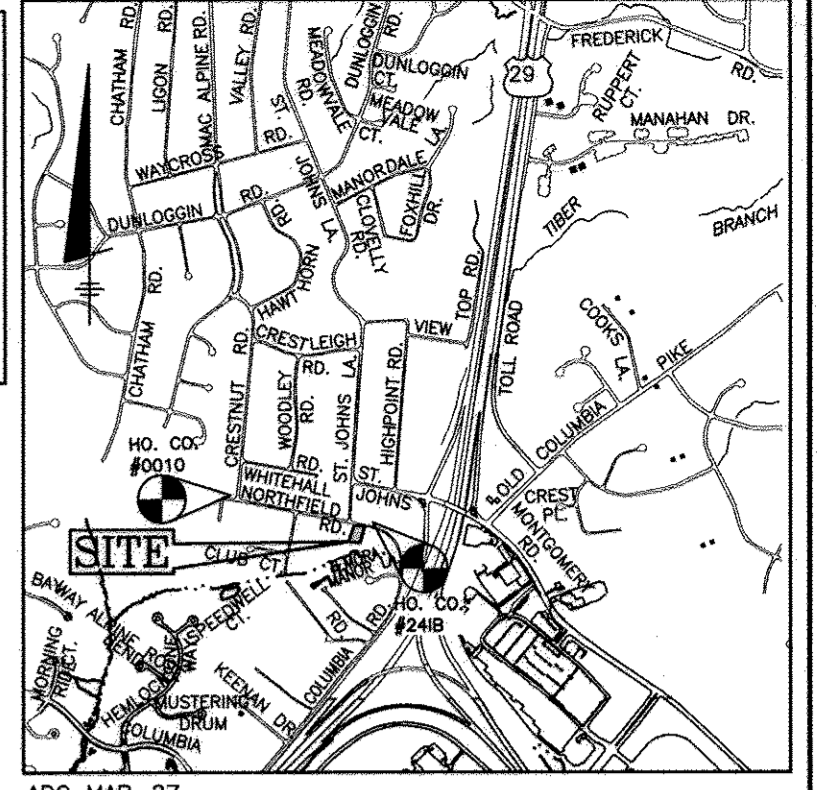
- SUBJECT PROPERTY IS ZONED R-20 PER THE 10-6-2013 COMPREHENSIVE ZONING PLAN.
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, DATED OCTOBER 7, 2007.
- PROJECT LIMITS ARE BASED ON THE RECORD PLAT FOR TEMORA, RECORDING REFERENCE 5567.
- TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD SURVEY PREPARED BY RUM ENGINEERING, INC. DATED MAY 2015, AND HOWARD COUNTY 2011 GIS CONTOUR INTERVAL IS 2'.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANNED COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS 2418 & 0010 WERE USED FOR THIS PROJECT.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS(S), OR THEIR REQUIRED BUFFER, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- THERE ARE NO STEEP SLOPES (25% OR GREATER) IN EXCESS OF 20,000 SF ON THIS SITE. THERE ARE 1,883 SF OF MODERATE SLOPES RANGING FROM 15% - 24.99% LOCATED ON THIS SITE.
- THERE IS NO NEED FOR A FLOOD STUDY FOR THIS PROJECT. THERE ARE NO FLOODPLAINS, STREAMS OR WETLANDS LOCATED ON-SITE, BUT THERE IS A 100 FT STREAM BUFFER LOCATED IN THE SOUTHEAST CORNER OF THE SITE.
- TO THE BEST OF OUR KNOWLEDGE THERE ARE NO CEMETERIES OR HISTORIC STRUCTURES LOCATED ON THIS SITE.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PLAN.
- THIS SITE IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND THE PLANNED SERVICE AREA. WATER AND SEWER WILL BE PUBLIC CONNECTIONS PROPOSED TO CONTRACTS 20-1452-D AND 24-1050-D.
- THE SITE AREA IS LESS THAN 40,000 SF. THEREFORE, THE SITE SHALL BE EXEMPT FROM THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION PER SECTION 16.1202(B)(1)(I) OF THE SUBDIVISION REGULATIONS FOR DEVELOPMENT ON LAND WHICH IS LESS THAN 40,000 SF IN SIZE.
- PREVIOUS DPZ FILES: PLAT 5567, F-82-97, ECP-15-084 CONTRACT NOS.: 24-1050-D, 20-1452-D.
- PERIMETER LANDSCAPING IS REQUIRED FOR THIS PROPERTY ALONG THE PUBLIC RIGHT-OF-WAY. OTHER LINES LINES ARE INTERNAL TO THE SUBDIVISION. ONE STREET TREE IS REQUIRED. SURETY IN THE AMOUNT OF \$750 FOR THE ONE STREET TREE, THE ONE SHADE TREE AND THE ONE EVERGREEN TREE SHALL BE POSTED AS PART OF THE GRADING PERMIT. THERE ARE NO FLOODPLAINS, STREAMS OR WETLANDS LOCATED ON-SITE, BUT THERE IS A 100 FT STREAM BUFFER LOCATED IN THE SOUTHEAST CORNER OF THE SITE.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - A) WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE).
 - B) SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.).
 - C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45' TURNING RADIUS.
 - D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
 - E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
 - F) STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - G) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS, OR EXTERIOR STAIRWAYS NOT MORE THAN 18 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED, MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- A PRE-SUBMISSION COMMUNITY MEETING FOR THIS PROJECT IS NOT REQUIRED SINCE THE LOT WAS CREATED UNDER PLAT F-82-097.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- EXISTING UTILITIES SHOWN ARE BASED ON A FIELD SURVEY, HOWARD COUNTY GIS, AND INFORMATION OF RECORD.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE BUILDER'S EXPENSE. CONTRACTOR SHALL ADJUST ELEVATIONS OF STRUCTURES AS NECESSARY.
- SHC SHALL BE THE RESPONSIBILITY OF THE OWNER.
- STORMWATER MANAGEMENT METHODS WERE DESIGNED BASED ON THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II. TREATMENT IS PROVIDED USING ENVIRONMENTAL SITE DESIGN METHODS, INCLUDING LANDSCAPE INFILTRATION. THE FACILITY SHALL BE OWNED AND MAINTAINED BY LOT OWNER.
- BRL INDICATES ZONING BUILDING RESTRICTION LINE. OTHER RESTRICTIONS MAY APPLY.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
- THE STAKING OF FOUNDATIONS PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES IS RECOMMENDED.
- PERMISSION TO GRADE OFF-SITE ON LOT 7 WAS GRANTED BY THE CURRENT OWNER, CHRISTOPHER BROWN, IN A LETTER DATED NOVEMBER 09, 2015.
- EXISTING 3/4" WATER HOUSE CONNECTION MUST BE ABANDONED AS PART OF NEW CONNECTION PER DEPARTMENT OF PUBLIC WORKS STANDARDS.
- THE EXISTING DRIVEWAY EASEMENT WAS EXECUTED ON SEPTEMBER 28, 1983 AND IS RECORDED AT LIBER 1199, FOLIO 82 AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND.
- ON MAY 31, 2016 THE CHIEF OF DEVELOPMENT ENGINEERING DIVISION APPROVED A DESIGN MANUAL WAIVER TO DESIGN MANUAL VOLUME III, SECTIONS 2.6(A) AND 9(B), INCLUDING TABLE 2.10, AND APPENDIX A TO ALLOW THE CONTINUED USE OF THE EXISTING ACCESS CONFIGURATION AS RECORDED IN DEED RECORDED AT LIBER 1199, FOLIO 92. THE APPROVAL WAS CONDITIONAL ON THREE ITEMS. THE FIRST WAS TO OBTAIN PERMISSION FOR ALL EXISTING PROPERTY OWNERS USING THE USE-IN-COMMON DRIVEWAY TO SIGN COMMENTS TO THE DESIGN MANUAL WAIVER. THE SECOND WAS TO OBTAIN PERMISSION FROM OTHER OWNERS ARE NOT NEEDED DUE TO THE EXISTING DEED INCLUDED IN THE WAIVER REQUEST. THE SECOND CONDITION WAS THAT ALL DEPARTMENT OF FIRE AND RESCUE COMMENTS SHALL BE COMPLIED. THIS CONDITION HAS BEEN COMPLIED WITH BY ADDING A NOTE TO STABILIZE THE NORTH SHOULDER OVER THE CURB ON THE EXISTING DRIVEWAY AND A NORTHFIELD ROAD HOUSE ADDRESS HAS BEEN OBTAINED. THE THIRD CONDITION WAS THAT ALL DEPARTMENT OF PLANNING AND ZONING, DIVISION OF LAND DEVELOPMENT COMMENTS SHALL BE COMPLIED. THE DIVISION OF LAND DEVELOPMENT COMMENTS HAVE BEEN ADDRESSED BY: ADDING A NOTE TO THE SITE PLAN CONCERNING THE DESIGN MANUAL WAIVER, ADDING A GENERAL NOTE REFERENCING THE RECORDED DRIVEWAY EASEMENT AGREEMENT, SHOWING THE DRIVEWAY TO THE HOUSE ON LOT 6, AND ADDRESSING THE COMMENTS FROM FIRE AND RESCUE SERVICES.

RESIDENTIAL SITE DEVELOPMENT PLAN TEMORA, LOT 6 SINGLE FAMILY DWELLING



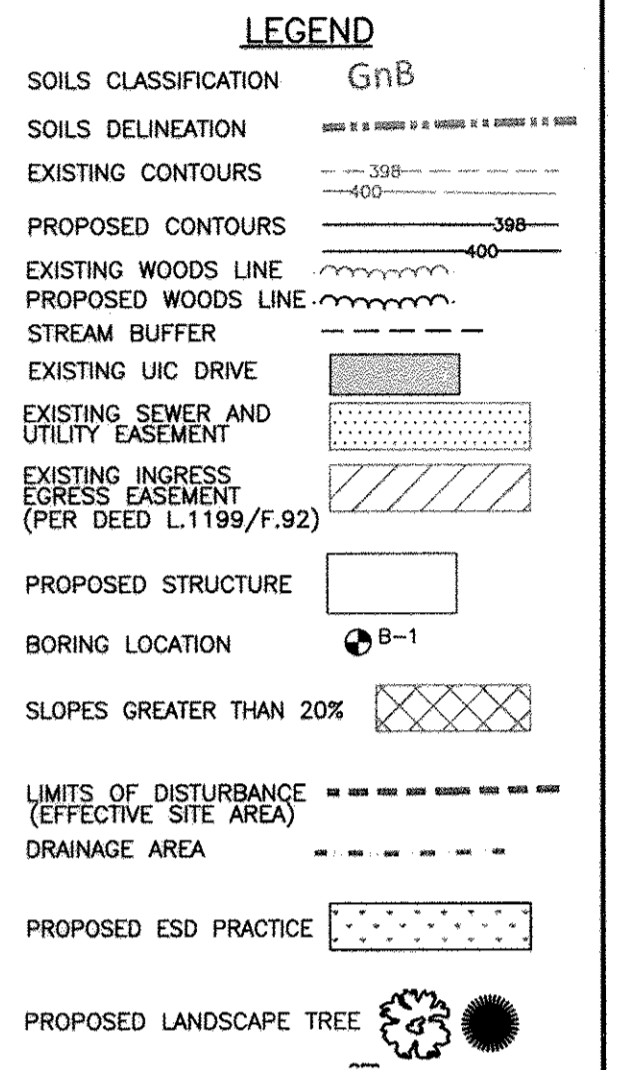
BENCH MARKS NAD '83

NO. CO. 2418	ELEV. 390.560
STAMPED DISC ON CONCRETE MONUMENT, COLUMBIA ROAD SITE LATER DAYS SITS. CHURCH	
N 578,753.501	E 1,362,302.987
NO. CO. 0010	ELEV. 357.152
STAMPED DISC ON CONCRETE MONUMENT, DOWNLOGGON MIDDLE SCHOOL, NORTH SIDE OF NORTHFIELD RD. ACROSS FROM PARKING LOT	
N 579,167.044	E 1,360,260.252



SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADS	TOTALS
LANDSCAPE TYPE	B 1:50 shade 1:40 evergreen	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	54 LF	54 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO *	0
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	0
NUMBER OF PLANTS REQUIRED	54 LF	54 LF
SHADE TREES	1	1
EVERGREEN TREES	1	1
OTHER TREES (2:1 SUBSTITUTE)	0	0
SHRUBS	0	0
NUMBER OF PLANTS PROVIDED	1	1
SHADE TREES	1	1
EVERGREEN TREES	0	0
OTHER TREES (2:1 SUBSTITUTE)	0	0
SHRUBS (10:1 SUBSTITUTE)	0	0



STREET TREE SCHEDULE

	COLUMBIA ROAD	TOTAL
LINEAR FEET OF RIGHT-OF-WAY	54'	
LINEAR FEET OF CREDIT	0'	
LINEAR FEET OF REQUIRED PLANTING	54'	
TREE SIZE	LARGE 1-40 LF	
TREES REQUIRED	1	1
TREES PROVIDED	1	1
SHADE TREES	1	1

SITE ANALYSIS DATA CHART

A.) TOTAL PROJECT AREA	0.32 AC.
B.) AREA OF THIS PLAN SUBMISSION	0.32 AC.
C.) APPROXIMATE LIMIT OF DISTURBANCE	0.25 AC.
D.) PRESENT ZONING:	R-20
E.) PROPOSED USE OF SITE:	RESIDENTIAL SINGLE FAMILY DETACHED UNITS
F.) TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLAT(S)	1
G.) TOTAL NUMBER OF UNITS PROPOSED:	1
H.) REQUIRE PARKING PER SFD UNIT:	2.5
I.) PROVIDED PARKING PER UNIT:	4 (2 GARAGE, 2 DRIVEWAY)
J.) APPLICABLE DPZ FILE REFERENCES:	PLAT 5567, CONTRACT NOS.: 24-1050-D, 20-1452-D, ECP-15-084
K.) PROPOSED WATER AND SEWER SYSTEMS: PUBLIC PRIVATE	
L.) AREA OF MODERATE SLOPES (15%-24.99%)	0.04 AC.
M.) AREA OF STEEP SLOPES (25%+)	0.00 AC.

DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

DEVELOPER: *[Signature]* DATE: 09/26/16

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 12-2-16

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 12-6-16

DIRECTOR: *[Signature]* DATE: 12-6-16

LANDSCAPE PLANTING LIST

SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
	2	Acer rubrum 'OCTOBER GLORY' (October Glory red maple)	2 1/2" - 3" cal.	STREET TREE AND PERIMETER TREE TO BE PROVIDED BY THE BUILDER
	1	pinus strobus (White Pine)	5' - 6' height	PERIMETER TREES TO BE PROVIDED BY THE BUILDER

LANDSCAPE NOTES:

- STREET TREES TO BE PLANTED 3 FEET BEHIND SIDEWALK IF THE DISTANCE BETWEEN SIDEWALK AND CURB IS LESS THAN 6 FEET. STREET TREES TO BE PLANTED 9 FEET BEHIND BACK OF CURB WHERE THERE IS NO SIDEWALK. TREES MAY NOT BE PLANTED WITHIN 5 FEET OF A DRAIN INLET, 5 FEET OF AN OPEN SPACE ACCESS STRIP, OR 10 FEET OF A DRIVEWAY.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.
- THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- FINANCIAL SURETY FOR THE PERIMETER LANDSCAPING AND PRIVATE STREET TREE PLANTINGS IN ACCORDANCE WITH THE LANDSCAPE MANUAL SHALL BE POSTED WITH THE BUILDER'S GRADING PERMIT IN THE AMOUNT OF \$750.00 FOR ONE STREET TREE, THE ONE SHADE TREE AND THE ONE EVERGREEN TREE POSTED WITH THE BUILDER'S GRADING PERMIT FOR THIS SDP-16-022.

TREE PLANTING DETAIL

PLAN VIEW

SHARED DRIVEWAY USERS PER LIBER 1199 FOLIO 92

PLAT REFERENCE	SUBDIVISION NAME	LOT NUMBERS
5567	TEMORA	1, 2, 3, 4, 5, AND 6
4249	HANNA-BRECKENRIDGE	1

SHC TABLE

LOT NO.	INVERT AT ESM.	MCE
6	357.8	362.2

ADDRESS CHART

LOT	STREET ADDRESS
6	9073 NORTHFIELD ROAD

SOILS LEGEND

MAP SYMBOL	SOIL TYPE	MAPPING UNIT	K FACTOR
LoB	B	LEGORE-MONTALTO-URBAN LAND COMPLEX; 0 TO 8 PERCENT SLOPES	0.28/0.32
Loc	B	LEGORE-MONTALTO-URBAN LAND COMPLEX; 8 TO 15 PERCENT SLOPES	0.28/0.32

USDA - NRCS WEBSITE. SOIL SURVEY MAP PAGE 13, ELLICOTT CITY, SW

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION AREA	LOT/PARCEL #
TEMORA	N/A	LOT 06 PARCEL 300

PLAT No.	GRID No.	ZONE	TAX MAP	ELECTION DISTRICT	CENSUS TRACT
5567	23	R-20	24	2nd	6023.06

NOTE: STORMWATER MANAGEMENT HAS BEEN DESIGNED FOR A TOTAL HOUSE IMPERVIOUS AREA OF 1875 SF. SHOULD A HOUSE TYPE REVISION BE REQUIRED THAT CAUSES THE HOUSE TO EXCEED THE DESIGN AREA, THE STORMWATER MANAGEMENT WILL BE REEVALUATED AT THAT TIME.

SHEET INDEX

NO.	DESCRIPTION
1	COVER SHEET, LANDSCAPE AND GRADING PLAN
2	SEDIMENT & EROSION CONTROL PLAN
3	STORMWATER MANAGEMENT NOTES & DETAILS
4	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

PLEASE NOTE THAT NO LOTS/RESIDENTIAL UNITS IN THIS SUBDIVISION ARE SUBJECT TO MIHU FEE-IN-LIEU REQUIREMENT BECAUSE THE LOT IS EXISTING AND IS NOT A NEWLY CREATED LOT.

7/12/17 REVISE LST-1 AND DRIVEWAY REU LOO TO EX. DRIVEWAY

1/23/17 Adjust Footprint of Temora Model 2 B5 Elev of Lot 6.

NO. DATE REVISION

BENCHMARK ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE SUITE 315 & ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-8444
WWW.BE-CIVILENGINEERING.COM

OWNER: BROWN, CHRISTOPHER L AND BROWN, KAREN T/E, 4228 COLUMBIA RD, ELLICOTT CITY, MD 21043 410-463-0833

DEVELOPER: HARMONY BUILDERS INC., 4228 COLUMBIA RD, ELLICOTT CITY, MARYLAND 21043 410-461-0833

TEMORA LOT 6

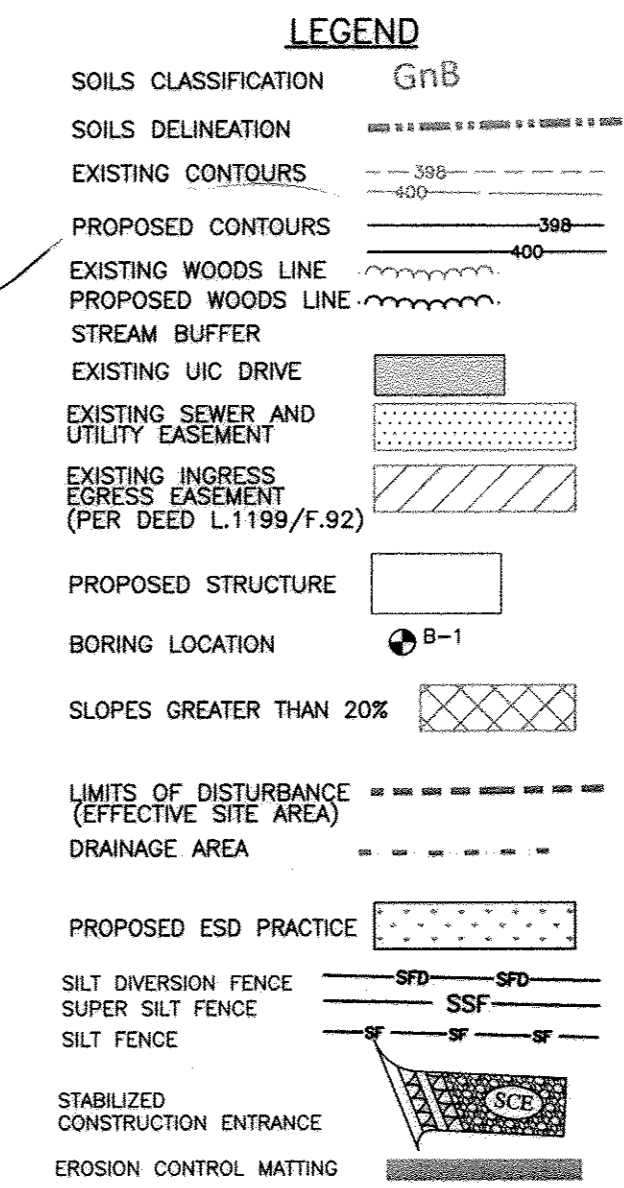
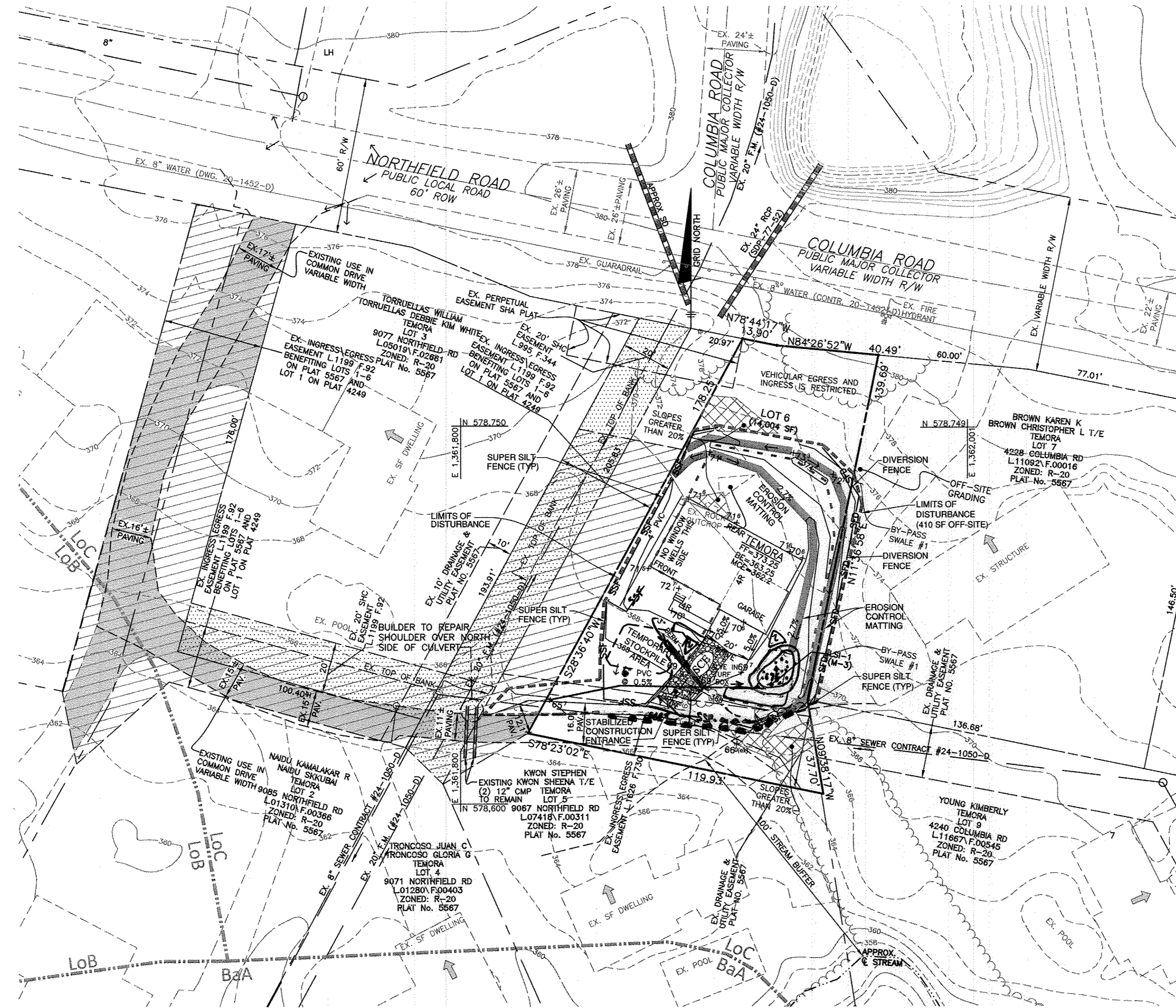
9073 NORTHFIELD ROAD, ELLICOTT CITY, MD 21042 (F-82-97)

ZONED: R-20, GRID 23, PARCEL 300
TAX MAP: R-20 (LOW DENSITY RESIDENTIAL)
ELECTION DISTRICT: NO. 2 - HOWARD COUNTY, MARYLAND

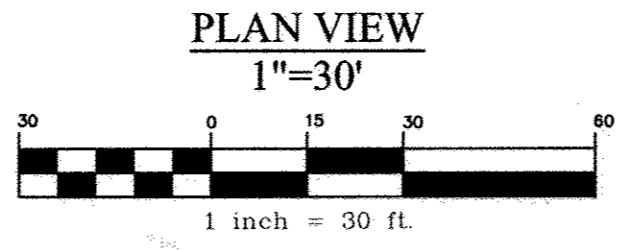
SITE DEVELOPMENT PLAN
COVER SHEET, GRADING AND LANDSCAPE PLAN

DATE: SEPTEMBER, 2016 BEI PROJECT NO. 2694

DESIGN: JC DRAFT: NAF SCALE: AS SHOWN SHEET 1 OF 4



SOILS LEGEND			
MAP SYMBOL	SOIL TYPE	MAPPING UNIT	K FACTOR
LoB	B	LEGORE-MONTALTO-URBAN LAND COMPLEX; 0 TO 8 PERCENT SLOPES	0.28/0.32
LoC	B	LEGORE-MONTALTO-URBAN LAND COMPLEX; 8 TO 15 PERCENT SLOPES	0.28/0.32
USDA - NRCS WEBSITE. SOIL SURVEY MAP PAGE 13, ELLICOTT CITY, SW			



ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John M. Carney 9/26/16
 ENGINEER John M. Carney #45577 DATE

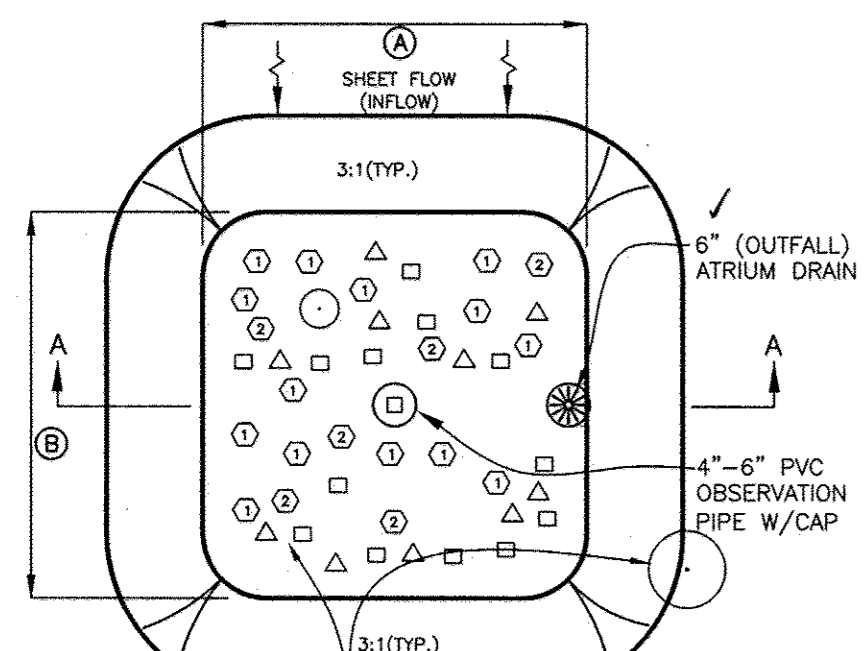
DEVELOPER'S CERTIFICATE
 I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.

John K. Blanton 09/26/16
 DEVELOPER DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John K. Blanton 9/27/16
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Michael J. Kelly 12-2-16
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Kathleen D. Walsh 12-6-16
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Nancy J. Jolly 12-6-16
 DIRECTOR DATE

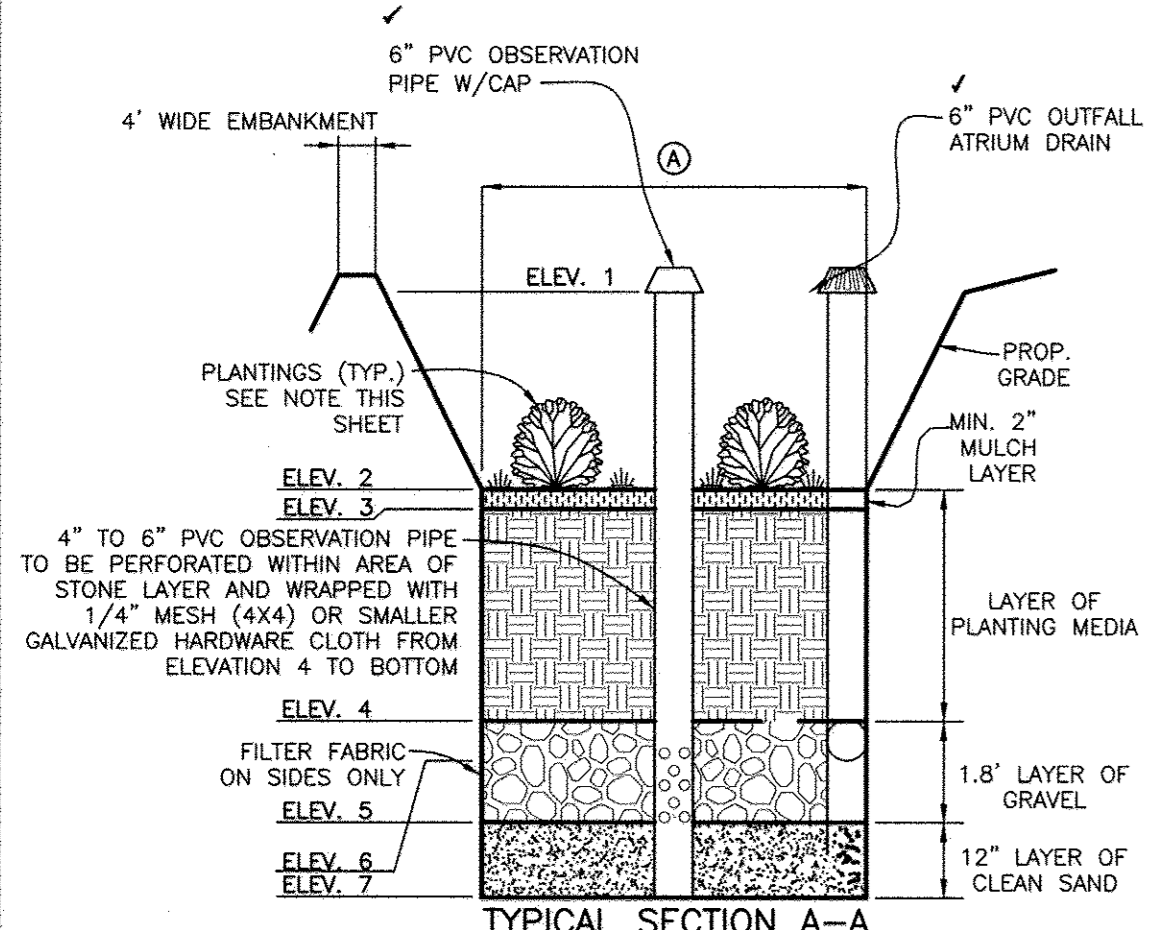
NO. 12/12/17		REVISION LSI-1 & DRAINAGE & LOD	
NO.	DATE	REVISION	
BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 315 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6102 (F) 410-465-6944 WWW.BE-CIVILENGINEERING.COM			Professional Certification. I hereby 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. 45577, Expiration Date: 06-05-18.
OWNER:		TEMORA LOT 6 9073 NORTHFIELD ROAD ELLICOTT CITY, MD 21042 (F-82-97)	
DEVELOPER:		TAX MAP 24, GRID 23, PARCEL 300 ZONED: R-20 (LOW DENSITY RESIDENTIAL) ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND	
HARMONY BUILDERS INC. 4228 COLUMBIA RD ELLICOTT CITY, MARYLAND 21043 410-461-0833		SITE DEVELOPMENT PLAN SEDIMENT & EROSION CONTROL PLAN	
DESIGN: JC	DRAFT: NAF	DATE: SEPTEMBER, 2016	BEI PROJECT NO. 2694
SCALE: AS SHOWN		SHEET 2 OF 4	



TEMORA LOT 6 (M-3) Landscape Infiltration Schedule		DATE:	04/22/16
		JOB NO.:	2694
LSI 1 (M-3)	Quantity		
VINCA MINOR (Common Periwinkle)	13		
AJUSTA REPTANS (Creeping Bugleweed)	11		
IRIS VERSICOLOR (Iris)	6		
HERMERCALLIS SP (Daylily)	4		
ACER RUBRUM (Red Sunset Red Maple)	1		

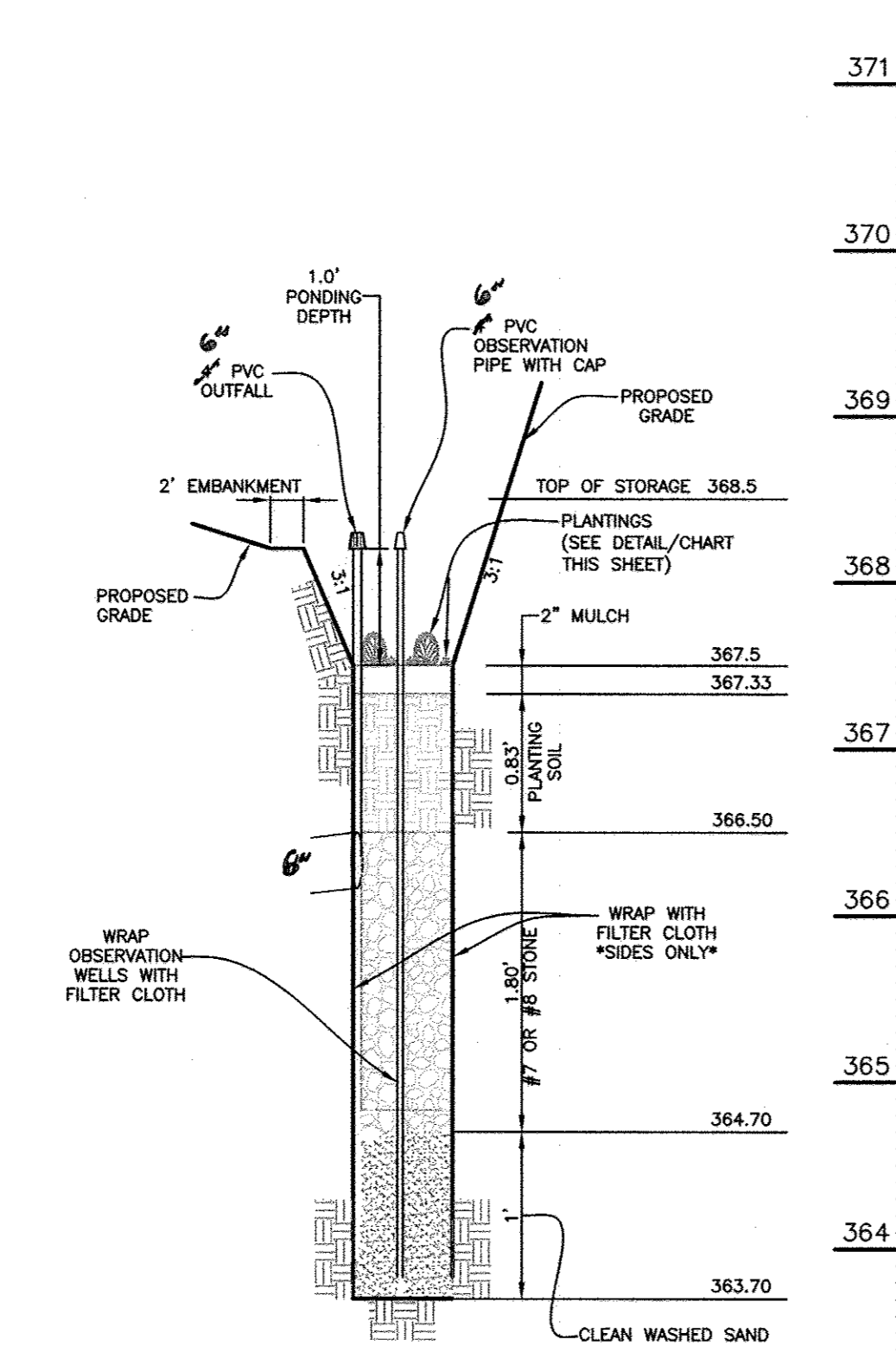
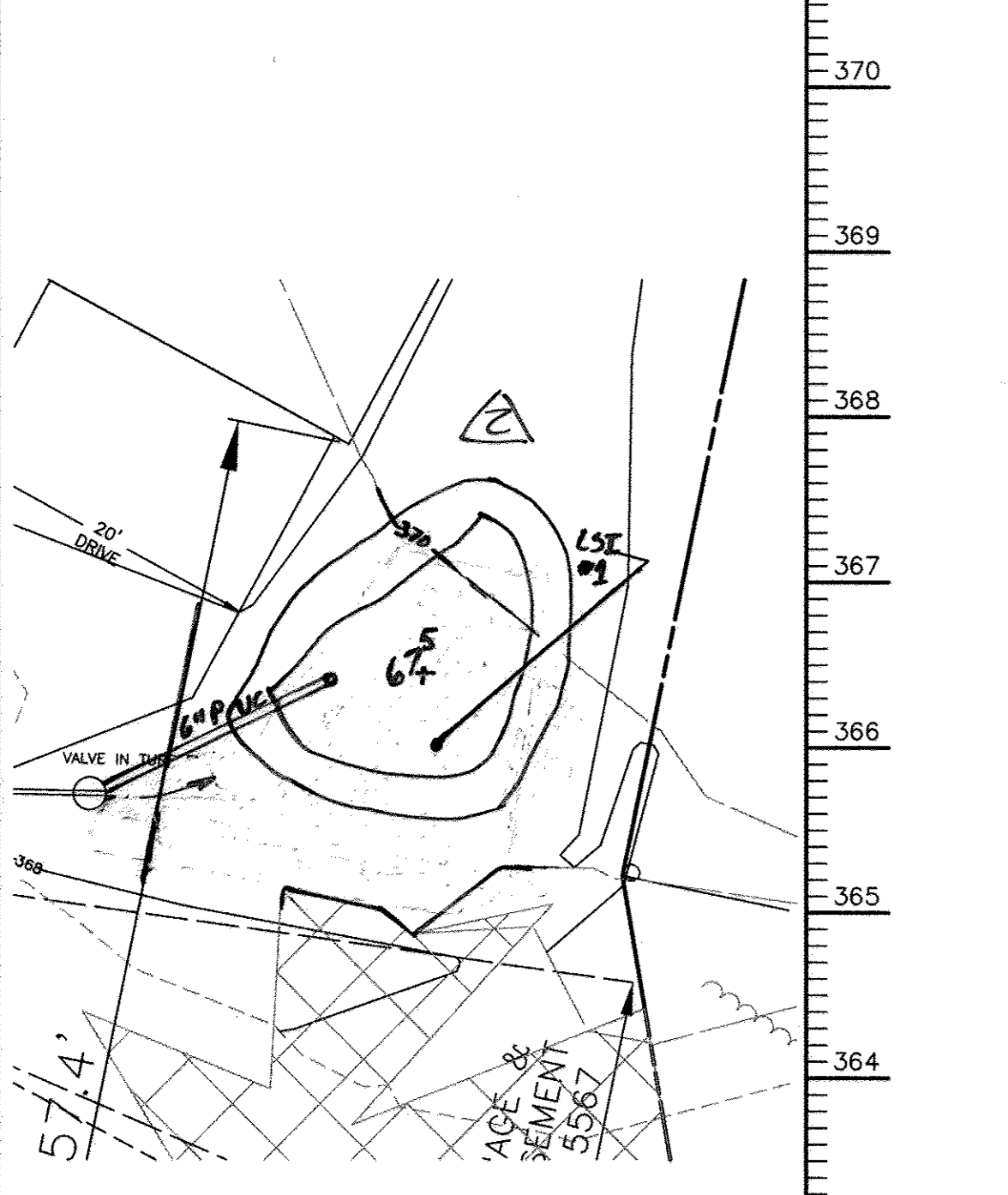
#1 MICRO-BIORETENTION PLANTING LEGEND	
SYMBOL	NAME
①	VINCA MINOR (COMMON PERIWINKLE)
②	AJUSTA REPTANS (CREEPING BUGLEWEED)
□	IRIS VERSICOLOR (IRIS)
△	HERMERCALLIS SP (DAYLILY)
○	ACER RUBRUM (RED SUNSET MAPLE)

DIMENSIONS	
'A'	VARIABLES
'B'	VARIABLES
TOTAL SF	158.60



ELEV.	DESCRIPTION
1	368.50
2	367.50
3	367.33
4	366.50
5	364.70
6	366.17
7	363.70

TYPICAL M-3 LANDSCAPE FILTRATION DETAILS
NOT TO SCALE



CROSS-SECTION THROUGH (M-3) LANDSCAPE INFILTRATION #1
SCALE: 1"=10' HORIZ., 1"=1' VERT.

ESD Practices Summary Table				
Lot No.	Practice	MDE	Number	Ownership/Maintenance
LOT 6	Landscape Infiltration	(M-3)	1	Private

ADDRESS: 4220 COLUMBIA ROAD, ELLICOTT CITY, MD 21042

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION 12-2-16 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 12-6-16 DATE

DIRECTOR 12-6-16 DATE

B.4.C Specifications for Micro-Bioretenion, Rain Gardens, Landscape Infiltration & Infiltration Berms

1. **Material Specifications**
The allowable materials to be used in these practices are detailed in Table B.4.1.

2. **Filtering Media or Planting Soil**
The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretenion practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

- Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)
- Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).
- Clay Content - Media shall have a clay content of less than 5%.
- pH Range - Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and the additional tests of organic matter, and soluble salts. A textual analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

3. **Compaction**
It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoses to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf-type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to restructure the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rootkill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

4. **Plant Material**
Recommended plant material for micro-bioretenion practices can be found in Appendix A, Section A.2.3.

5. **Plant Installation**
Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8" of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers, de-fats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

6. **Underdrains**
Underdrains should meet the following criteria:

- Pipe - Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM F 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
- Perforations - If perforated pipe is used, perforations should be 3/8" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" (No. 4 or 4x4) galvanized hardware cloth.
- Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
- The main collector pipe shall be at a minimum 0.5% slope.
- A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.
- A 4" layer of pea gravel (3/4" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

7. **Miscellaneous**
These practices may not be constructed until all contributing drainage area has been stabilized

BORING LOG		Geol, Inc.	
Station	Depth	Soil Description	Remarks
369.5	0.0	Soil with root (organic) matter and organic soil	
369.0	0.5	Gray-brown silty fine SAND, moist (SM, Sandy Loam)	
367.0	2.0	Dark green-gray fine SAND with some to little silt, moist (SM, Loamy Sand)	
361.5	8.0	End of Boring - Auger Refusal	

Test Boring No.	Infiltration Rate (inches per hour)	Depth of Pipe
B-1	2.4	3.0 ft.

ESD Site Data Summary	
Name of Development:	TEMORA LOT 6 SWM
Watershed:	Patapsco River Lower North Branch
Watershed Designation:	2-13-09-06 Class: I
Area of Site:	7921 square feet
Impervious Cover:	2136 square feet Percent: 30%
Area of A soils:	0 square feet Percent: 0%
Area of B soils:	7921 square feet Percent: 100%
Area of C soils:	0 square feet Percent: 0%
Area of D soils:	0 square feet Percent: 0%
Target RCN:	55
Target Pe:	1.60 inches
Achieved Pe:	1.63 inches pass 102%
Target ESDv:	423 cubic feet
Achieved ESDv:	425 cubic feet 101%
Required Of:	0 cubic feet
Provided Of:	0 cubic feet N/A N/A

OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3) MICRO-BIORETENTION (M-8), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8), ENHANCED FILTERS (M-9)

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. 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 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.1 AND D.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

TABLE B.3.2 MATERIALS AND SPECIFICATIONS FOR SWM FACILITIES			
MATERIAL	SPECIFICATION	SIZE	NOTES:
PLANTINGS (IF REQUIRED)	SEE APPENDIX A; TABLE A.4	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL (2.5' TO 4.0' DEEP)	SAND: 35-60% SILT: 30-35% CLAY: 10-25%	N/A	USDA SOIL TYPES: LOAMY SAND, SANDY LOAM OR LOAM
MULCH	SHREDDED HARDWOOD	N/A	2" TO 3" DEPTH, AGED 6 MONTHS, MINIMUM
GEOTEXTILE (CLASS "C")	APPARENT OPENING SIZE: (ASTM D-4751) GRAB TENSILE STRENGTH: (ASTM D-4632) PUNCTURE RESISTANCE: (ASTM D-4833)	N/A	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY
UNDERDRAIN GRAVEL	ASHTO M-43	0.375" TO 0.750"	
UNDERDRAIN PIPING	PIPE, TYPE PS28 OR ASHTO M-278	3/8" PERF. @ 6" O/C, 4 HOLES PER ROW, MINIMUM OF 3" OF SCH 40 PVC OR SDR35	
POURED-IN-PLACE CONC. (IF REQUIRED)	MSHA MIX NO. 3; (C=3500psi @ 28 DAYS, NORMAL WEIGHT, AIR ENTRAINED, REINFORCING TO MEET ASTM 615-60)	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONC. REQUIRED: 28 -IN-PLACE OR PRE-CAST NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND. - DESIGN TO INCLUDE MEETING ACI CODE 308/88: VERTICAL LOADING (H=10' OR H=20) ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING
CHECK DAM (TREATED WOOD)	AWPA STANDARD C6	6'x6" OR 8'x8"	DO NOT COAT WITH CREOSOTE; EMBED AT LEAST 3" INTO SIDE SLOPES

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped to topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and shop breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be maintained.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill
The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 8", frozen or other objectionable material. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Flagmat - Areas on which fill is to be placed shall be scarified prior to placement of fill. Flagmat shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the down-slope portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one road track of heavy equipment or compacted by a minimum of 10 passes with a minimum of three compact passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall be compacted so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within ± 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by ASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structure Backfill
Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi, 28 day unconfined compressive strength. The flowable fill shall have a minimum pit of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the side of the pipe. It only needs to extend up to the top of the pipe.

Flowable Fill - The flowable fill shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the side of the pipe. It only needs to extend up to the top of the pipe. Adequate slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Couplings
All pipes shall be circular in cross section.
Corrugated Metal Pipe - all of the following criteria shall apply for corrugated metal pipe:
1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymer coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The pipe and its appurtenances shall conform to the requirements of ASHTO Specifications M-240 & M-246 with watertight coupling bands or flanges.
Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of ASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of ASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.
Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer or two coats of asphalt.
Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of ASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of ASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be:
2. Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material and coating as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

SOILS LEGEND			
MAP SYMBOL	SOIL TYPE	MAPPING UNIT	K FACTOR
LGB	B	LEGORE-MONTALTO-URBAN LAND COMPLEX; 0 TO 8 PERCENT SLOPES	0.28/0.32
LGC	B	LEGORE-MONTALTO-URBAN LAND COMPLEX; 8 TO 15 PERCENT SLOPES	0.28/0.32
USDA - NRCS WEBSITE. SOIL SURVEY MAP PAGE 13, ELLICOTT CITY: SW			

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. 45577, Expiration Date: 06-08-18.

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE & SUITE 315 A ELLICOTT CITY, MARYLAND 21043
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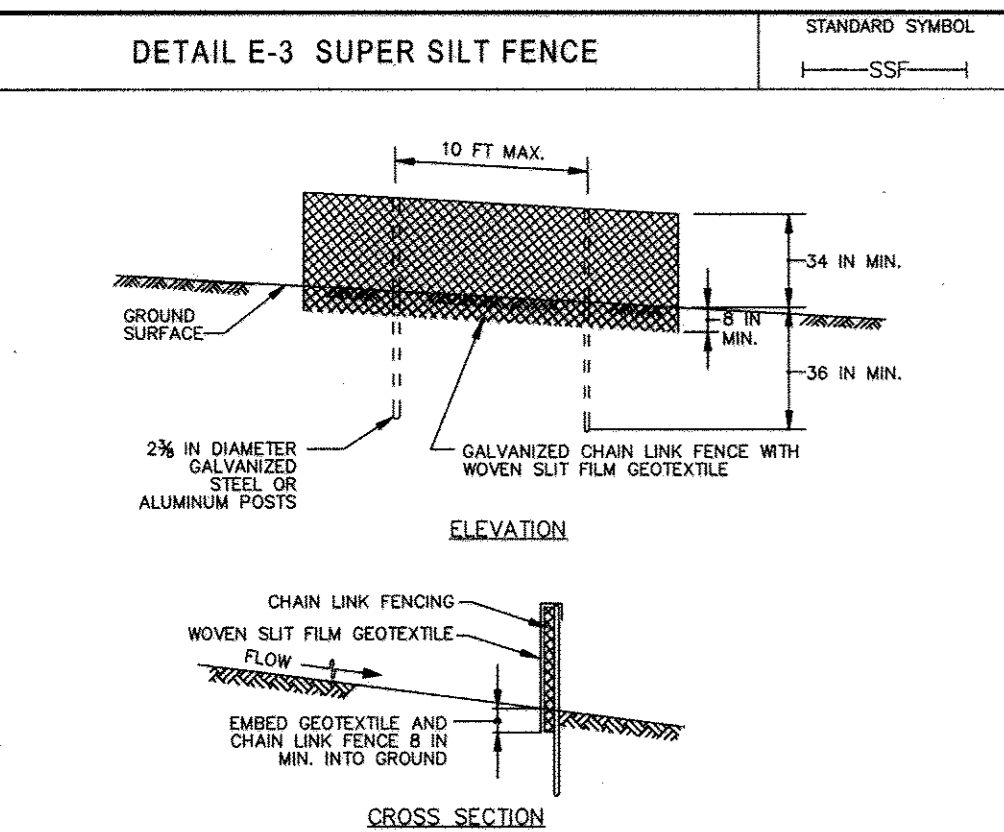
OWNER: BROWN, CHRISTOPHER L AND BROWN, KAREN T/E 4228 COLUMBIA ROAD ELLICOTT CITY, MD 21043 410-463-0833

DEVELOPER: HARMONY BUILDERS INC. 4228 COLUMBIA RD ELLICOTT CITY, MARYLAND 410-461-0833

TEMORA LOT 6
9073 NORTHFIELD ROAD ELLICOTT CITY, MD 21042
(F)-82-97
TAX MAP 24, GRID 23, PARCEL 300
ZONED: R-20 (LOW DENSITY RESIDENTIAL)
ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN
STORMWATER MANAGEMENT
NOTES & DETAILS

DATE: SEPTEMBER, 2016 BEI PROJECT NO. 2694
DESIGN: JC DRAFT: NAF SCALE: AS SHOWN SHEET 3 OF 4



CONSTRUCTION SPECIFICATIONS FOR SUPER SILT FENCE. 1. INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS...

Table with Maryland Standards and Specifications for Soil Erosion and Sediment Control, including agency names and dates.

Definition: Using vegetation as cover to protect exposed soil from erosion. Purpose: To promote the establishment of vegetation on exposed soil.

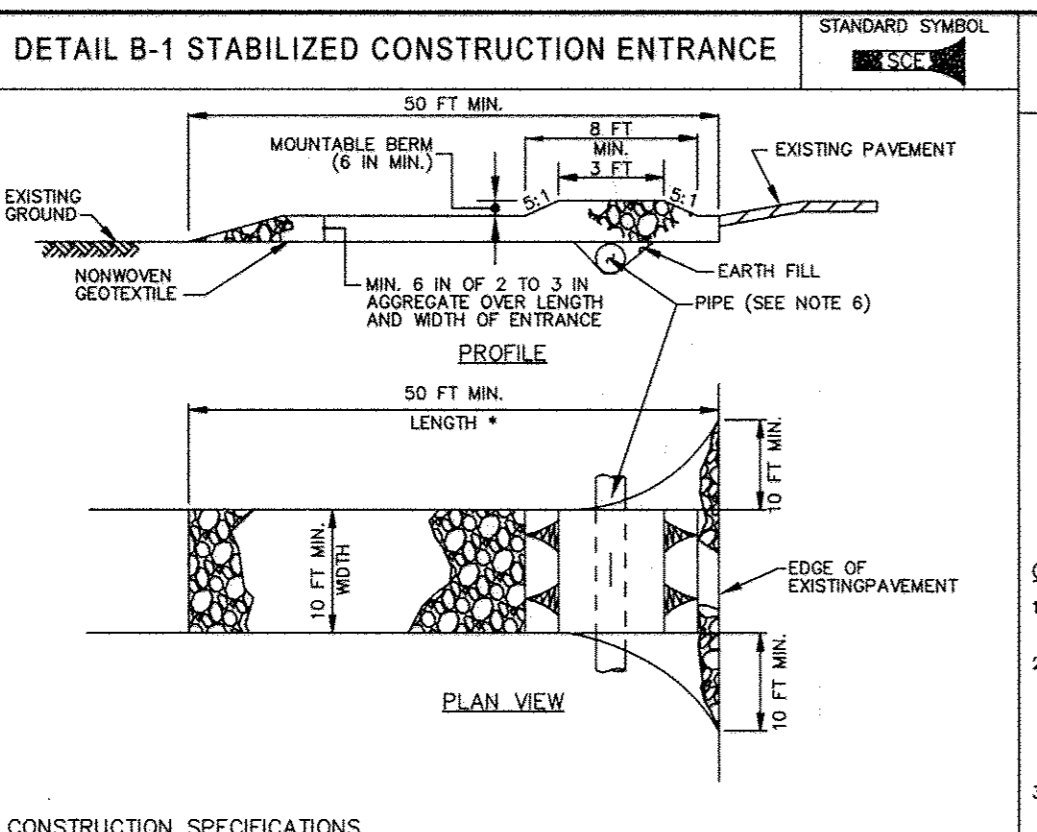
Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode...

DEFINITION: To stabilize disturbed soils with vegetation for up to 6 months. Purpose: To use fast growing vegetation that provides cover on disturbed soils.

ENGINEER'S CERTIFICATE. I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS...

DEVELOPER'S CERTIFICATE. I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN...

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. Includes signatures and dates for the Chief Development Engineering Division and the Director.



CONSTRUCTION SPECIFICATIONS FOR STABILIZED CONSTRUCTION ENTRANCE. 1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN...

Table with Maryland Standards and Specifications for Soil Erosion and Sediment Control.

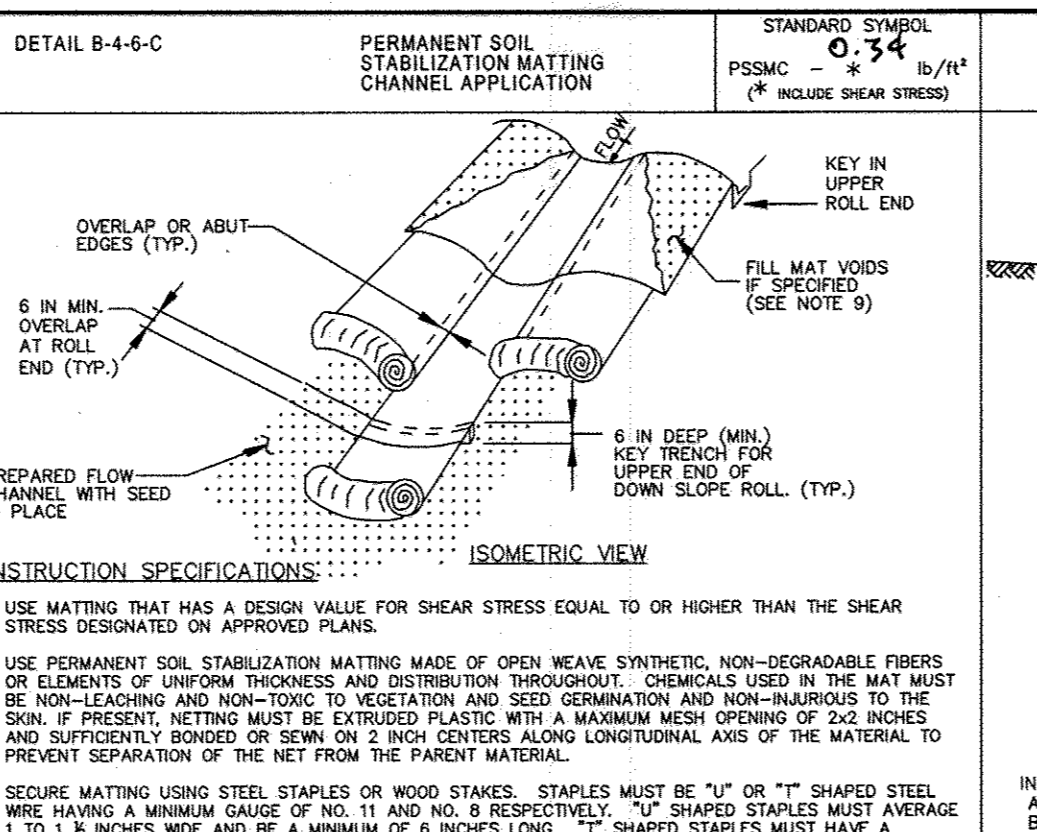
Definition: The process of preparing the soils to sustain adequate vegetative establishment. Purpose: To provide a suitable soil medium for vegetative growth.

Soil Preparation. 1. Temporary Stabilization. a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches...

Topsoiling. 1. Topsoil to be placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth...

ENGINEER'S CERTIFICATE. I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS...

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. Includes signatures and dates for the Chief Development Engineering Division and the Director.



CONSTRUCTION SPECIFICATIONS FOR PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION. 1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS...

Table with Maryland Standards and Specifications for Soil Erosion and Sediment Control.

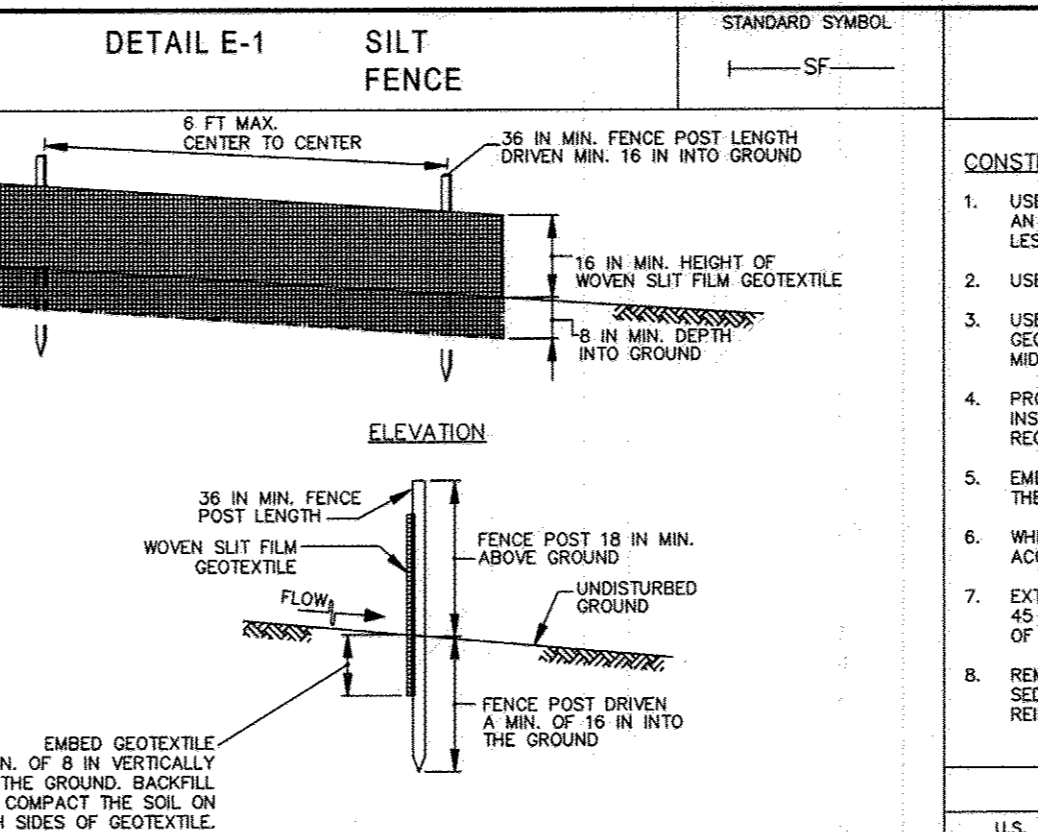
Definition: A mound or pile of soil produced by erosion and sediment control measures. Purpose: To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Stockpile Areas are utilized when it is necessary to salvage and store soil for later use. Criteria. 1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan...

CONSTRUCTION SPECIFICATIONS FOR STOCKPILE AREA. 1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.

ENGINEER'S CERTIFICATE. I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS...

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. Includes signatures and dates for the Chief Development Engineering Division and the Director.



CONSTRUCTION SPECIFICATIONS FOR SILT FENCE. 1. USE WOOD POSTS 1 1/2 IN. x 1 1/2 IN. x 3/8 IN. (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD...

Table with Maryland Standards and Specifications for Soil Erosion and Sediment Control.

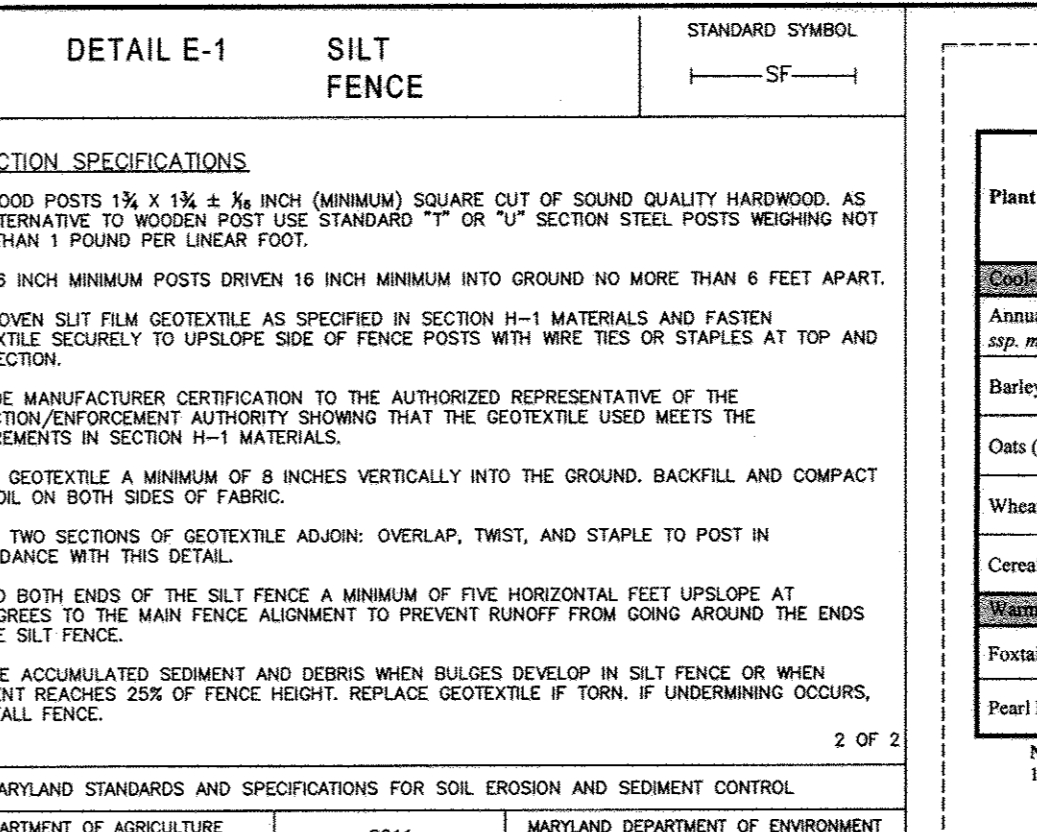
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CONSTRUCTION SPECIFICATIONS FOR STOCKPILE AREA. 1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.

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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. Includes signatures and dates for the Chief Development Engineering Division and the Director.

Table B.1: Temporary Seeding for Site Stabilization. Columns include Plant Species, Seeding Rate, Seeding Depth, and Recommended Seeding Dates by Plant Hardiness Zone.

Table B.3: Recommended Planting Dates for Permanent Cover in Maryland. Columns include Type of Plant Material, Plant Hardiness Zones, and Recommended Planting Dates.

NOTE: Seeding rates listed above are for warm-season grasses on a pound of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity...

NOTE: The planting dates listed are averages for each zone. These dates may require adjustment to reflect local conditions, especially near the boundaries of the zones.

SEQUENCE OF CONSTRUCTION. NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION. 1. OBTAIN GRADING PERMIT. DAY 1.

Table with columns for NO., DATE, REVISION, and REVISION. Includes entries for REUSE HSCD SITE CHART.

BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL AVE. SUITE 310A ELLICOTT CITY, MARYLAND 21043. Includes contact information and a professional seal.

OWNER: BROWN, CHRISTOPHER L AND BRUNN, MARY ELLEN. DEVELOPER: HARMONY BUILDERS INC. Includes site address and project details.