

LEGEND

SOILS CLASSIFICATION	CHB2	EXISTING STRUCTURE	
SOILS DELINEATION		PROPOSED BUILDING	
EXISTING CONTOURS		15% TO 25% SLOPES	
LIMIT OF WETLANDS		25% AND GREATER SLOPES	
EXISTING WOODS LINE		PROPOSED SEPTIC AREA	
PROPOSED WOODS LINE		WELL BOX	
100-YEAR FLOODPLAIN		DISCONNECTED PAVEMENT	
RECENTLY PASSING PERCOLATION TEST LOCATION		SHEET FLOW DISCONNECT	
PREVIOUSLY TESTED AND PASSED PERCOLATION TEST		STABILIZED CONSTRUCTION ENTRANCE	
LIMIT OF DISTURBANCE		SUPER SILT FENCE	
FACILITY DRAINAGE AREA		EROSION CONTROL MATTING	
SSF			

MAP SYMBOL	SOIL GROUP	SOIL TYPE
.24	GoD	B GALIA LOAM, 15 TO 25 PERCENT SLOPES
.20	GoB	B GLENELG LOAM, 3 TO 8 PERCENT SLOPES
.37	GmC	C GLENVILLE SILT LOAM, 8 TO 15 PERCENT SLOPES
.37	Ho	D HATBORO-CODORUS, 0 TO 3 PERCENT SLOPES
.24	MoC	B MANOR LOAM, 8 TO 15 PERCENT SLOPES
.24	MoD	B MANOR LOAM, 15 TO 25 PERCENT SLOPES

* INDICATES HYDRIC SOILS
 ** HIGHLY ERODIBLE, K>0.35, AND 5% OR GREATER SLOPES
 TAKEN FROM THE NRCS WEB SOIL SURVEY, AUGUST 2013, MAP 11

SHEET INDEX	
NO.	DESCRIPTION
1	ENVIRONMENTAL CONCEPT AND SEDIMENT CONTROL PLAN
2	STORMWATER MANAGEMENT COMPUTATIONS AND SEDIMENT CONTROL NOTES AND DETAILS

NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS

ENGINEERING, INC.

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OWNER:	PROJECT:
RAYMOND CARIGNAN 3285 ROSEMARY LANE WEST FRIENDSHIP, MARYLAND 21794	WILDFLOWER WOODS II
LOCATION:	TITLE:
TAX MAP 22, GRID 5, PARCELS 222 & 270 3285 AND 3285 ROSEMARY LANE 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	ENVIRONMENTAL CONCEPT AND SEDIMENT CONTROL PLAN
DATE:	PROJECT NO.:
JUNE, 2014	2576
DESIGN:	DRAFT:
AM	AM
SCALE:	DRAWING:
1" = 50'	1 OF 2

SITE ANALYSIS DATA SHEET

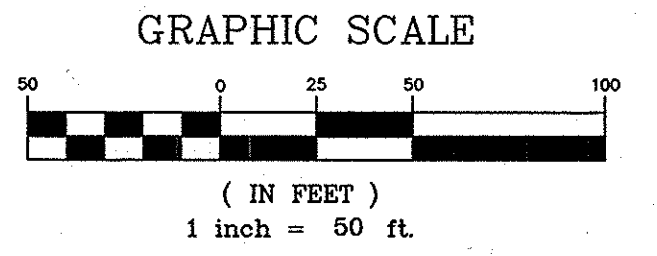
A) TOTAL PROJECT AREA.....	10.33± AC.
B) AREA OF WETLANDS AND BUFFER.....	0.24± AC.
C) AREA OF 100-YR. FLOODPLAIN.....	0.37± AC.
D) AREA OF FOREST.....	8.8± AC.
E) AREA OF STEEP SLOPES 15% OR GREATER.....	4.25± AC.
F) ERODIBLE SOILS.....	3.72± AC.
G) PROPOSED USES FOR THE SITE: SINGLE FAMILY DWELLINGS.....	2.64± AC.
H) EFFECTIVE SITE AREA.....	1.82± AC.
I) LIMIT OF DISTURBED AREA.....	4.54± AC.
J) GREEN OPEN AREA**.....	4.16± AC.
K) IMPERVIOUS AREA**.....	0.38± AC.

**** HIGHLY ERODIBLE SOILS ARE ENTIRELY OUTSIDE OF THE EFFECTIVE SITE AREA AND LIMIT OF DISTURBANCE.**
 *** OPEN SPACE AND IMPERVIOUS AREA ARE BASED ON THE EFFECTIVE SITE AREA ONLY, AND DO NOT INCLUDE EXISTING DEVELOPMENT.

NOTE: FINAL SEDIMENT CONTROL PLAN WILL REQUIRE ADDITIONAL DESIGN FOR SEDIMENT CONTROL DEVICES, INCLUDING DRAINAGE AREAS, SLOPE LIMITATIONS AND DISCHARGE LOCATIONS.

GENERAL NOTES

- SUBJECT PROPERTY ZONED RR-DEO PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING REGULATIONS.
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ZONING REGULATIONS EFFECTIVE APRIL 13, 2004.
- PROJECT TOPOGRAPHY WITHIN THE SUBDIVISION AREA ARE BASED ON HOWARD COUNTY GIS TOPOGRAPHY.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM, OR THEIR REQUIRED BUFFERS UNLESS DEEMED NECESSARY BY THE DEPARTMENT OF PLANNING AND ZONING.
- THE 100-YEAR FLOODPLAIN SHOWN WITHIN THE PROJECT BOUNDARIES IS BASED ON THE PLAT (20215) DEPICTION OF A FLOOD STUDY PERFORMED BY CHRISTOPHER CONSULTANTS, IN 2007 FOR THE ADJACENT PROJECT, WILDFLOWER WOODS. THE FLOODPLAIN WILL BE NON-CRITICAL WITH RELATIONSHIP TO THE CURRENT PROJECT.
- A WETLAND DELINEATION WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. DATED JANUARY, 2014.
- A FOREST STAND DELINEATION WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. DATED JANUARY, 2014.
- THERE IS AN EXISTING RESIDENCE (CIRCA 1974) LOCATED ON THIS PROPERTY. TO REMAIN. THE RESIDENCE IS OUTSIDE OF THE EFFECTIVE SITE LIMITS FOR STORMWATER MANAGEMENT.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERIES LOCATED ON THIS SITE.
- THIS PROPOSED SUBDIVISION IS NOT A "RESUBDIVISION" BECAUSE THESE PARCELS WERE CREATED IN 1973 IN ACCORDANCE WITH HOUSE BILL 452 WHICH PERMITTED THE CREATION OF 5 ACRE PARCELS BY DEED. AS SUCH, THE PROPOSED SUBDIVISION OF PARCELS 222 & 270 (PARCELS H AND I OF "WILDFLOWER WOODS" AS SHOWN ON THE 1973 PLATS) INTO NEW LOTS 1-3 OF WILDFLOWER WOODS II IS RECOGNIZED AS A MINOR SUBDIVISION.
- THIS PROPERTY IS EXEMPT FROM THE COUNTY'S FOREST CONSERVATION REQUIREMENTS PER SECTION 16-1202(b)(7)(iii) OF THE SUBDIVISION REGULATIONS.
- PREVIOUS DPZ FILES: ~~THERE ARE NO PREVIOUS DPZ FILES FOR THIS PROJECT.~~ **WP-14-090**
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION AND/OR SITE DEVELOPMENT PLAN.
- REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION AND/OR SITE DEVELOPMENT PLAN STAGES. THEREFORE, THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED COMMENTS (INCLUDING THOSE THAT MAY ALTER OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES.



DESIGN NARRATIVE:

THE SITE WAS ANALYZED AS WOODS IN GOOD CONDITION AND A TARGET RCN WAS DETERMINED. ONLY THE DEVELOPABLE AREA WAS ANALYZED. THE DEVELOPABLE AREA IS THE SITE AREA EXCLUDING THE PROTECTED ENVIRONMENTAL AREAS. A TARGET RAINFALL DEPTH TREATMENT (Pe) WAS DETERMINED BASED ON THE MEASURED IMPERVIOUS AREAS AND HSG TYPES. THE TARGET Pe FOR THIS SITE IS 1.0 INCHES. THE TARGET Pe WAS TREATED USING ENVIRONMENTAL SITE DESIGN PRACTICES AS OUTLINED IN CHAPTER 5 OF THE 2000 MARYLAND STORMWATER DESIGN MANUAL, AS AMENDED BY MARYLAND'S STORMWATER MANAGEMENT ACT OF 2007. THE SELECTED METHODS ARE BIORETENTION, NON-ROOFTOP DISCONNECTION AND DRY WELLS.

ENVIRONMENTAL FEATURES ON THIS SITE INCLUDE STEEP SLOPES, FORESTED AREAS, WETLANDS, STREAMS AND FLOODPLAINS. TO PROTECT NATURAL RESOURCES IT IS IMPORTANT TO MINIMIZE AND ADEQUATELY TREAT THE STORMWATER RUNOFF. THIS PROJECT MINIMIZED STORMWATER RUNOFF USING USE-IN-COMMON DRIVEWAYS AND RETAINING AND TREATING RUNOFF ON-SITE. OUTFALLS GENERALLY CORRESPOND WITH THE NATURAL DRAINAGE PATTERNS FOR THE SITE AND RELEASE AT MULTIPLE LOCATIONS, TO HELP ENSURE ADEQUATE FLOWS TO EXISTING WETLAND AREAS.

SEDIMENT AND EROSION CONTROLS HAVE BEEN DESIGNED BASED ON THE 2011 MARYLAND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. EROSION CONTROL MATTING AND SUPER SILT FENCE WILL BE USED TO PREVENT RUNOFF CONTAINING UNACCEPTABLE LEVELS OF TSS FROM LEAVING THE SITE AND ENTERING THE ADJACENT WETLANDS DURING THE CONSTRUCTION. IT WILL BE THE OBLIGATION OF THE CONTRACTOR TO INSTALL, INSPECT AND MAINTAIN THESE PRACTICES.

THE TARGET Pe FOR THIS SITE IS 1.0 INCHES. BY USING ENVIRONMENTAL SITE DESIGN PRACTICES AS OUTLINED IN CHAPTER 5 OF THE 2000 MARYLAND STORMWATER DESIGN MANUAL AS AMENDED BY MARYLAND STORMWATER MANAGEMENT ACT OF 2007, FULL TREATMENT OF THE TARGET Pe OF 1.0 WAS ACHIEVED, FULLY ADDRESSING THE STORMWATER MANAGEMENT REQUIREMENTS. A WAIVER PETITION WAS SUBMITTED TO OBTAIN PERMISSION TO RETAIN ENVIRONMENTAL FEATURES (FOREST CONSERVATION, FLOOD PLAIN, STREAMS, WETLANDS AND BUFFERS) ON LOTS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
	7/14/14
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
	7.16.14
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

Definition: To stabilize disturbed soils with permanent vegetation. Purpose: To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils. Conditions: Where Practice Applies Exposed soils where ground cover is needed for 6 months or more.

- 1. General Use: Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone... 2. Turfgrass Mixtures: Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites...

PERMANENT SEED MIXTURE

Table with columns: HARDINESS ZONE, SPECIES, APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS (IN), FERTILIZER RATE (N-P205-K20), and LIME. Includes species like Creeping Red Fescue and Kentucky Bluegrass.

Table B.1: Temporary Seeding for Site Stabilization

Table with columns: Plant Species, Seeding Rate (lb/1000 sq ft), Seeding Depth (inches), Recommended Seeding Dates by Plant Hardiness Zone (4a, 6a, 7a and 7b).

NOTES: 1. Seeding rates for the warm-season grasses are based on Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity... 2. For sandy soils, plant seeds at twice the depth listed above.

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

A. Seeding: 1. Specifications: All seed must meet the requirements of the Maryland State Seed Law... 2. Application: Topsoiling includes use of conventional drop or broadcast spreaders... B. Mulching: 1. Mulch Materials (in order of preference): Straw consisting of thoroughly threshed wheat, rice, oat, or barley...

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION... 2. 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...

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

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... 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...

Table with columns: PROJECT (WILDFLOWER WOODS II), PRACTICES AND SIZING, DATE (6/2/2014). Includes sub-tables for BIORETENTION FACILITIES, DRYWELL FACILITIES, and NON-ROOFTOP DISCONNECTIONS.

ESD STORMWATER COMPUTATIONS

Table with columns: PROJECT (WILDFLOWER WOODS II), DATE (06/02/14), JOB NO. (2576). Includes sections for Step 1 - Determine ESD Implementation Goals and Step 2 - Determine Target PE Using Table 5.3.

A. Determine Pre-Developed Conditions:

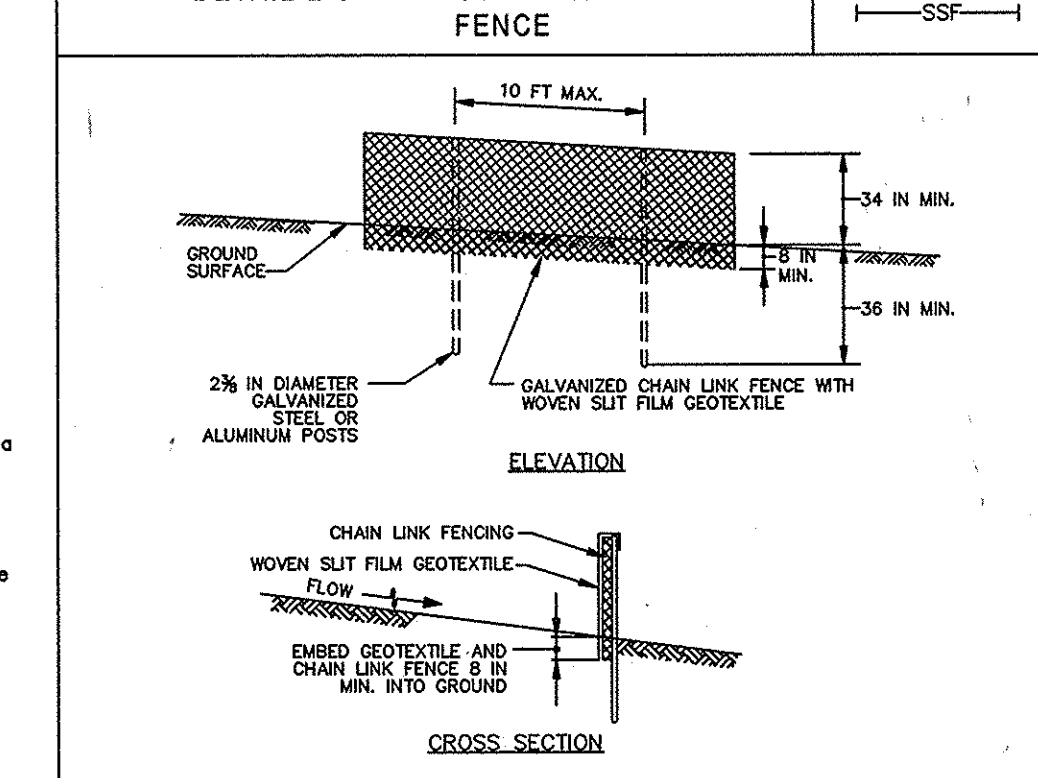
Table with columns: Soil Conditions (HSG, RCN, Area, Percent), PE ≥ 1.0 inches will reduce the RCN to reflect "woods in good condition".

Calculate Composite:

Table with columns: RCN = 38 x 0 + 55 x 197,585 + 70 x 0 + 77 x 0 = 55. Includes sub-tables for Estimated ESDv and Estimate of total retained/treated.

C. The target RCN for "woods in good condition" is 55

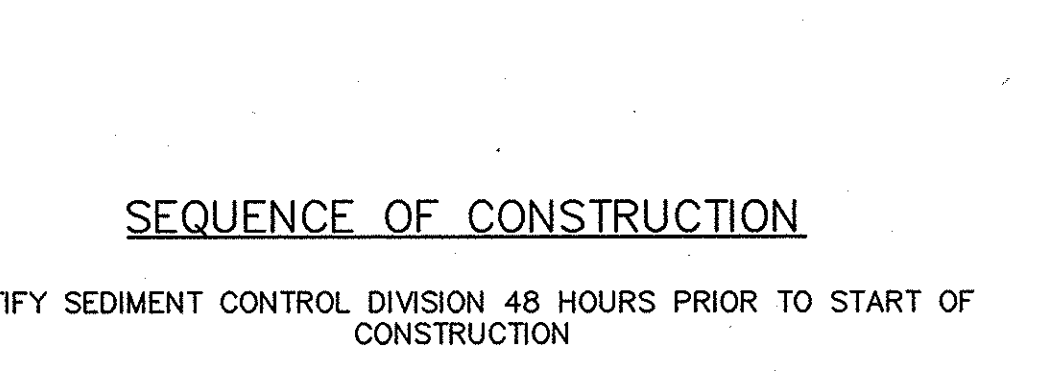
DETAIL E-3 SUPER SILT FENCE



CONSTRUCTION SPECIFICATIONS

- 1. INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.035 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART... 2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE WITH 3/4 INCH HUG RINGS...

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE



SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT. (DAY 1) 2. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SUPER SILT FENCE. (DAY 2-4) 3. UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, GRADE IN DRIVEWAY AND PROVIDE MINIMUM OF STONE BASE STABILIZATION. (DAY 5-6) 4. CONSTRUCT HOUSE. (DAY 7-8) 5. UPON COMPLETION OF HOUSE CONSTRUCTION AND STABILIZATION OF SURROUNDING AREAS, PAVE FINAL SURFACE OF DRIVEWAY. (DAY 8-12) 6. CONSTRUCT DRY WELLS AND CONNECT APPROPRIATE DOWNPOUTS (MAXIMUM OF 1000 SF DRAINAGE AREA TO EACH DRY WELL). (DAY 83-85) 7. UPON STABILIZATION OF CONTRIBUTING AREAS, CONSTRUCT BIORETENTION FACILITIES. (DAY 86-90) 8. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES, AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (DAY 90-92)

ESD STORMWATER COMPUTATIONS

Table with columns: PROJECT (WILDFLOWER WOODS II), DATE (06/02/14), JOB NO. (2576). Includes sections for Step 1 - Determine ESD Implementation Goals and Step 2 - Determine Target PE Using Table 5.3.

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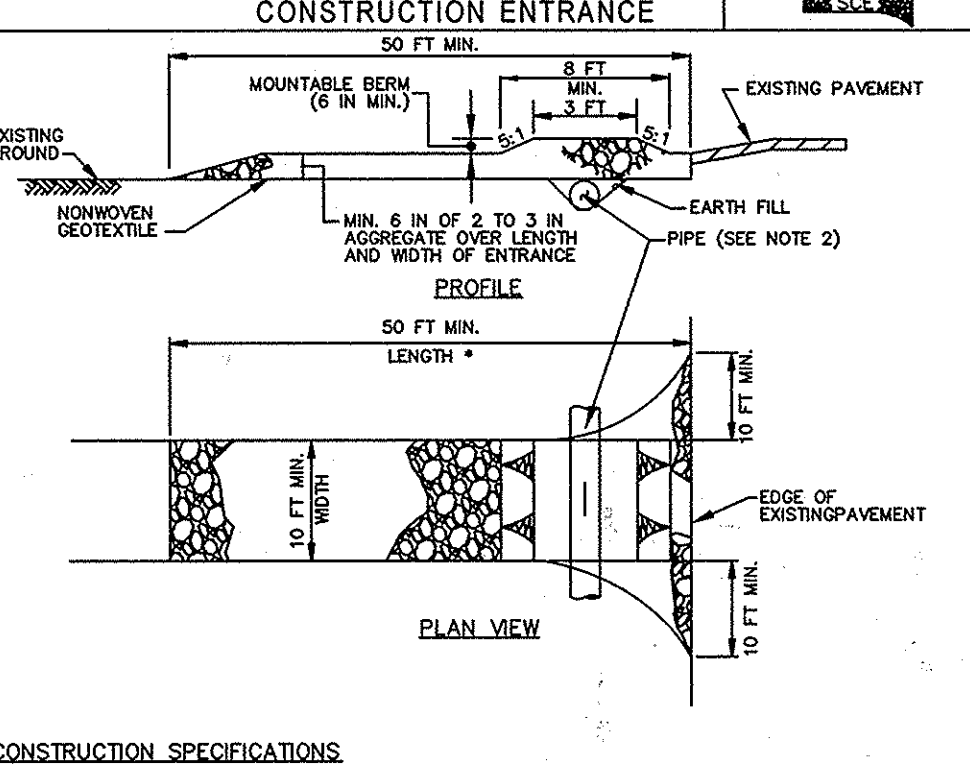
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Calculate Composite:

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C. The target RCN for "woods in good condition" is 55

DETAIL B-4-G PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION



CONSTRUCTION SPECIFICATIONS

- 1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS. 2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELASTOMER WITH UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT... 3. SECURE MATTING USING STAPLES OR NAIL STAPLES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WITH A MINIMUM GAGE OF NO. 11 AND NO. 8 RESPECTIVELY...

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

Table with columns: U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE, 2011, MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES CONSERVATION SERVICE, 2011, MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES CONSERVATION SERVICE, 2011.

APPROVED: DEPARTMENT OF PLANNING AND ZONING. Chief, Division of Land Development. Date: 7/14/14. Chief, Development Engineering Division. Date: 7-16-14.

BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE A SUITE 315 A ELICOTT CITY, MARYLAND 21043. PROJECT: WILDFLOWER WOODS II. LOCATION: TAX MAP 22, GRID 5, PARCELS 222 & 270. TITLE: STORMWATER MANAGEMENT COMPUTATIONS AND SEDIMENT CONTROL NOTES AND DETAILS. DATE: JUNE, 2014. PROJECT NO. 2576. DESIGN: AM DRAFT: AM SCALE: 1" = 50' DRAWING 2 OF 2.