SUPPLEMENTAL PLAN
SQUARE WOODS
LOTS 1 THRU 3
TAX MAP No. 20 GRID No. 04 PARCEL NO. 140
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SUPPLEMENTAL PLAN, LANDSCAPE & DRAINAGE AREAS
3	SEDIMENT AND EROSION CONTROL
4	DETAILS AND PROFILE
5	ONSITE AND OFFSITE FOREST CONSERVATION
6	FOREST CONSERVATION AND LANDSCAPE DETAILS
7	SEDIMENT CONTROL NOTES

SOILS LEGEND

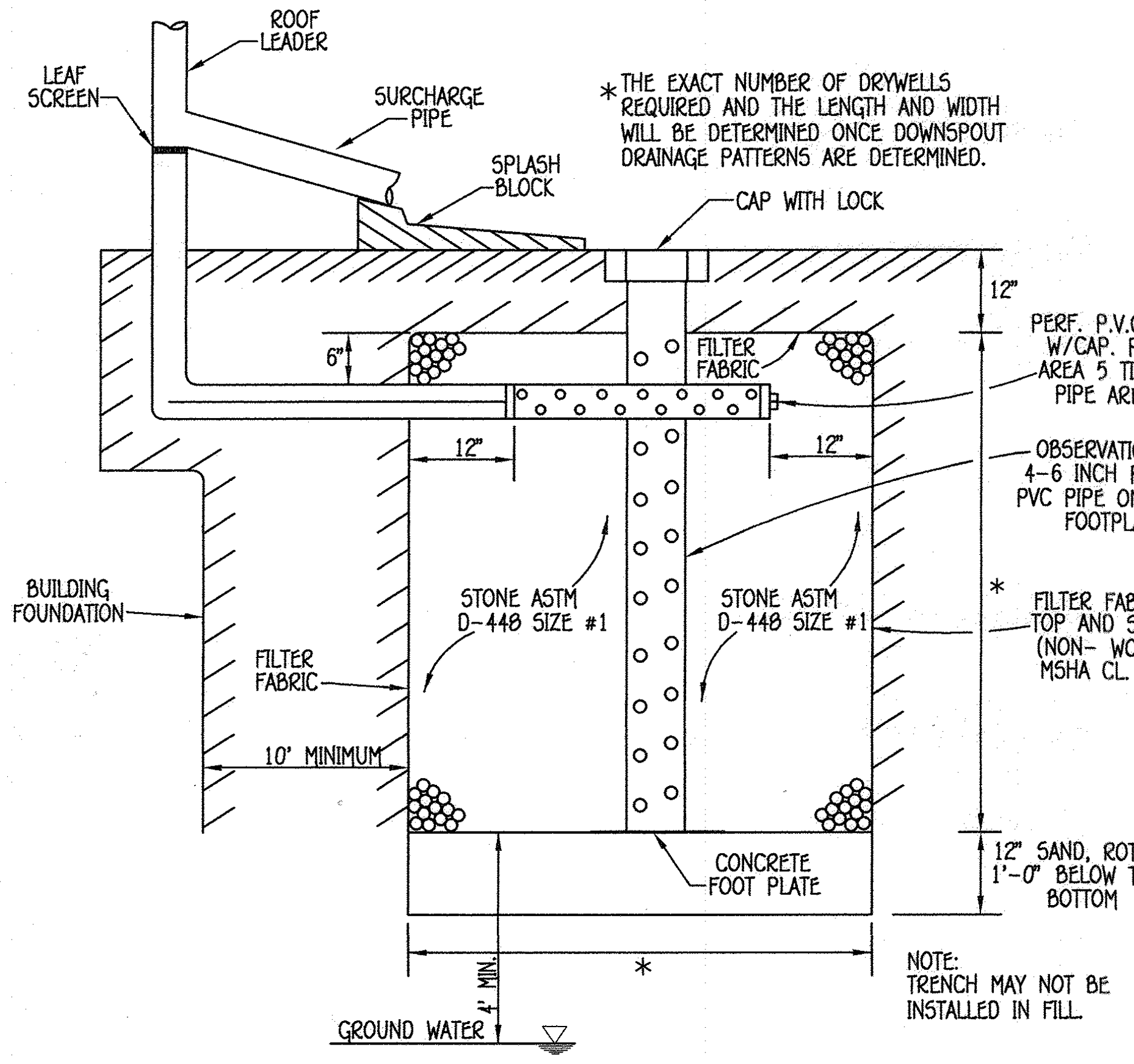
SOIL	NAME	CLASS	K FACTOR
GgA	Glenelg loam, 0 to 3 percent slopes	B	0.20
GgB	Glenelg loam, 3 to 8 percent slopes	B	0.20
GgC	Glenelg loam, 8 to 15 percent slopes	B	0.20
*GmB	Glenville silt loam, 3 to 8 percent slopes	C	0.37

*–Denotes Highly Erodible Soils

STORMWATER MANAGEMENT SUMMARY

AREA ID.	ESDv REQUIRED CU.FT.	ESDv PROVIDED CU.FT.	REMARKS
SITE	4,174	4,228	DRYWELLS (M-5), MICRO-BIORETENTION (M-6), & NON-ROOFTOP DISCONNECTION (N-2)
TOTAL	4,174	4,228	

GROSS AREA = 9.77 ACRES
SITE AREA / LOD = 4.72 ACRES
RCN = 56.7
TARGET Pe = 1.2"



* THE EXACT NUMBER OF DRYWELLS REQUIRED AND THE LENGTH AND WIDTH WILL BE DETERMINED ONCE DOWNSPOUT DRAINAGE PATTERNS ARE DETERMINED.

NOTE:
TRENCH MAY NOT BE INSTALLED IN FILL.

DRY WELL DETAIL (M-5)
NOT TO SCALE

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

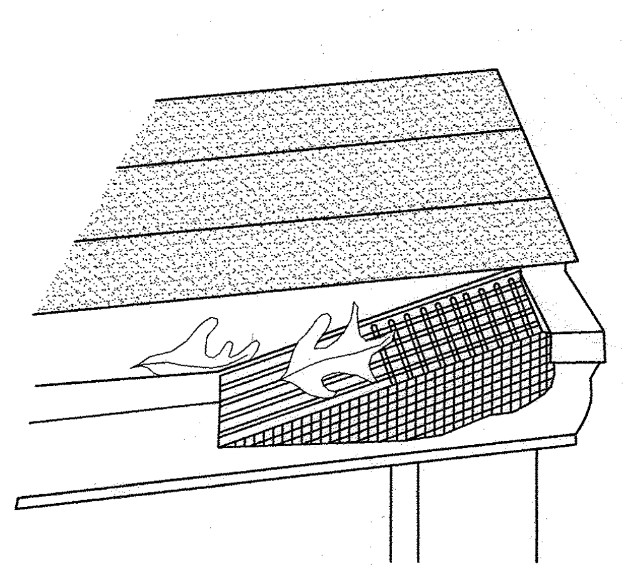
Material	Specification	Size	Notes
Plantings	see Appendix A; Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep]	loamy sand 60-65% compost 35-40% or sandy loam 30% coarse sand 30% compost 40%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel diaphragm	pea gravel: ASTM-D-448	No. 8 or No. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	No. 57 or No. Aggregate (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	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 pipes; not necessary underneath 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 sealed and approved by a professional structural engineer licensed in the State of Maryland – design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

STORMWATER MANAGEMENT NOTES

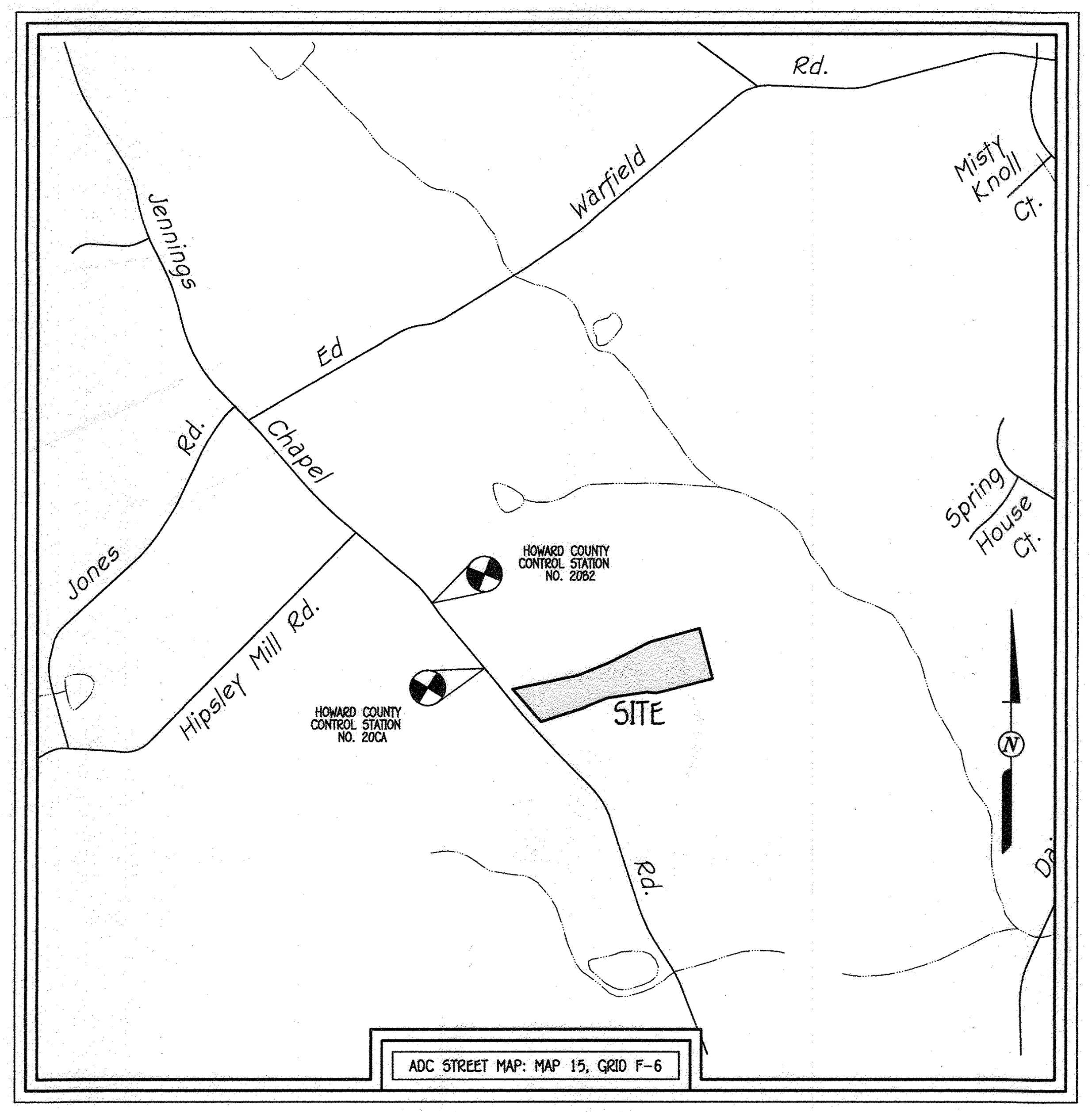
1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
3. DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5%. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
4. FINAL GRADING IS SHOWN ON THE SITE DEVELOPMENT PLAN.

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
D. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
F. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED. THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.



GUTTER DRAIN FILTER DETAIL
NOT TO SCALE



VICINITY MAP

0' 1200' 2400'
Scale: 1" = 1200'

DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L W D	REMARKS
1a	1,000 SQ. FT.	95 C.F.	160 C.F.	100%*	10 x 8' x 5'	LOT 1
1b	1,000 SQ. FT.	95 C.F.	160 C.F.	100%*	10 x 8' x 5'	LOT 1
1c	1,000 SQ. FT.	95 C.F.	160 C.F.	100%*	10 x 8' x 5'	LOT 1
1d	1,000 SQ. FT.	95 C.F.	160 C.F.	100%*	10 x 8' x 5'	LOT 1
2a	1,000 SQ. FT.	95 C.F.	160 C.F.	100%*	10 x 8' x 5'	LOT 2
2b	1,000 SQ. FT.	95 C.F.	160 C.F.	100%*	10 x 8' x 5'	LOT 2
2c	1,000 SQ. FT.	95 C.F.	160 C.F.	100%*	10 x 8' x 5'	LOT 2
2d	1,000 SQ. FT.	95 C.F.	160 C.F.	100%*	10 x 8' x 5'	LOT 2
3a	1,000 SQ. FT.	95 C.F.	160 C.F.	100%*	10 x 8' x 5'	LOT 3
3b	1,000 SQ. FT.	95 C.F.	160 C.F.	100%*	10 x 8' x 5'	LOT 3

DRY WELL CHART

* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

MICRO-BIORETENTIONS

MICRO-BIORETENTION FILTER	A	B	C	D	E	F	G	H	I
LOT 3	540.0	540.0	539.0	538.75	536.75	536.42	535.75	534.58	535.5

MICRO-BIORETENTION PLANT MATERIAL

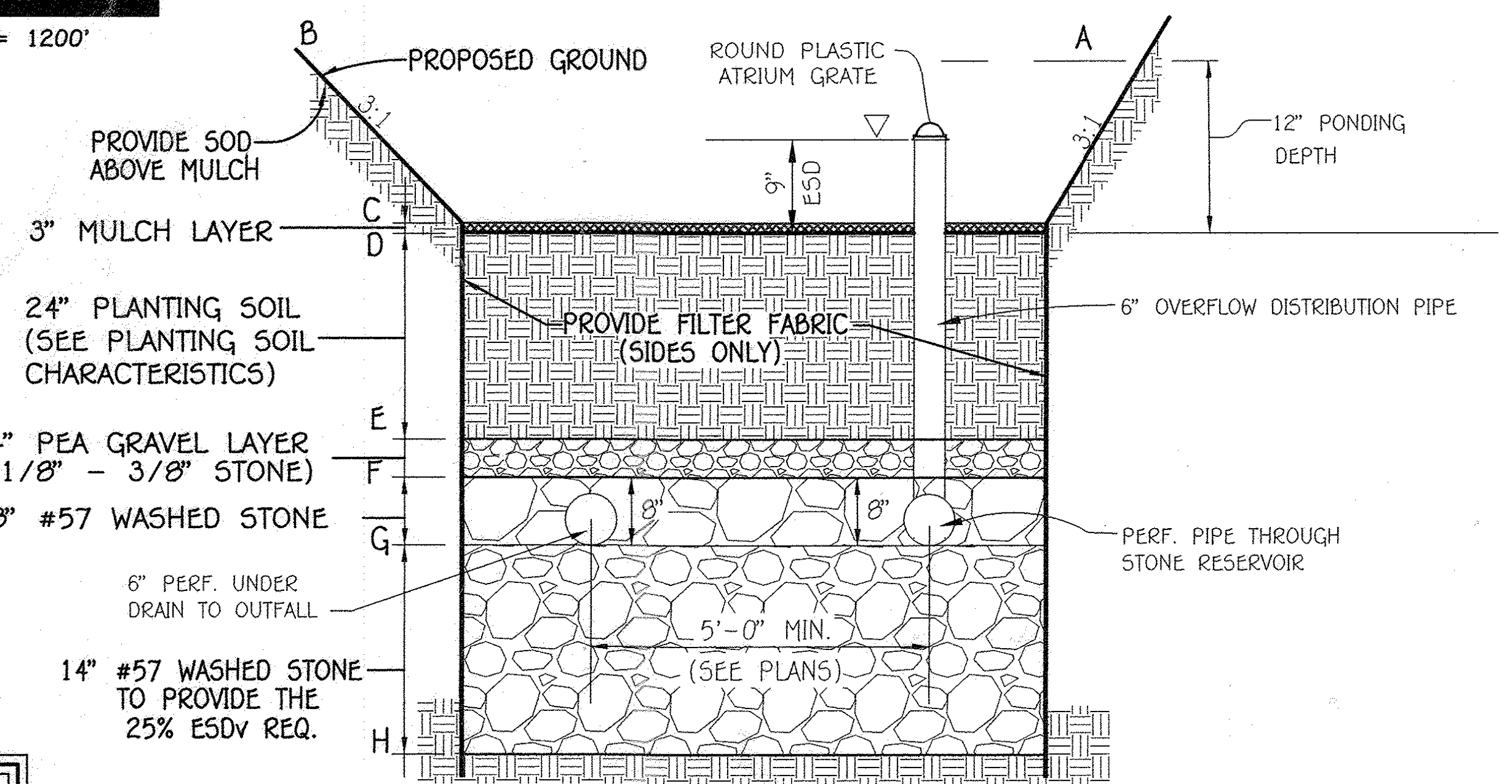
MICRO-BIO 1 QUANTITY	NAME	MAXIMUM SPACING (FT.)
130	MIXED PERENNIALS	1.5 TO 3.0 FT.
2	SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION

STORMWATER MANAGEMENT PRACTICES

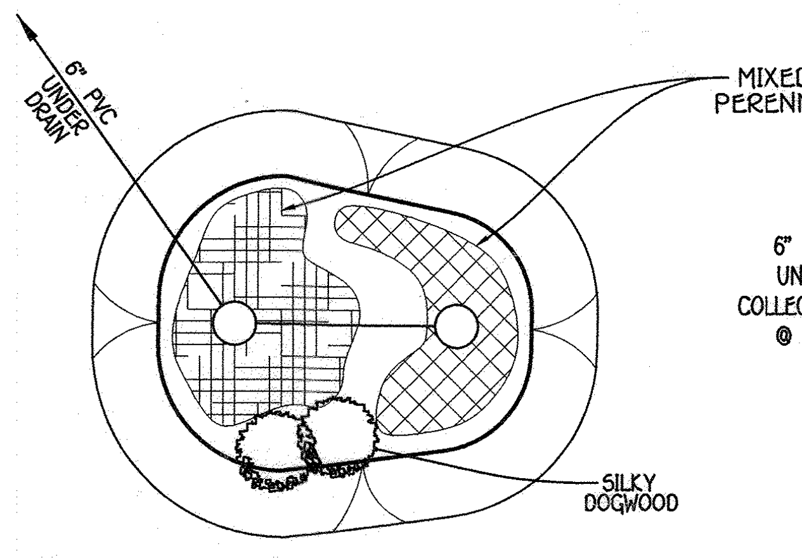
LOT No.	ADDRESS	DRY WELLS M-5 (NUMBER)	MICRO-BIO M-6 (NUMBER)	ROOFTOP DISCONNECTION N-1 (NUMBER)	NON-ROOFTOP DISCONNECTION N-2 (NUMBER)
1	3351 JENNINGS CHAPEL RD.	4	0	0	See Below
2	3355 JENNINGS CHAPEL RD.	4	0	0	See Below
3	3359 JENNINGS CHAPEL RD.	2	1	0	See Below
–	(USE-IN-COMMON)	0	0	0	1

SITE ANALYSIS DATA CHART

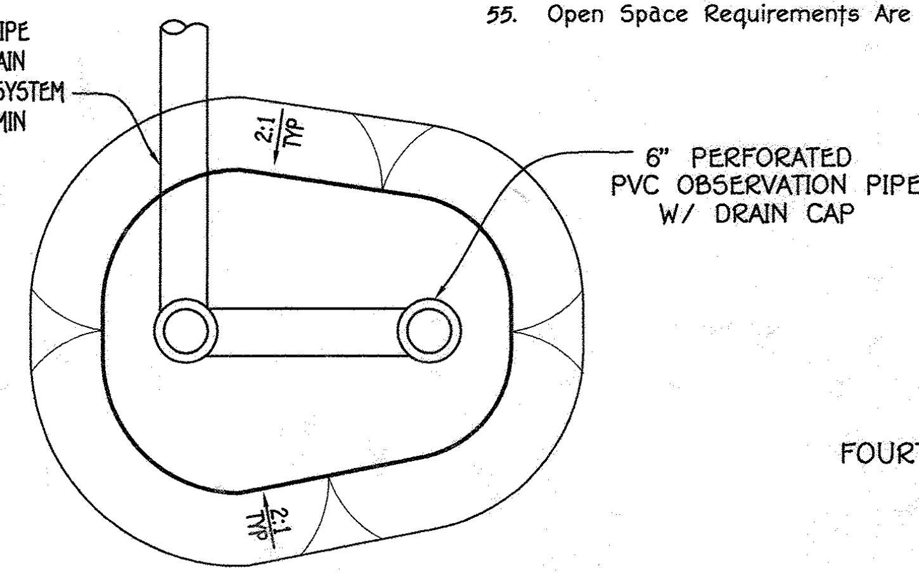
A. TOTAL AREA OF THIS SUBMISSION = 9.774 ac.±.
B. LIMIT OF DEVELOPABLE AREA = 9.774 AC.± (LOTS)
C. LIMIT OF DISTURBED AREA = 205,478 Sq. Ft. or 4.72 Ac±.
D. PRESENT ZONING DESIGNATION = RC-DEO (PER 10/06/13 COMPREHENSIVE ZONING PLAN).
E. PROPOSED USE: RESIDENTIAL SUBDIVISION (SINGLE FAMILY DETACHED)
F. OPEN SPACE ON SITE: N/A
G. RECREATIONAL AREA PROVIDED: N/A
H. BUILDING COVERAGE OF SITE: 11,550 SQ.FT. OR 0.265 Ac.±
I. PREVIOUS HOWARD COUNTY FILES: F-16-120, ECP-17-036
J. TOTAL AREA OF FLOODPLAIN: 0.00 Ac.
K. TOTAL AREA OF SLOPES: 25% or GREATER = 0.00 Ac.
15%-24.99% = 0.08 Ac.
L. NET TRACT AREA = 9.774 Ac±
(TOTAL SITE AREA – FLOODPLAIN – STEEP SLOPES AREA)
M. TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 Ac±
N. TOTAL AREA OF STREAMS (INCLUDING BUFFER) = 0.00 Ac±
O. TOTAL AREA OF FOREST = 3.80 Ac.±
P. TOTAL GREEN OPEN AREA = 8.93 Ac.±
Q. TOTAL IMPERVIOUS AREA = 0.84 Ac.±
R. AREA OF ERODIBLE SOILS = 1.01 Ac.±



MICRO BIO-RETENTION SECTION WITH 6" OVERFLOW DISTRIBUTION PIPE
NO SCALE



MICRO BIO-RETENTION PLANTING DETAIL
NOT TO SCALE



General Notes:

1. Subject Property Is Zoned RC-DEO Per The 10/06/13 Comprehensive Zoning Plan.
2. Coordinates Based On Nad '83, Maryland Coordinate System As Projected By Howard County GeodeticControl Stations No. 20B2 And No. 20CA.

Sta. 20B2	N 588,346.2843	E 1,287,505.6056	Elevation 577.30
Sta. 20CA	N 587,916.0761	E 1,287,859.6568	Elevation 576.56

3. This Plan Is Based On Field Run Monumented Boundary Survey Performed On Or About February, 2016 By Fisher, Collins & Carter, Inc.
4. B.R.L. Denotes Building Restriction Line.
5. ● Denotes Iron Pin Set Capped "F.C.C. 106".
6. Denotes Iron Pipe Or Iron Bar Found.
7. ○ Denotes Angular Change In Bearing Of Boundary Or Rights-Of-Way.
8. ■ Denotes Concrete Monument Set With Aluminum Plate "F.C.C. 106".
9. Denotes Concrete Monument Or Stone Found.
10. All Areas Are More Or Less (±).
11. Distances Shown Are Based On Surface Measurement And Not Reduced To Nad '83 Grid Measurement.
12. For Flag Or Pipe Stem Lots, Refuse Collection, Snow Removal And Road Maintenance Are Provided To The Junction Of Flag Or Pipe Stem And Road Right-Of-Way Line Only And Not Onto The Flag Or Pipe Stem Lot Driveway.
13. 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 Feet (16 Feet Serving More Than One Residence);
    b) Surface – Six (6") Inches Of Compacted Crusher Run Base With Tar And Chip Coating. (1-1/2" Minimum);
    c) Geometry – Maximum 15% Grade, Maximum 10% Grade Change And 45-Foot Turning Radius;
    d) Structures (Culverts/Bridges) – Capable Of Supporting 25 Gross Tons (H25-Loading);
    e) Drainage Elements – Capable Of Safely Passing 100 Year Flood With No More Than 1 Foot Depth Over Surface;
    f) Structure Clearances – Minimum 12 Feet;
    g) Maintenance – Sufficient To Ensure All Weather Use.
14. Property Subject To Prior Department Of Planning And Zoning File No's: F-16-120 And ECP-17-036.
15. To The Best Of Our Knowledge, No Cemeteries Exist On Site By Both Visual Observation And Review Of Available Howard County Information.
16. There Are No 100 Year Floodplain, Wetlands, Streams Or Their Buffers On This Site.
17. Traffic Study Is Not Required For This Minor Subdivision.
18. This Property Is Not Located In A Historic District.
19. This Plat Is In Compliance With The Amended Fifth Edition Of The Subdivision And Land Development Regulations Per Council Bill 45-2003 And The 10/06/13 Comprehensive Zoning Plan. Development Or Construction On These Lots Must Comply With Setback And Buffer Regulations In Effect At The Time Of Submission Of The Site Development Plan, Waiver Petition Application, Or Building/Grading Permit.
20. This Property Is Located Outside The Metropolitan District.
21. There Is One Existing Structure (Shed) And Wood Fencing Located Onsite, Both Are To Be Removed.
22. The Lots Shown Hereon Comply With The Minimum Ownership Width And Lot Area As Required By The Maryland State Department Of The Environment.
23. ▨ This Area Designates A Private Sewerage Easement Of At Least 10,000 Square Feet As Required By The Maryland State Department Of The Environment For Individual Sewage Disposal. Improvements Of Any Nature In This Area Restricted Until Public Sewage Is Available. These Easements Shall Become Null And Void Upon Connection To A Public Sewage System. The County Health Officer Shall Have The Authority To Grant Variances For Encroachments Into The Private Sewage Easement. Recordation Of A Modified Sewage Easement Shall Not Be Necessary.
24. This Submission Is In The Tier IV Growth Area.
25. Articles Of Incorporation For The Square Woods Homeowners Association, Inc. ~~Was Filed With The State Department Of Assessments And Taxation On , Receipt No.~~ See Record Plat
26. All Wells Have Been Drilled Prior To Final Plat Recordation.
27. No Noise Study Is Required Because The Project Does Not Fall Within The Guidelines Of Design Manual, Volume III, Roads, Bridges, Section 5.2.F.2.
28. A Letter Of Findings Dated January 18, 2017 Prepared By Eco-Science Professionals, Inc Determined That There Are No Wetlands, Wetland Buffer, Stream And Stream Buffer Located Within The Limits Of The Final Plat.
29. Site Is Adjacent To One Scenic Road (Jennings Chapel Road). A Scenic Roads Report Has Been Provided By Fisher, Collins & Carter, Inc. Dated 01/18/17.
30. Forest Stand Delineation And Wetland Delineation Was Prepared By Eco-Science Professionals, Inc. Dated January, 2017.
31. This Plan Has Been Prepared In Accordance With The Provisions Of Section 16.124 Of The Howard County Code And The Landscape Manual. A Landscape Surety For 31 Shade Trees @ $300/Tree, 18 Evergreen Trees @ $150/Tree, and 125 Shrubs @ $30/Shrub In The Amount Of ($15,750.00) Will Be Posted As Part Of The Builders Grading Permit For Lot 1 In The Amount Of $3,900 (9 Shade Trees & 8 Evergreen Trees), For Lot 2 In The Amount Of $0, And For Lot 3 In The Amount Of $11,850 (22 Shade Trees, 10 Evergreen Trees & 125 Shrubs).
32. The Forest Conservation Easement Areas Within This Subdivision Have Been Established To Fulfill The Requirements Of Section16.1200 Of The Howard County Code And The Forest Conservation Act. No Clearing, Grading Or Construction Is Permitted Within The Forest Conservation Easement; However, Forest Management Practices As Defined In The Deed Of Forest Conservation Are Allowed. The Forest Conservation Act Requirements For Subdivision Will Be Met Through The On-Site Retention Of 1.50 Acres; Off-Site Planting Of 1.82 Acres On Tax Parcel 94, Tax Map 20, And Off-Site Planting (Reforestation) Of 0.40 Acres On Lot 1, Casasco Property (Plat Nos. 24070 And 24071. The Planting (Reforestation) Will Require Posting A Total Forest Surety Of $48,352.00 (2.22 Acres x 43,560 Sq. Ft./Acre x $0.50 Per Square Foot) With The Developers Agreement.The Private Use-In-Common Driveway Access Easement And Maintenance Agreement For Shared Driveway On Lots 2 And 3 Is Recorded Simultaneously With The Plat.
33. This Plan Is In Compliance With The Amended Fifth Edition Of The Subdivision And Land Development Regulations Per Council Bill 45-2003 And The 10/06/13 Comprehensive Zoning Plan. Development Or Construction On These Lots Must Comply With Setback And Buffer Regulations In Effect At The Time Of Submission Of The Site Development Plan. Waiver Petition Application, Or Building/Grading Permit.
34. In Accordance With Section 16.121 Of The Howard County Subdivision and Land Development Regulations, the Open Space Requirement For This Project Will Be Satisfied By The Payment Of Fee-In-Lieu.
35. Subdivision Is Subject To Section 104.0.F. Of The Zoning Regulations, At Least 10% Of The Dwelling Units Shall Be Moderate Income Housing Units (M.I.H.U.) Or An Alternative Compliance Will Be Provided. The Developer Shall Execute A M.I.H.U. Agreement With The Department Of Housing To Indicate How The M.I.H.U. Requirement Will Be Met. The M.I.H.U. Agreement And Covenants Will Be Recorded Simultaneously With This Plat In The Land Records Office Of Howard County, Maryland. This Development Will Meet M.I.H.U. Alternative Compliance By A Payment Of A Fee-In-Lieu To The Department Of Housing For Each Required Unit.
    Moderate Income Housing Unit (M.I.H.U.) Tabulation:
    a. M.I.H.U. Required – (3 Lots x 10%) = 0.3 M.I.H.U.
    b. M.I.H.U. Proposed = Developer Will Pursue Alternative Compliance By Paying A Fee-In-Lieu To The Howard County Housing Department For The Units Required By The Development.
    c. An Executed M.I.H.U. Agreement With The Howard County Housing Department Has Been Completed.
37. An M.I.H.U. Agreement And Declaration Of Covenants Are Recorded Simultaneously With The Plat.
38. A Pre-Submission Community Meeting Was Held For This Subdivision On August 22, 2016.
39. A Noise Study Is Not Required For This Project.
40. No Historic Structures Exist Within The Limits Of This Plat Submission.
41. Stormwater Management Is In Accordance With The M.D.E. Storm Water Design Manual, Volumes I & II, Revised 2009. Stormwater Management Is Being Provided By The Use Of Ten Areas Of (M-5) Drywells, One (M-6) Micro-Bioretention Facility And One Area Of (N-1) Non-Rooftop Disconnection. Facilities To Meet And Exceed The ESD Volume.
42. Should Heavy Rock Or Water Be Encountered During Excavation To Install Any Of The Drywells Or Micro-bioretention, Contractor Will Be Required To Consult The Engineer Of Record To Come Up With An Alternative Design.
43. All Construction Shall Be In Accordance With The Latest Standards And Specifications Of Howard County Plus MSHA Standards And Specification If Applicable.
44. 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.
45. The Contractor Shall Notify "Miss Utility" At 1/800-257-7777 At Least 48 hours Prior To Any Excavation Work Being Done.
46. The Existing Topography Is Based On A Field Run Survey With Two (2) Foot Contour Intervals Prepared By Fisher, Collins & Cater, Inc On Or About
47. There Are Erodible Soils And Steep Slopes On This Site.
48. All Construction Shall Be In Accordance With The Standards And Specifications Of Howard County Plus MSHA Standards And Specifications If Applicable.
49. 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.
50. The Contractor Shall Notify "Miss Utility" At 1-800-257-7777 At Least 48 Hours Prior To Any Excavation Work Being Done.
51. The Existing Topography Is Based On A Field Run Topographic Survey With A Two (2') Foot Contour Intervals Prepared By Fisher, Collins & Carter, Inc. On Or About 07/21/2016.
52. Water Is Private.
53. Sewer Is Private.
54. This Plat Is Subject To WP-18-042 Which On November 16, 2017 The Planning Director Approved A Request For An Alternative Compliance Of Section16.120(b)(4)(iii)(b), Which States That A Lot Or Buildable Preservation Parcel Must Be 10 Acres Or Greater In Size To Allow Floodplains, Wetlands, Their Buffers, And Forest Conservation Easements To Be Located On The Lot Or Parcel. Approval Is Subject To The Following Conditions:
    1) The Split Rail Fence (With No Wire Mesh Attachments) Shall Be Installed Along The Southern Boundary Of The Forest Conservation Easement On Lot 2, As Shown On The Alternative Compliance Plan Exhibit.
    2) The Proposed Houses Shall Be No Closer To The Forest Conservation Easement Than:
        a. Lot 1-100 Feet
        b. Lot 2-47 Feet
        c. Lot 3-70 Feet
    3) Grading And Removal Of Vegetative Cover And Trees, Paving Or New Structures Will Not Be Permitted Within 35 Feet Of The Forest Conservation Easement On All Lots.
    4) Compliance With SRC Comments For Final Plan, F-18-021.
55. Open Space Requirements Are Provided By A Fee-In-Lieu Payment Of $3,000.00.

△ REVISED HOUSE LOCATION PER PLOT PLAN PER LOT 1

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Jill Manion-Farrar for LKS 2/26/18
Chief, Division of Land Development KB Date

Chad Edmondson 2.1.18
Chief, Development Engineering Division NY Date

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21351, EXPIRATION DATE: 07/15/2019.

Signature Of Professional Land Surveyor 1/10/2018 DATE

TODD M. HILL No. 21351

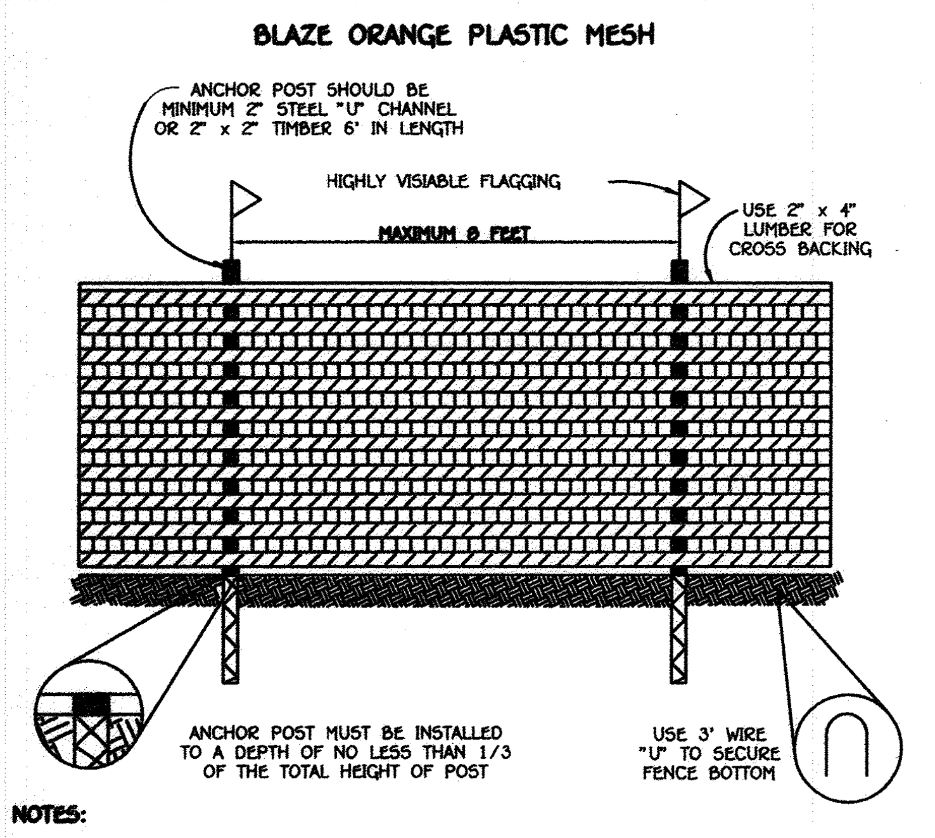
OWNER/DEVELOPER

PAUL A. CASASCO AND
JENNIFER K. CASASCO
3365 JENNINGS CHAPEL ROAD
WOODBINE, MARYLAND 21797
301-529-5728

REDLINE FOR LOT 1
TITLE SHEET
SQUARE WOODS
LOTS 1 THRU 3
ZONED: RC-DEO
TAX MAP #20 GRID# 04 PARCEL #140
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
~~SCALE: 1" = 30'~~
SCALE: 1" = 50' DATE: JANUARY 10, 2018
SHEET 1 OF 7

③ REDLINED TO SHOW REVISED LANDSCAPING FEBRUARY, 2023
comments addressed 7/2023
email comments addressed 1/2024

F-18-021



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 DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE

LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
492	EXISTING 2' CONTOURS	492	PROPOSED CONTOUR
490	EXISTING 10' CONTOURS	+362.5	SPOT ELEVATION
GLB2 MLC2	SOILS LINES AND TYPE	LOD	LIMITS OF DISTURBANCE
︶︶︶	EXISTING TREELINE	︶︶︶	PROPOSED TREELINE
▨	15% TO 24.9% STEEP SLOPES (ERODIBLE SOILS)	▨	EXISTING & PROPOSED PAVING
─▷	FLOW ARROWS (DIRECTION OF FLOW)	S.T.☐	PROPOSED SEPTIC TANK
SCE	STABILIZES CONSTRUCTION ENTRANCE	—SF—	SILT FENCE
▬ ▬	DRAINAGE AREA DIVIDE	PSSMC	PERMANENT SOIL STAB. MATTING CHANNEL
CD	CHECK DAM (TIMBER)	—SSF—	SUPER SILT FENCE
TCD	TEMPORARY CHECK DAM (STONE)	—TP—	TREE PROTECTION
H.P.	HIGH POINT	L.P.	LOW POINT
⬡	FOREST CONSERVATION EASEMENT (RETENTION)	+ + +	FOREST CONSERVATION EASEMENT (REFORESTATION)
●	PERCOLATION TEST LOCATION (PASSED)	▲	FOREST CONSERVATION SIGNAGE
︶︶︶	EXISTING BRUSH LINE	─□─	EXISTING FENCE LINE

TO DW#2
TO DW#1
TO DW#3
DRYWELL #2 935 SQ.FT.
DRYWELL #3 793 SQ.FT.
DRYWELL #1 989 SQ.FT.
DRYWELL #4 1,000 SQ.FT.
TO DW#4

⚠1 LOT 1 DRYWELL DRAINAGE AREA MAP

NOT TO SCALE

27'

⚠1 FRONT ELEV FOR LOT 1

NOT TO SCALE

36.25'

⚠2 FRONT ELEVATION LOT 3

NOT TO SCALE

TO M5
MICRO-BIO 1,829 SQ. FT.
SCREENED PORCH ON PILLARS
TO DW 3B
DRYWELL 3B 1,250 SQ. FT.
DRYWELL 3A 1,219 SQ. FT.
CONC. PORCH
TO DW 3A
▬ ▬ DENOTES DRAINAGE AREA FOR SWM DEVICES (TYP.)

DRYWELL DRAINAGE AREA MAP

NOT TO SCALE

⚠2 REVISED HOUSE LOCATION PER PLOT PLAN FOR LOT 3

⚠1 REVISED HOUSE LOCATION PER PLOT PLAN FOR LOT 1

⚠3 REDLINED TO SHOW REVISED LANDSCAPING FEBRUARY, 2023
comments addressed 7/2023

REDLINE FOR LOT 1

SUPPLEMENTAL PLAN, LANDSCAPE & DRAINAGE AREAS

SQUARE WOODS

LOTS 1 THRU 3

ZONED: RC-DEO
TAX MAP #20 GRID# 04 PARCEL #140
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
~~SCALE: 1"=30'~~ DATE: JANUARY 10, 2018
SCALE: 1"=50' SHEET 2 OF 7

F-18-021

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

for UKS Chief, Division of Land Development	2/26/18 Date
Chief, Development Engineering Division	2.1.18 Date

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21351, EXPIRATION DATE: 07/15/2019.

Signature Of Professional Land Surveyor — 1/10/2018 DATE

OWNER/DEVELOPER

PAUL A. CASASCO AND
JENNIFER K. CASASCO
3365 JENNINGS CHAPEL ROAD
WOODBINE, MARYLAND 21797
301-529-5728

0' 50' 100' 150'
Scale: 1" = 50'

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

Howard SCD ____________ Date ____________

LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
492	EXISTING 2' CONTOURS	482	PROPOSED CONTOUR
490	EXISTING 10' CONTOURS	+362.5	SPOT ELEVATION
GLB2 MLC2	SOILS LINES AND TYPE	LOD	LIMITS OF DISTURBANCE
	EXISTING TREELINE		PROPOSED TREELINE
▨	15% TO 24.9% STEEP SLOPES (ERODIBLE SOILS)		EXISTING & PROPOSED PAVING
→	FLOW ARROWS (DIRECTION OF FLOW)	S.T. ☐	PROPOSED SEPTIC TANK
	STABILIZES CONSTRUCTION ENTRANCE	SF	SILT FENCE
	DRAINAGE AREA DIVIDE	PSSMC	PERMANENT SOIL STAB. MATTING CHANNEL
CD	CHECK DAM (TIMBER)	SSF	SUPER SILT FENCE
TCD	TEMPORARY CHECK DAM (STONE)	TP	TREE PROTECTION
H.P.	HIGH POINT	L.P.	LOW POINT
	FOREST CONSERVATION EASEMENT (RETENTION)	+ + +	FOREST CONSERVATION EASEMENT (REFORESTATION)
●	PERCOLATION TEST LOCATION (PASSED)	▲	FOREST CONSERVATION SIGNAGE
	EXISTING BRUSH LINE		EXISTING FENCE LINE

CHECK DAM SPACING

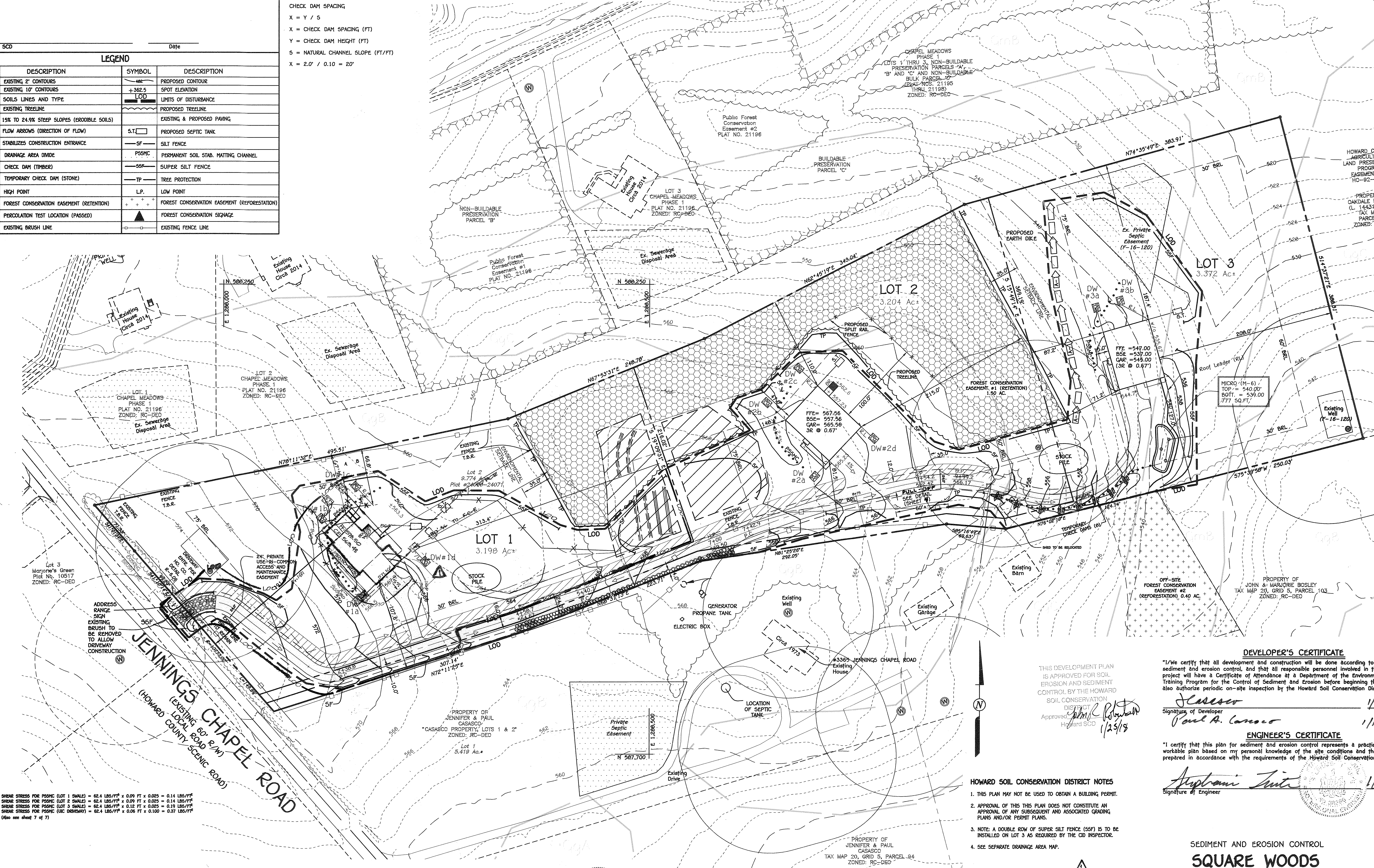
X = Y / S

X = CHECK DAM SPACING (FT)

Y = CHECK DAM HEIGHT (FT)

S = NATURAL CHANNEL SLOPE (FT/FT)

X = 2.0' / 0.10 = 20'



SHEAR STRESS FOR PSSMC (LOT 1 SWALE) = 62.4 LBS/FT³ x 0.09 FT x 0.025 = 0.14 LBS/FT²
SHEAR STRESS FOR PSSMC (LOT 2 SWALE) = 62.4 LBS/FT³ x 0.09 FT x 0.025 = 0.14 LBS/FT²
SHEAR STRESS FOR PSSMC (LOT 3 SWALE) = 62.4 LBS/FT³ x 0.12 FT x 0.025 = 0.19 LBS/FT²
SHEAR STRESS FOR PSSMC (UIC DRIVEWAY) = 62.4 LBS/FT³ x 0.06 FT x 0.100 = 0.37 LBS/FT²
(Also see sheet 7 of 7)

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

Approved John R Robertson
Howard SCD
1/25/18

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."

J Casasco 1/12/18
Signature of Developer Date
Paul A. Casasco 1/12/18

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 1/17/18
Signature of Engineer Date

No. 38986

HOWARD SOIL CONSERVATION DISTRICT NOTES

1. THIS PLAN MAY NOT BE USED TO OBTAIN A BUILDING PERMIT.
2. APPROVAL OF THIS THIS PLAN DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED GRADING PLANS AND/OR PERMIT PLANS.
3. NOTE: A DOUBLE ROW OF SUPER SILT FENCE (SSF) IS TO BE INSTALLED ON LOT 3 AS REQUIRED BY THE CID INSPECTOR.
4. SEE SEPARATE DRAINAGE AREA MAP.

△1 REVISED HOUSE LOCATION PER PLOT PLAN FOR LOT 1

SEDIMENT AND EROSION CONTROL

SQUARE WOODS

LOTS 1 THRU 3

ZONED: RC-DEO
TAX MAP #20 GRID# 04 PARCEL #140
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: ~~1" = 30'~~ 1" = 50' DATE: JANUARY 10, 2018
SHEET 3 OF 7

F-18-021

0' 50' 100' 150'
Scale: 1" = 50'

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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development	2/26/18 Date
Chief, Development Engineering Division	2.1.18 Date

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Signature Of Professional Land Surveyor 1/10/2018 DATE

TODD M. HILL No. 21351

OWNER/DEVELOPER

PAUL A. CASASCO AND
JENNIFER K. CASASCO
3365 JENNINGS CHAPEL ROAD
WOODBINE, MARYLAND 21797
301-529-5728

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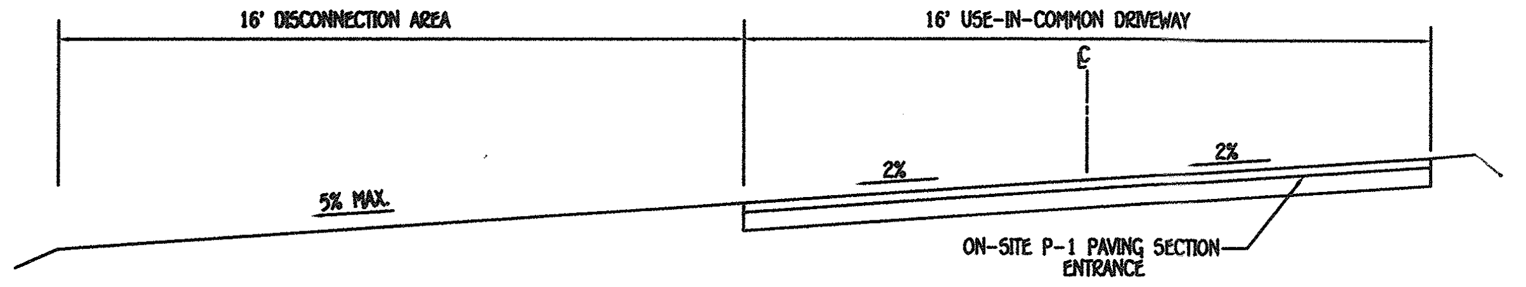
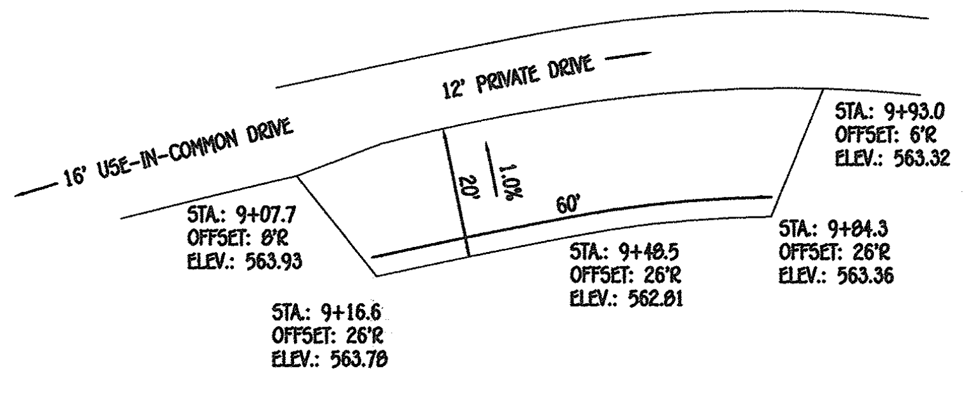


NOTE:
1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.
2. SWALES ARE FOR CONVEYANCE OF RUNOFF AND NOT UTILIZED FOR TREATMENT CREDIT.

16' USE-IN-COMMON DRIVEWAY CROSS SLOPE SECTION

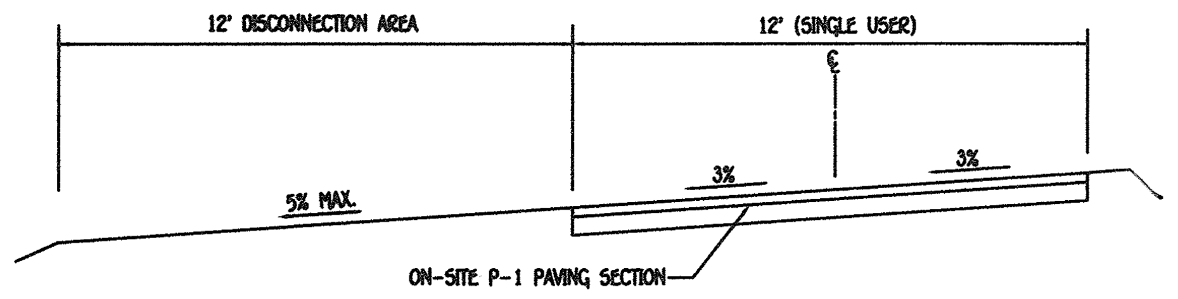
NOT TO SCALE
0+26 ± TO 9+07.7



DRIVEWAY PRIVATE EMERGENCY PULL-OFF (R-9.04)

NOT TO SCALE
9+07.7 TO 9+93.0

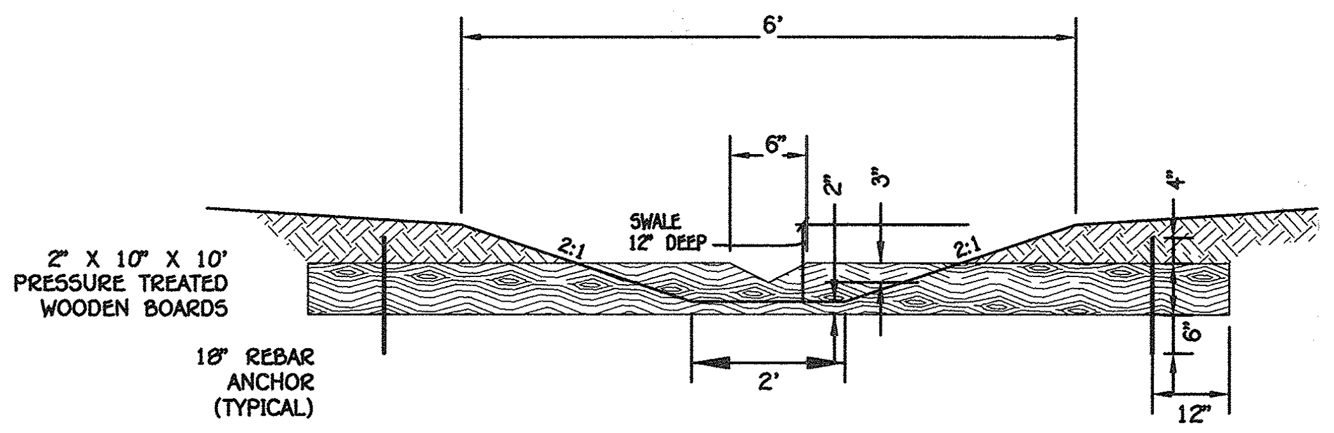
NOTE:
USE NDS TUFFTRACK PAVER PANELS OR EQUIVALENT FOR PULL OFF AREA



NOTE:
ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

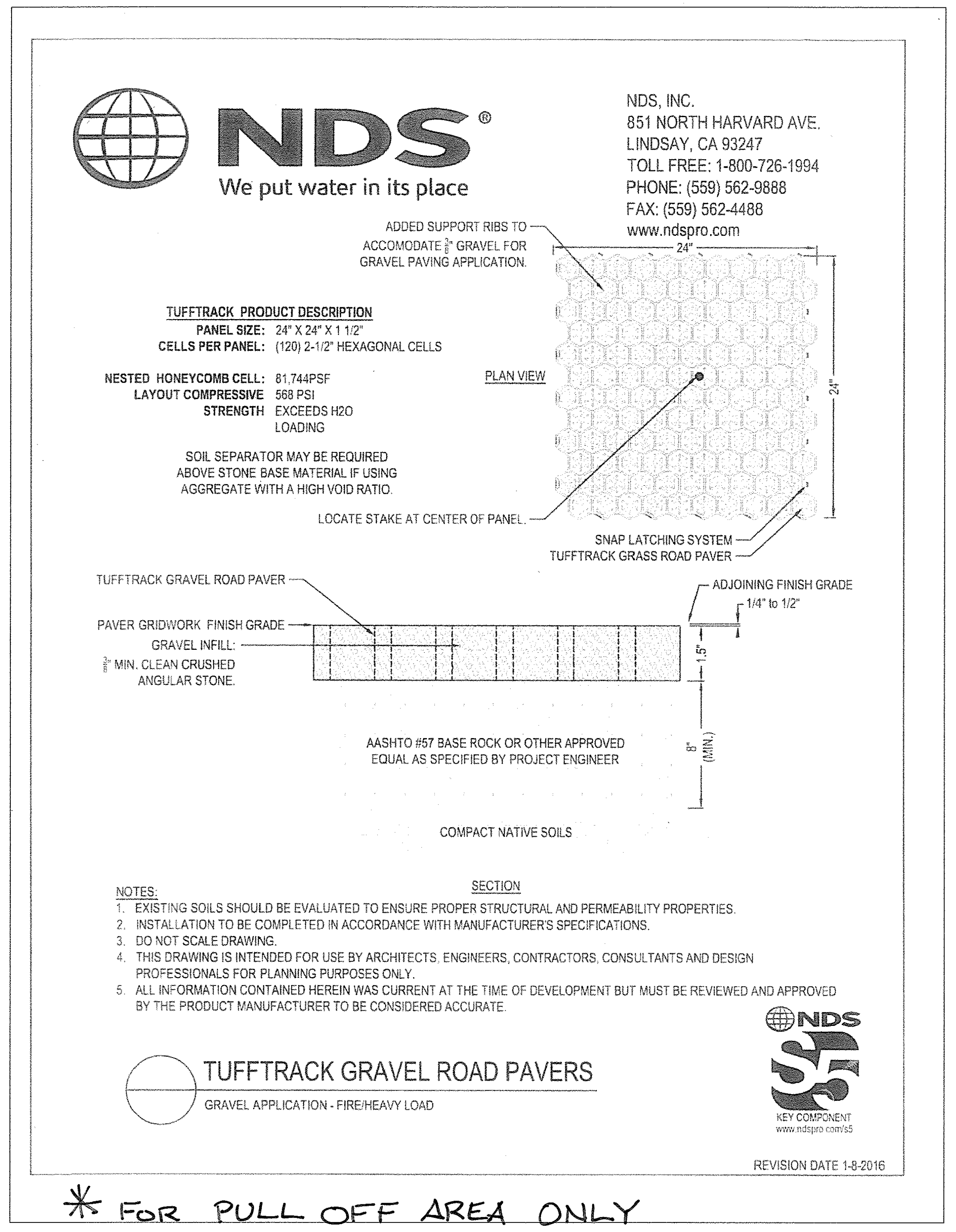
TYPICAL SINGLE LOT PRIVATE DRIVE CROSS SLOPE SECTION

NOT TO SCALE
9+07.7 TO 10+35



GRASS SWALE & TIMBER CHECK DAM DETAIL

SECTION "A-A"
NOT TO SCALE



NDS, INC.
851 NORTH HARVARD AVE.
LINDSAY, CA 93247
TOLL FREE: 1-800-726-1994
PHONE: (559) 562-9888
FAX: (559) 562-4488
www.ndspro.com

TUFFTRACK PRODUCT DESCRIPTION

PANEL SIZE: 24" X 24" X 1 1/2"
CELLS PER PANEL: (120) 2-1/2" HEXAGONAL CELLS

NESTED HONEYCOMB CELL: 81,744PSF
LAYOUT COMPRESSIVE: 568 PSI
STRENGTH: EXCEEDS H2O LOADING

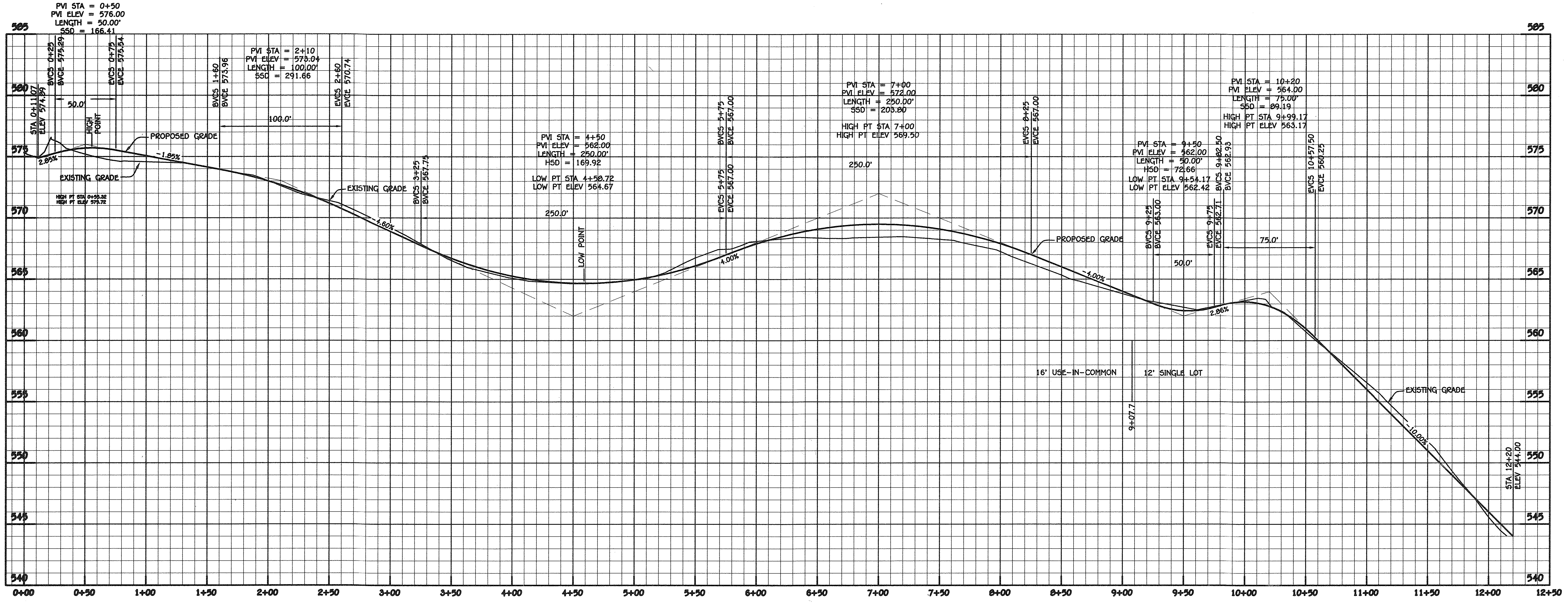
SOIL SEPARATOR MAY BE REQUIRED ABOVE STONE BASE MATERIAL IF USING AGGREGATE WITH A HIGH VOID RATIO.

NOTES:
1. EXISTING SOILS SHOULD BE EVALUATED TO ENSURE PROPER STRUCTURAL AND PERMEABILITY PROPERTIES.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. DO NOT SCALE DRAWING.
4. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY.
5. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

TUFFTRACK GRAVEL ROAD PAVERS
GRAVEL APPLICATION - FIRE/HEAVY LOAD

REVISION DATE 1-8-2016

* FOR PULL OFF AREA ONLY



PROFILE CENTERLINE DRIVEWAY
SCALE HORZ. 1" = 50'
VERT. 1" = 5'

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED, DISCONNECTION OF ROOFTOP RUNOFF (N-1) 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.

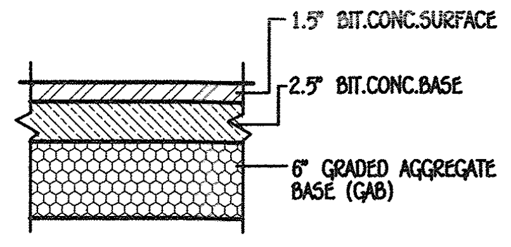
OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (M-6)

1. 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 Maryland stormwater design manual volume II, table A.4.1 and 2.

2. The owner shall perform a plant in the spring and in the fall 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.

3. The owner shall inspect the mulch 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.

4. The owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm.



P-1 DRIVEWAY PAVING SECTION

NOT TO SCALE

0' 50' 100' 150'
Scale: 1" = 50'

FISHER, COLLINS & CARTER, INC.
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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 2/26/18 Date

Chief, Development Engineering Division — 2.1.18 Date

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TODD M. HILL
No. 21351

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301-529-5728

DETAILS AND PROFILES

SQUARE WOODS

LOTS 1 THRU 3
ZONED: RC-DEO
TAX MAP #20 GRID# 04 PARCEL #140
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1"=30' DATE: JANUARY 10, 2018
SHEET 4 OF 7

F-18-021

I:\2006\06026\dwg\Supplemental_Plan\06026-6003 Support Plan.dwg, 1/10/2018 11:10:18 AM

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
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490	EXISTING 10' CONTOURS	+362.5	SPOT ELEVATION
GLB2 MLC2	SOILS LINES AND TYPE	LOD	LIMITS OF DISTURBANCE
︵︵︵	EXISTING TREELINE	︵︵︵	PROPOSED TREELINE
▩	15% TO 24.9% STEEP SLOPES (ERODIBLE SOILS)	▨	EXISTING & PROPOSED PAVING
―▷	FLOW ARROWS (DIRECTION OF FLOW)	S.T.☐	PROPOSED SEPTIC TANK
SCE	STABILIZES CONSTRUCTION ENTRANCE	—SF—	SILT FENCE
▬ ▬	DRAINAGE AREA DIVIDE	PSSMC	PERMANENT SOIL STAB. MATTING CHANNEL
CD	CHECK DAM (TIMBER)	—SSF—	SUPER SILT FENCE
TCD	TEMPORARY CHECK DAM (STONE)	—TP—	TREE PROTECTION
H.P.	HIGH POINT	L.P.	LOW POINT
⬡	FOREST CONSERVATION EASEMENT (RETENTION)	+ + +	FOREST CONSERVATION EASEMENT (REFORESTATION)
▽ ▽ ▽	FOREST AREA CLEARED = 1.74 Ac. ±	▲	FOREST CONSERVATION SIGNAGE
		— x —	PROPOSED SPLIT RAIL FENCE

WATERSHED INFORMATION

M.D.E. 6 DIGIT WATERSHED NAME	M.D.E. 6 DIGIT WATERSHED NAME	D.N.R. 8 DIGIT WATERSHED
PATUXENT RIVER	BRIGHTON DAM	# 02131108

0' 50' 100' 150'
Scale: 1" = 50'

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for LHS KB 2/26/18
Chief, Division of Land Development — Date

2.10 2.1.18
Chief, Development Engineering Division NY — Date

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301-529-5728

REDLINE FOR LOT 1

ONSITE & OFFSITE
FOREST CONSERVATION

SQUARE WOODS
LOTS 1 THRU 3
ZONED: RC-DEO
TAX MAP #20 GRID# 04 PARCEL #140
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: ~~[illegible]~~ DATE: JANUARY 10, 2018
SCALE: 1"=50' SHEET 5 OF 7

F-18-021

△1 REVISED HOUSE LOCATION PER PLOT PLAN FOR LOT 1

△2 REVISED HOUSE LOCATION PER PLOT PLAN FOR LOT 3

△3 REDLINED TO SHOW REVISED LANDSCAPING FEBRUARY, 2023
comments addressed 7/2023

PLANTING / SOIL SPECIFICATIONS

1. Planting Of Nursery Stock Shall Take Place Between March 15th And April 30th Or September 15th And November 15th.
2. A Twelve (12) Inch Layer Of Topsoil Shall Be Spread Over All Reforestation Areas Impacted By Site Grading To Assure A Suitable Planting Area, If Applicable. Disturbed Areas Shall Be Seeded And Stabilized In Accordance With The Sediment & Erosion Control Plan For This Project. Planting Areas Not Impacted By Site Grading Shall Have No Additional Topsoil Installed.
3. All Bare Root Planting Stock Shall Have Their Root System Dipped Into An Anti-Desiccant Gel Prior To Planting.
4. Plants Shall Be Installed So That The Top Of The Root Mass Is Level With The Top Of Existing Grade. BackFill In The Planting Pits Shall Consist of 3 Parts Existing Soil to 1 Part Pine Fines Or Equivalent.
5. Fertilizer Shall Consist Of Agriform 22-8-2, Or Equivalent, Applied As Per Manufacturer's Specifications.
6. A Two (2) Inch Layer Of Hardwood Mulch Shall Be Placed Over The Root Area Of All Plantings. See Planting Detail.
7. Plant Material Shall Be Transported To The Site In A Tarped Or Covered Truck. Plants Shall Be Kept Moist Prior To Planting.
8. All Non-Organic Debris Associated With The Planting Operation Shall Be Removed From The Site By The Contractor.

SEQUENCE OF CONSTRUCTION FOR REFORESTATION AREAS

1. Sediment Controls And Tree Protective Devices Shall Be Installed In Accordance With Sediment & Erosion Control Plans For This Site, If Applicable. Site Shall Be Graded In Accordance With The Plans. (2 Days)
2. Proposed Reforestation Areas Impacted By The Site Grading Shall Be Topsoiled And Stabilized As Per Note 2 Of The "Planting / Soil Specifications". (1 Day)
3. Plants Shall Be Installed And Maintained As Per Notes And Specifications For This Project. (1 Week)
4. Upon Completion Of The Plantings, Signage Shall Be Installed As Per The Signage Detail. (1 Week)
5. Plantings Shall Be Guaranteed and Maintained In Accordance With The "Guarantee Requirements" And "Maintenance Of Plantings" Associated With This Project. (2 Years)

MAINTENANCE OF PLANTINGS

1. Maintenance Of Plantings Shall Last For A Period Of 26 Months.
2. All Plant Material Shall Be Generally Watered Twice A Month During The 1st Growing Season. Watering May Be More Or Less Frequent Depending On Weather Conditions.
3. During The 2nd Growing Season, Plant Material Shall Be Watered Once A Month From May To September, As Needed.
4. Invasive Exotics And Noxious Weeds Shall Be Removed From The Reforestation Area(s). Old Field Successional Species Shall Be Retained.
5. Plants Shall Be Examined A Minimum Of Two (2) Times During The Growing Season For Serious Plant Pests And Diseases With The Appropriate Agent.
6. Dead Branched Shall Be Pruned From The Plantings.

GUARANTEE REQUIREMENTS

A 75% Survival Rate For The Reforestation Plantings Is Required At The End Of The 24 Month Maintenance Period. All Plant Material Below The 75% Threshold Is Required To Be Replaced At The Beginning Of The Next Growing Season.

MULTIFLORA ROSE CONTROL NOTE:

PRIOR TO PLANTING ALL MULTIFLORA ROSE WITHIN PLANTING AREAS SHALL BE REMOVED. Removal Of The Multiflora Rose May Be Performed With Mowing And Herbicide Treatments. Physical Removal Of All Top Growth Followed By A Periodic Herbicide Treatment Of Stump Sprouts Is Recommended. Native Tree And Shrub Species Occurring Within The Rose Thickets Should Be Retained Wherever Possible. Herbicide Treatments Shall Occur On Two (2) Month Intervals During The First Growing Seaseon And Once In The Spring And Once In the Fall For Subsequent Years. Herbicide Used Shall Be Made Specifically To Address Woody Plant Material And Shall Be Applied As Per Manufacturers Specifications. Care Should Be Taken Not To Spray Planted Trees Or Naturally Occurring Native Tree And Shrub Seedlings. It Is Recommended That Initiation Of Rose Removal Begin At Least Six Months Prior To Planting So That New Growth OF Roses Is Able To Be More Successfully Managed.

Scale: 1" = 50'

FOREST PROTECTION GENERAL NOTES

1. ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING, AS NECESSARY, AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
2. THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES, UNLESS ROOT PRUNING IS PROPOSED.
3. ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
4. ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
5. INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
6. THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
7. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
8. THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
9. ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

PRE-CONSTRUCTION MEETING

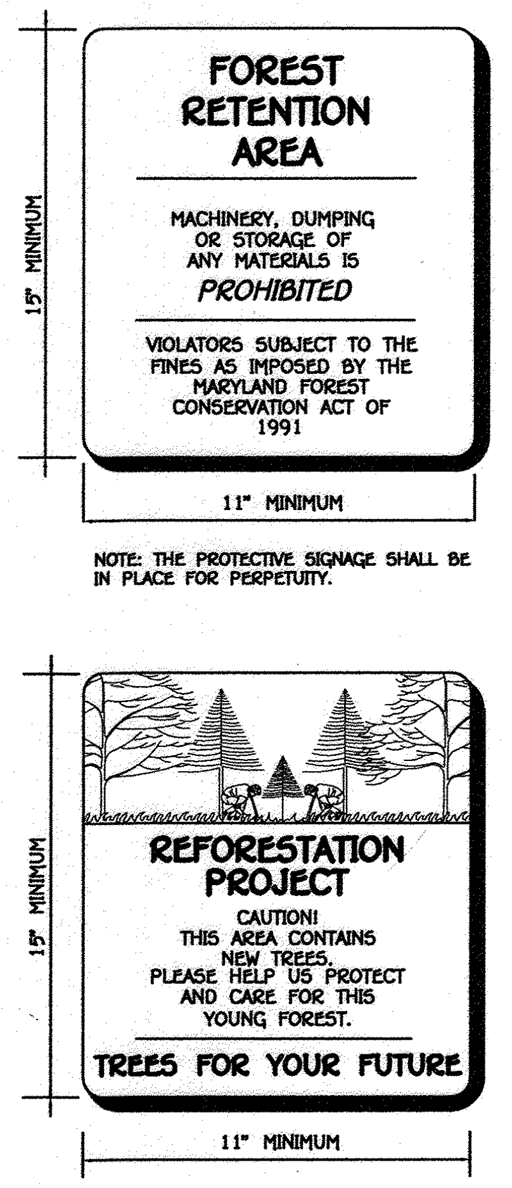
1. AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
   - A. TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
   - B. INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
   - C. MAKE ALL NECESSARY ADJUSTMENTS;
   - D. ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

CONSTRUCTION MONITORING

1. THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS.
2. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
3. THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

REFORESTATION PLANTING NOTES

1. Plants, Related Material, And Operations Shall Meet The Detailed Description As Given On The Plans And As Described Herein.
2. Plant Material, Unless Otherwise Specified, Shall Be Nursery Grown, Uniformly Branched And Have A Vigorous Root System. Plant Material Shall Be Healthy, Vigorous Plants Free From Defects, Decay, Disfiguring Roots, Sunscald Injuries, Abrasions Of The Bark, Plant Disease, Insect Pest Eggs, Boxers, Infestations Or Objectionable Disfigurements. Plant Material That Is Weak Or Which Has Been Cut Back From Larger Grades To Meet Specified Requirements Will Be Rejected. Trees With Forked Leaders Will Not Be Accepted. Plants Shall Be Freshly Dug; No Heeled-in Plants Or Plants From Cold Storage Will Be Accepted.
3. Unless Otherwise Specified, Plant Material Shall Conform To "American Standard For Nursery Stock" ANSI Z60.1-1990, Published By The American Association Of Nurserymen, Including All Addenda.
4. Contractor Will Be Required to Guarantee Plant Material For A Period of Two (2) Years After The Date Of Acceptance And Maintain A 75% Survivability At The End of The Two (2) Years.
5. To Lessen The Chance Of Loss, The Plantings Should Be Checked From Time To Time To Insure That They Are Receiving Sufficient Water. See "Maintenance Of Plantings" For Guidelines.
6. The Location And Orientation Of All Plant Material Shall Be Randomly Planted In Designated Reforestation Areas By the Contractor. Contractor Shall Be Responsible For Moving Any Plant Material Installed Without Approval.
7. Mowing And Applying Herbicides To The Reforestation Area Is Prohibited At Any And All Stages Of The Planting Process In Order To Encourage The Existing Saplings To Grow.
8. Contractor Is Responsible For Installing And Pruning Plant Material In The Proper Planting Season For Each Plant Type, See Tree Planting & Maintenance Calendar.
9. Upon Completion Of Installation, Signage Shall Be Installed As Shown.



NOTE: THE PROTECTIVE SIGNAGE SHALL BE IN PLACE FOR PERPETUITY.

FOREST CONSERVATION SIGN DETAIL

NOT TO SCALE

FOREST CONSERVATION WORKSHEET
VERSION 1.0

NET TRACT AREA	ACRES
A. TOTAL TRACT AREA	9.77
B. DEDUCTIONS (AREA WITHIN 100 YEAR FLOODPLAIN)	0.00
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0.00
D. NET TRACT AREA	9.77
LAND USE CATEGORY: MEDIUM DENSITY RESIDENTIAL	
E. AFFORESTATION THRESHOLD (NET TRACT AREA [C] x 20%)	1.95
F. CONSERVATION THRESHOLD (NET TRACT AREA [C] x 25%)	2.44
EXISTING FOREST COVER	
G. EXISTING FOREST COVER WITHIN THE NET TRACT AREA	3.80
H. AREA OF FOREST ABOVE AFFORESTATION TRESHOLD	1.85
I. AREA OF FOREST ABOVE CONSERVATION TRESHOLD	1.36
BREAKEVEN POINT	
J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	2.71
BREAKEVEN POINT	2.71
K. CLEARING PERMITTED WITHOUT MITIGATION	1.09
PROPOSED FOREST CLEARING	
L. TOTAL AREA OF FOREST TO BE RETAINED	1.50
M. TOTAL AREA OF FOREST TO BE CLEARED OR RETAINED OUTSIDE FCE	2.30
PLANTING REQUIREMENTS	
N. REFORESTATION FOR CLEARING ABOVE THE CONSERVATION TRESHOLD	0.34
P. REFORESTATION FOR CLEARING BELOW THE CONSERVATION TRESHOLD	1.89
Q. CREDIT FOR RETENTION ABOVE THE CONSERVATION TRESHOLD	0.00
R. TOTAL REFORESTATION REQUIRED	2.22
S. TOTAL AFFORESTATION REQUIRED	0.00
T. TOTAL PLANTING REQUIREMENT	2.22

NOTE: 1. *OFF-SITE RETENTION OF 0.40 ACRES OF FOREST ON LOT 1, CASASCO PROPERTY (PLAT No. 24070 AND 24071 AND OFF-SITE REFORESTATION OF 1.82 ACRES OF PLANTING ON TAX MAP 20, TAX PARCEL 94, PROPERTY OF PAUL AND JENNIFER CASASCO (LIBER 15427, FOLIO 460 (PARCEL ONE))*

FOREST CONSERVATION DATA

EASEMENT NO.	TOTAL RETENTION AREA	RETENTION OUTSIDE FLOODPLAIN	RETENTION INSIDE FLOODPLAIN	PLANTING	TOTAL EASEMENT
1	1.50 AC.	1.50 AC.	0.00 AC.	0.00 AC.	1.50 AC.
2	0.00 AC.	0.00 AC.	0.00 AC.	0.40 AC.	0.40 AC.
3	0.00 AC.	0.00 AC.	0.00 AC.	1.82 AC.	1.82 AC.
TOTAL	1.50 AC.	1.50 AC.	0.00 AC.	2.22 AC.	3.72 AC.

FCE # 2 (REFORESTATION) - 0.40 acres

OFFSITE, LOT 1, CASASCO PROPERTY

PLANTING REQUIRED: 140
PLANTING PROVIDED: 145 + SHRUBS

Qty	Species	Size (Spacing)
25	Acer rubrum - Red maple	Whips w/ Shelter
10	Carya glabra - Pignut Hickory	Whips w/ Shelter
10	Carya tomentosa - Mockernut Hickory	Whips w/ Shelter
10	Nyssa sylvatica - Blackgum	Whips w/ Shelter
10	Platanus occidentalis - Sycamore	Whips w/ Shelter
30	Quercus alba - White Oak	Whips w/ Shelter
30	Quercus rubra - Red Oak	Whips w/ Shelter
20	Quercus velutina - Black Oak	Whips w/ Shelter
5	Lindera benzoin - Spicebush	1-2 gal.
5	Viburnum dentatum - Arrowwood Viburnum	1-2 gal.
145 trees & 10 shrubs		

* Note: (1) SIZE PROPOSED TO BE UTILIZED AND PLANTED AT 350 TREES PER ACRE (350 TREES/ACRE X 0.40 ACRES = 140 TREES). SHRUBS (VIBURNUMS) NOT INCLUDED IN TOTAL QUANTITY.

FCE # 3 (REFORESTATION) - 1.82 acres

OFFSITE, TAX MAP 20, TAX PARCEL 94

PLANTING REQUIRED: 637
PLANTING PROVIDED: 640 + SHRUBS

Qty	Species	Size (Spacing)
170	Acer rubrum - Red maple	Whips w/ Shelter
50	Carya glabra - Pignut Hickory	Whips w/ Shelter
40	Carya tomentosa - Mockernut Hickory	Whips w/ Shelter
30	Liriodendron tulipifera	Whips w/ Shelter
40	Nyssa sylvatica - Blackgum	Whips w/ Shelter
190	Quercus alba - White Oak	Whips w/ Shelter
60	Quercus prinus - Chestnut Oak	Whips w/ Shelter
60	Quercus velutina - Black Oak	Whips w/ Shelter
10	Viburnum prunifolium - Blackhaw	1-2 gal.
10	Viburnum dentatum - Arrowwood Viburnum	1-2 gal.
640 trees & 20 shrubs		

* Note: (1) SIZE PROPOSED TO BE UTILIZED AND PLANTED AT 350 TREES PER ACRE (350 TREES/ACRE X 1.82 ACRES = 637 TREES). SHRUBS (VIBURNUMS) NOT INCLUDED IN TOTAL QUANTITY.

LANDSCAPING PLANT LIST

QTY.	KEY	NAME	SIZE
~~13~~ 10	○	PRUNUS SARGENTII (SARGENT CHERRY)	2 1/2" - 3" CALIPER FULL CROWN, B&B
~~18~~ 16	○	ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2 1/2" - 3" CALIPER FULL CROWN, B&B
~~9~~ 7	A	ILEX 'NELLIE R. STEVENS' (NELLIE R. STEVENS HOLLY)	5'-6' HT. B&B
~~9~~ 7	B	THUJA STANDISHII X PLICATA (GREEN GIANT ARBORVITAE)	5'-6' HT. B&B
75	⊖	TAXUS X MEDIA 'HICKSII' (HICKS YEW)	2.5'-3' HT. CONTAINER
50	○	ILEX CRENATA 'COMPACTA (JAPANESE HOLLY)	2.5'-3' HT. CONTAINER

3 TOTAL: ~~31~~ 26 SHADE TREES, ~~18~~ 24 EVERGREEN TREES AND 125 SHRUBS 2 ORNAMENTAL TREES

LANDSCAPING LOT 1 FOR P-1

- 10 - CUPPRESSOCYPARS LEYLAND/LEYLAND CYPRESS LS

- 2 - RED PLUM RP

NOTES

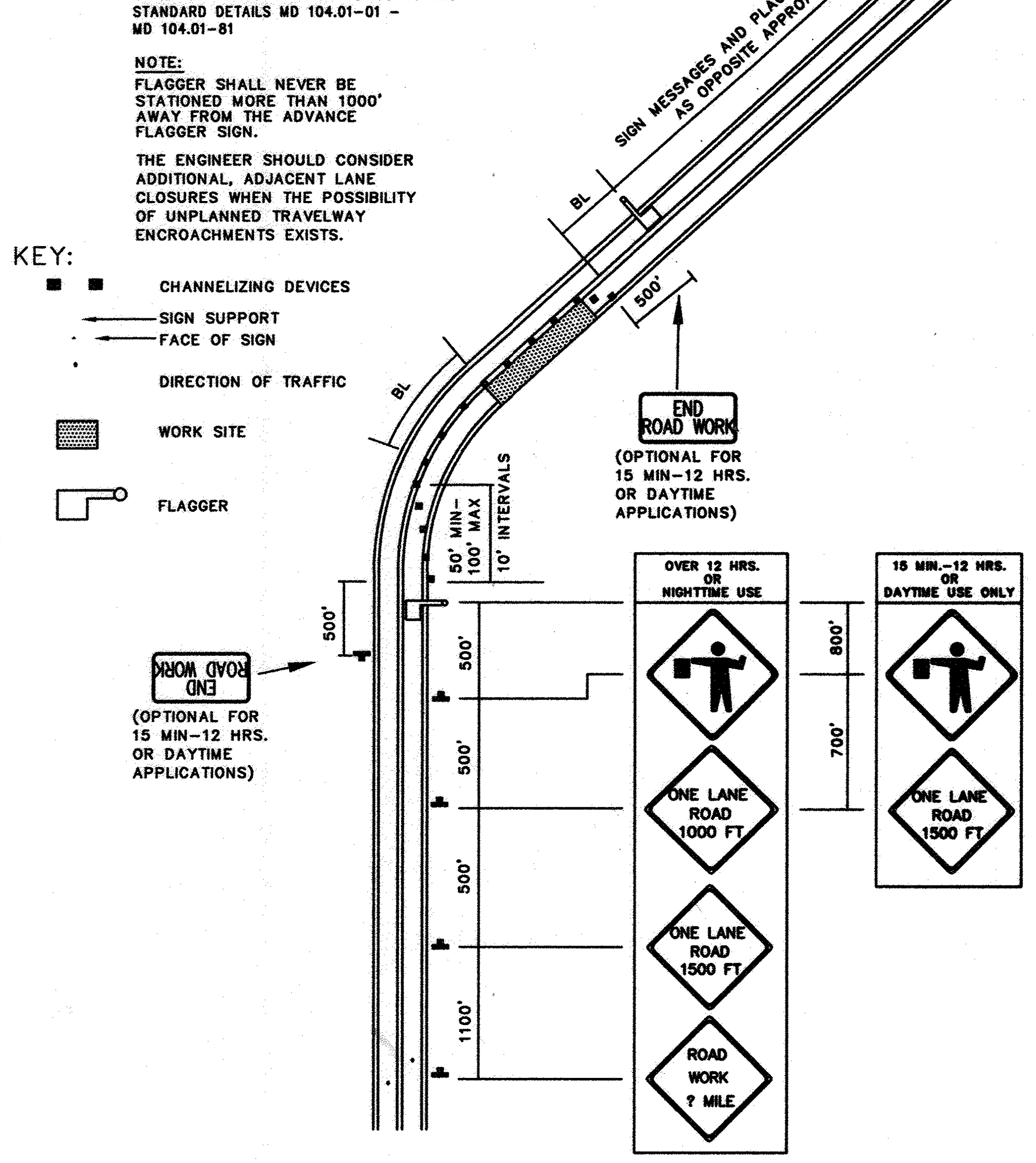
1. THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY THE ON-SITE RETENTION OF 1.50 ACRES OF FOREST, OFF-SITE REFORESTATION PLANTING OF 0.40 ACRES OF FOREST ON LOT 1, CASASCO PROPERTY (PLAT No. 24070 AND 24071 AND OFF-SITE REFORESTATION PLANTING OF 1.82 ACRES ON PROPERTY OF PAUL AND JENNIFER CASASCO, TAX MAP 20, TAX PARCEL 94 (LIBER 15427, FOLIO 460 (PARCEL ONE). SURETY IN THE TOTAL AMOUNT OF $48,352.00 (96,703 SQ.FT. x $0.50) WILL BE POSTED WITH THE DPW DEVELOPERS AGREEMENT.
2. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL A LANDSCAPE SURETY FOR 30 SHADE TREES @ $300/TREE, 18 EVERGREEN TREES @ $150/TREE, AND 125 SHRUBS @ $30/SHRUB IN THE AMOUNT OF ($15,450.00) WILL BE POSTED AS PART OF THE BUILDERS GRADING PERMIT FOR LOT 1 IN THE AMOUNT OF $3,900 (9 SHADE TREES & 8 EVERGREEN TREES), FOR LOT 2 IN THE AMOUNT OF $0, AND FOR LOT 3 IN THE AMOUNT OF $11,850 (22 SHADE TREES, 10 EVERGREEN TREES & 125 SHRUBS).
3. 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 LANDSCAPING 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 THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
4. THE OWNER, TENANT, 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.
5. SEE THE RECORD PLAT FOR THE BEARING AND DISTANCE DESCRIPTIONS OF THE FOREST CONSERVATION EASEMENTS.
6. NO GRADING OR REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
7. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED. SHOULD DISTURBANCE OCCUR IN THE FOREST CONSERVATION EASEMENT AREAS DURING OR AFTER CONSTRUCTION, CIVIL PENALTIES OR MITIGATION MAY BE IMPOSED.
8. THE FOREST CONSERVATION REFORESTATION EASEMENT PLANTINGS ARE NOT TO BE CONSIDERED LANDSCAPING, AS IT IS USUALLY PRACTICED. THE REFORESTATION PLANTINGS ARE TO CREATE NEW FOREST COMMUNITIES THAT WILL REPLACE TO SOME DEGREE THE FOREST RESOURCES THAT HAVE BEEN LOST DURING RECENT DECADES OF FARMING AND LAND DEVELOPMENT. THEIR PRIMARY PURPOSE IS ENVIRONMENTAL AND NOT AESTHETIC. THESE REFORESTATION STANDS WILL REQUIRE SPECIAL MANAGEMENT AND INITIALLY MAY NOT LOOK ATTRACTIVE.

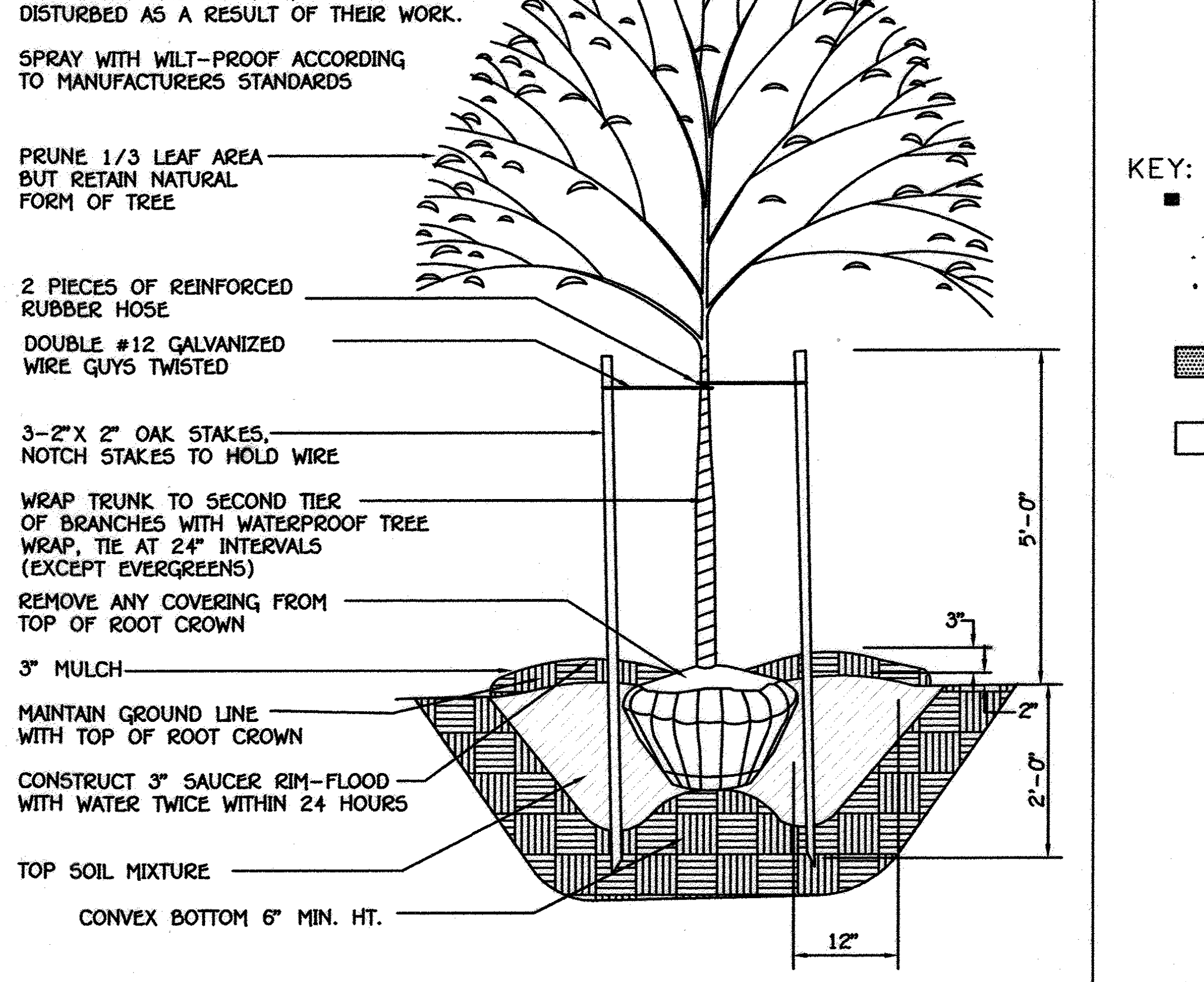
TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

IMPORTANT:
THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES MD 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-81

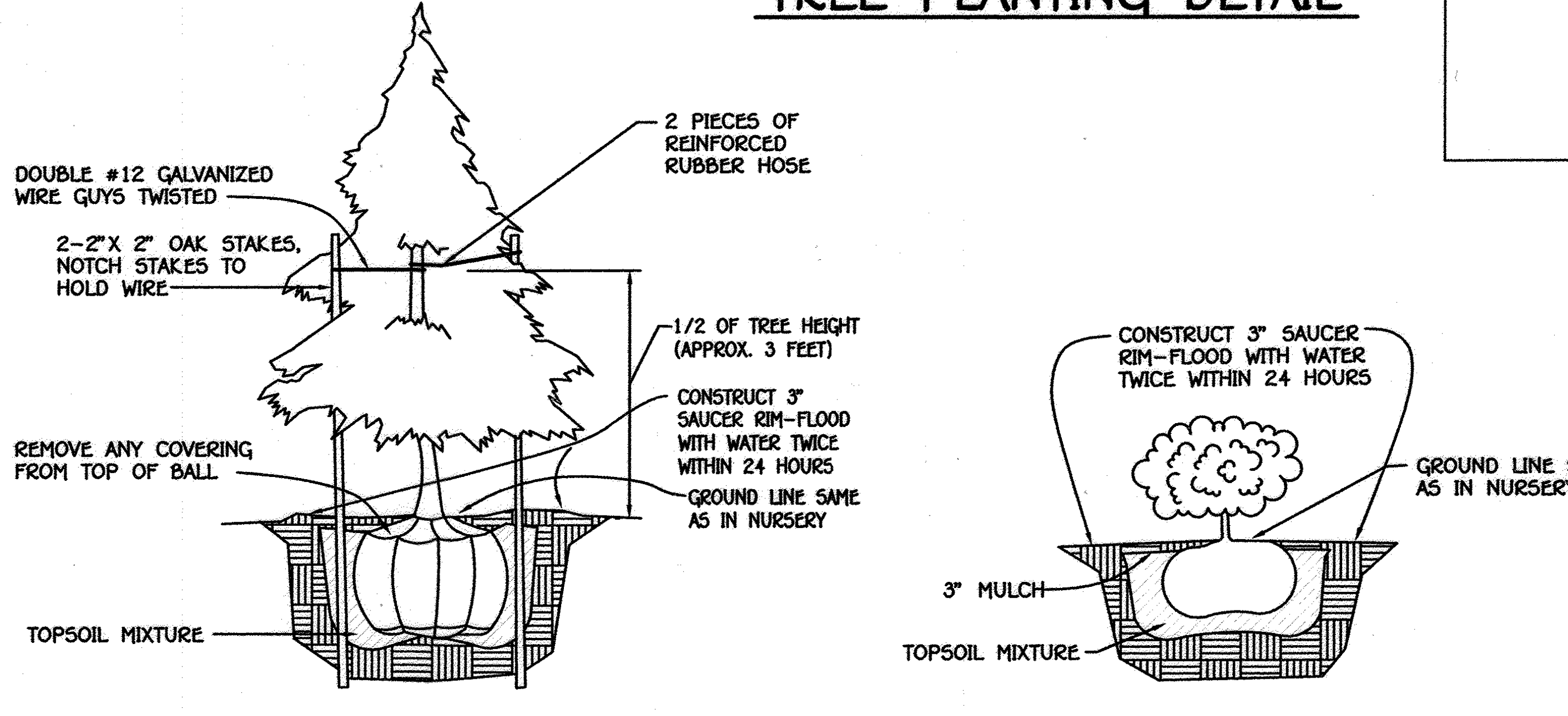
NOTE:
FLAGGER SHALL NEVER BE STATIONED MORE THAN 1000' AWAY FROM THE ADVANCE FLAGGER SIGN.

THE ENGINEER SHOULD CONSIDER ADDITIONAL, ADJACENT LANE CLOSURES WHEN THE POSSIBILITY OF UNPLANNED TRAVELWAY ENCROACHMENTS EXISTS.





TREE PLANTING DETAIL



EVERGREEN PLANTING DETAIL

SHRUB PLANTING DETAIL

TREE PLANTING DETAIL

NOT TO SCALE

SCHEDULE A - PERIMETER LANDSCAPE EDGE

PERIMETER	P-1	P-2	P-3	P-4	P-5A	P-5B	P-5C	P-6	TOTAL
CATEGORY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO SCENIC ROAD	SCENIC ROAD PLANTINGS	
LANDSCAPE TYPE	A	A	A	A	A	D	A		
LINEAR FEET OF PERIMETER	505 L.F.	566 L.F.	400 L.F.	388 L.F.	707 L.F.	250 L.F.	307 L.F.		
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES	(505'/60') = 8.4 OR 8 0	(566'/60') = 9.4 OR 9 0	(400'/60') = 6.6 OR 7 0	(388'/60') = 6.4 OR 6 0	(707/60') = 11.8 OR 12 0	(250/60') = 4.1 OR 4 (250/10') = 25.0 OR 25*	(307/60') = 5.1 OR 5 0		51 25
CREDIT FOR EXISTING VEGETATION SHADE TREES SMALL/MEDIUM DECIDUOUS TREES (2:1 SUBSTITUTION)	0 0	0 0	0 0	0 0	6 0	1 0	0 0		6 0
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES/ORNAMENTAL TREES SHRUB (5:1 SUBSTITUTION FOR EVERGREENS)	~~8~~ 1 ~~0~~ 12	(See Note 1) 0 0	6 2	6 0	4 4	(See Note 2) 3 0 125	3 4	3 4	~~31~~ 26 ~~18~~ 26 125

NOTES: 1. CREDIT TAKEN FOR 566 L.F. OF FOREST CONSERVATION EASEMENT (RETENTION) ALONG PERIMETER P-2.

2. IN LIEU OF 25 EVERGREEN, 125 SHRUBS (SUBSTITUTIONS) TO BE PLANTED ALONG PERIMETER P-5A.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

for LKS 2/26/18
Chief, Division of Land Development — Date

2.1.18
Chief, Development Engineering Division — Date

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21351, EXPIRATION DATE: 07/15/2019.

1/10/2018
Signature Of Professional Land Surveyor — DATE

TODD M. HILL No. 21351

OWNER/DEVELOPER

PAUL A. CASASCO AND
JENNIFER K. CASASCO
3365 JENNINGS CHAPEL ROAD
WOODBINE, MARYLAND 21797
301-529-5728

DEVELOPER'S / BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON TH[illegible] ACCORDING TO THE PLAN, SECTION 16.124 OF THE [illegible] AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE [illegible] THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION [illegible] BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT [illegible] SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

JCasasco 1/12/18
NAME — DATE
Paul A. Casasco 1/12/18

REDLINE FOR LOT 1

FOREST CONSERVATION & LANDSCAPE DETAIL

3 REDLINED TO SHOW REVISED LANDSCAPING FEBRUARY, 2023
comments addressed 7/2023
email comments addressed 1/2024

SQUARE WOODS
LOTS 1 THRU 3

ZONED: RC-DEO
TAX MAP #20 GRID# 04 PARCEL #140
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1"=30' DATE: JANUARY 10, 2018
SCALE : 1"= 50' SHEET 6 OF 7

F-18-021

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

A. Soil Preparation

1. Temporary Stabilization

a. Seedbed 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 rippers mounted on construction equipment. After the soil is loosened, it must not 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:
   - i. Soil pH between 6.0 and 7.0.
   - ii. Soluble salts less than 500 parts per million (ppm).
   - iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
   - iv. Soil contains 1.5 percent minimum organic matter by weight.
   - v. 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. Apply 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. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed 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. Seedbed 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, materials toxic to plants, and/or unacceptable soil gradation.

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:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. 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.

c. The original soil to be vegetated contains material toxic to plant growth.

d. 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: Soil to be used as topsoil must meet the following criteria:

a. 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 not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.

b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.

c. 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

a. Erosion and sediment control practices must be maintained when applying topsoil.

b. 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 pockets.

c. 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 seedbed preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios 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 samples taken 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. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (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 #20 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 8 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

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

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.

Criteria

A. Seeding
  1. Specifications
     - a. 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.
     - b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
     - c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
     - d. Sod or 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 phyto-toxic materials.
  2. Application
     - a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
     - i. 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.
     - ii. 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.
     - b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
     - i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
     - ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
     - c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
     - i. 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; P O (phosphorus), 200 pounds per acre; K O (potassium), 200 pounds per acre.
     - ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
     - iii. Mix seed and fertilizer on site and seed immediately and without interruption.
     - iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching
  1. Mulch Materials (in order of preference)
     - a. Straw consisting of thoroughly threshed wheat, rye, 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, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
     - b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical state.
       - i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
       - ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
       - iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
       - iv. WCFM material must not contain elements or compounds at concentration levels that will by phyto-toxic.
       - v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
  2. Application
     - a. Apply mulch to all seeded areas immediately after seeding.
     - b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
     - c. Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
  3. Anchoring
     - a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
     - i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
     - ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
     - iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
     - iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 3,000 feet long.

TEMPORARY SEEDING NOTES (B-4-4)

Definition

To stabilize 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

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness 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.

2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

Hardiness Zone (from Figure B.3): 6b
Seed Mixture (from Table B.1):

Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)	Lime Rate
BARLEY	96	3/1 - 5/15, 8/15 - 10/15	1"	436 lb/ac (10 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
OATS	72		1"		
RYE	112		1"		

PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

1. General Use

Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.

b. Additional planting specifications for exceptional sites such as shorelines, 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.

c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency. d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary .

2. Turfgrass Mixtures

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

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 consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas 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.

e. If soil moisture is deficient, supply new seedings 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 seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): 6b
Seed Mixture (from Table B.3): 8

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20) N	P_2O_5	K_2O	Lime Rate
8	TALL FESCUE	100	Mar. 1-May 15 Aug. 15-Oct. 15	1/4-1/2 in.	45 lbs. per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)

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

1. General Specifications
   - a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
   - b. Sod must be machine cut at a uniform soil thickness to ¾ inch, plus or minus ¼ 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.
   - c. 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 section.
   - d. Sod must not be harvested or transplanted when moisture content (excessively dry of wet) may adversely affect its survival.
   - e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.
2. Sod Installation
   - a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
   - b. 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 to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
   - c. 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.
   - d. 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.
3. Sod Maintenance
   - a. 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.
   - b. After the first week, sod watering is required as necessary to maintain adequate moisture content.
   - c. Do not mow until the sod is firmly rooted. No more than ⅓ of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

Definition

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

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. 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.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. 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.
8. 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 covered with impermeable sheeting.

Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-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 B-3 Land Grading.

HOWARD SOIL CONSERVATION DISTRICT (HSCD)
STANDARD SEDIMENT CONTROL NOTES

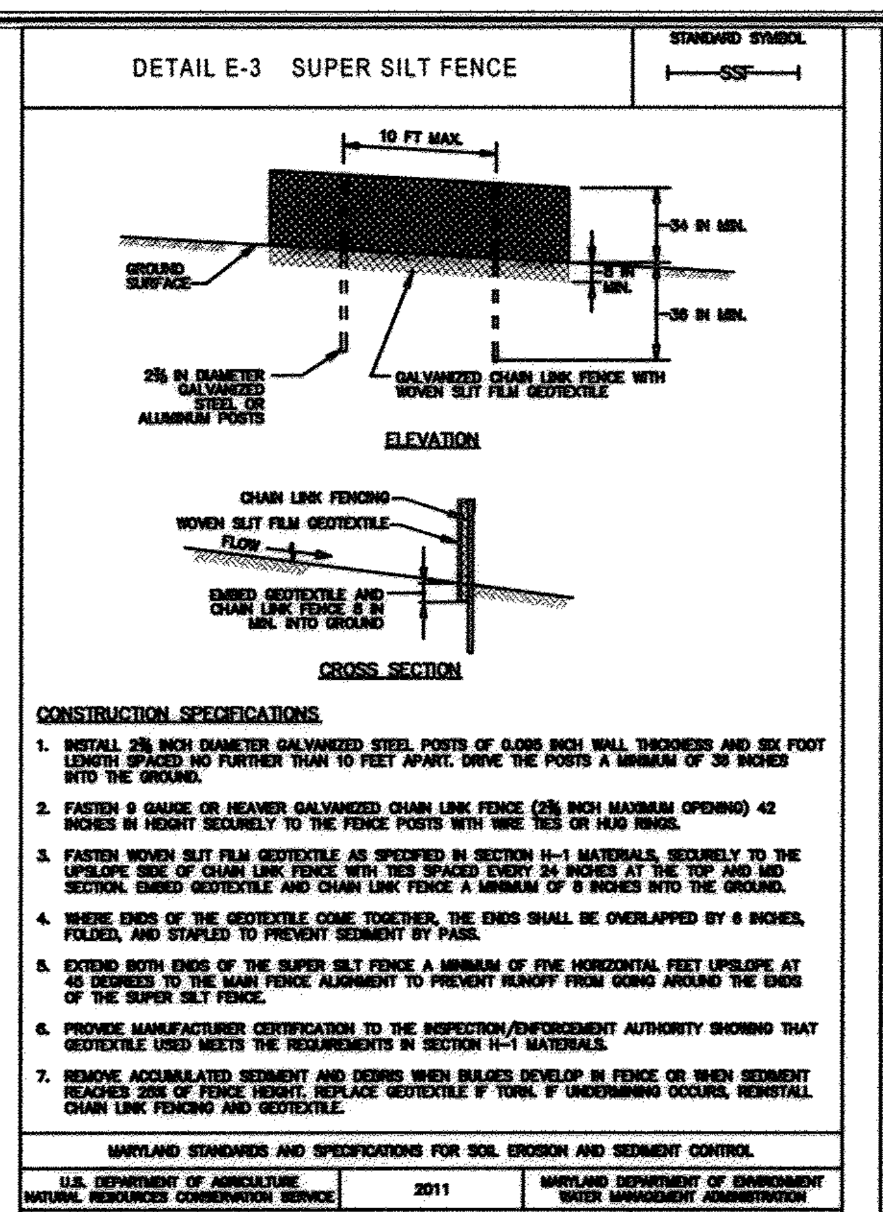
1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:
   - a. Prior to the start of earth disturbance,
   - b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading,
   - c. Prior to the start of another phase of construction or opening of another grading unit,
   - d. Prior to the removal or modification of sediment control practices.

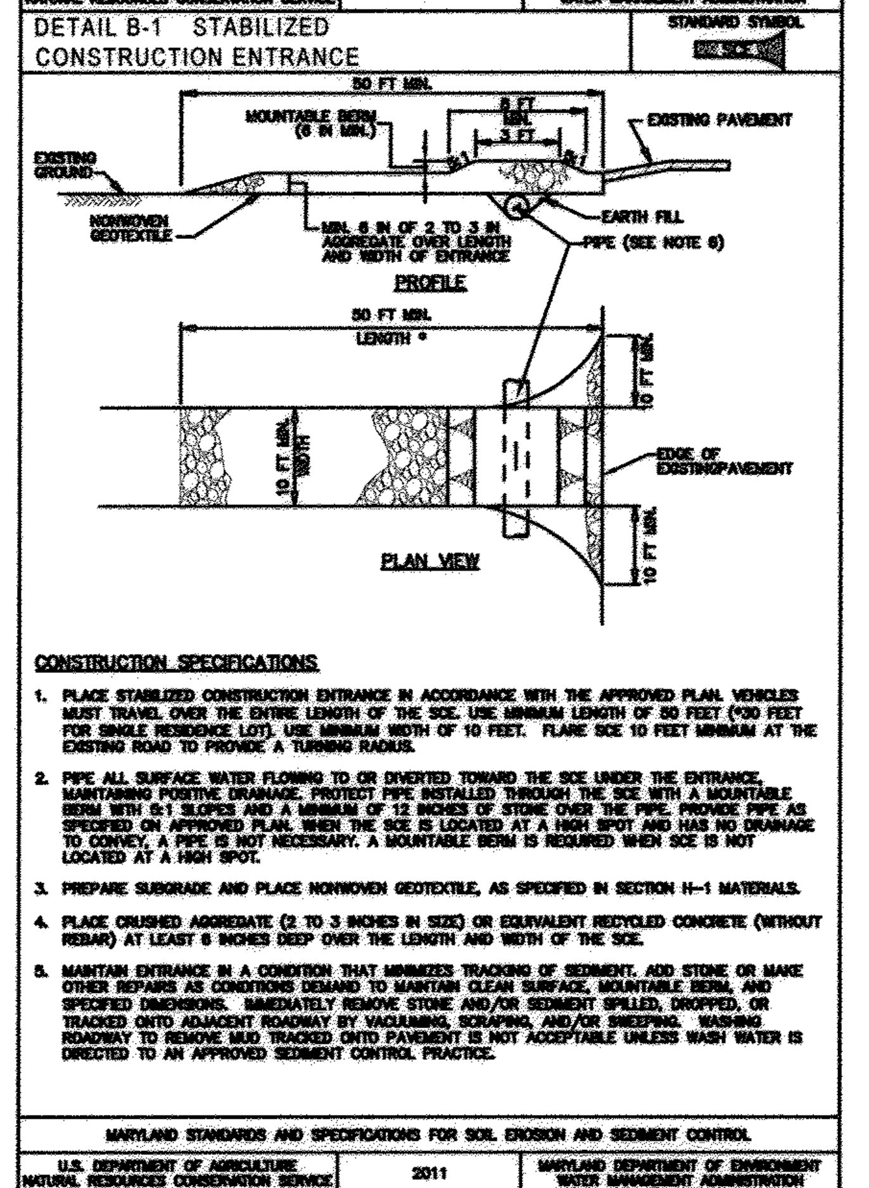
   Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
4. 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 for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).
5. All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.
6. Site Analysis:
   - Total Area of Site: 9.77 Acres
   - Area Disturbed: 4.72 Acres
   - Area to be roofed or paved: 0.84 Acres
   - Area to be vegetatively stabilized: 3.73 Acres
   - Total Cut: 2,500 Cu. Yds.
   - Total Fill: 2,500 Cu. Yds.
   - Offsite waste/borrow area location: N/A .
7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:
   - Inspection date
   - Inspection type (routine, pre-storm event, during rain event)
   - Name and title of inspector
   - Weather information (current conditions as well as time and amount of last recorded precipitation)
   - Brief description of project's status (e.g., percent complete) and/or current activities
   - Evidence of sediment discharges
   - Identification of plan deficiencies
   - Identification of sediment controls that require maintenance
   - Identification of missing or improperly installed sediment controls
   - Compliance status regarding the sequence of construction and stabilization requirements
   - Photographs
   - Monitoring/sampling
   - Maintenance and/or corrective action performed
   - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
9. Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of HSCD-approved field changes.
11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.
12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25' minimum intervals, with lower ends curled uphill by 2' in elevation.
15. Stream channels must not be disturbed during the following restricted time periods (inclusive):
   - Use I and IP March 1 - June 15
   - Use III and IIIP October 1 - April 30
   - Use IV March 1 - May 31
16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

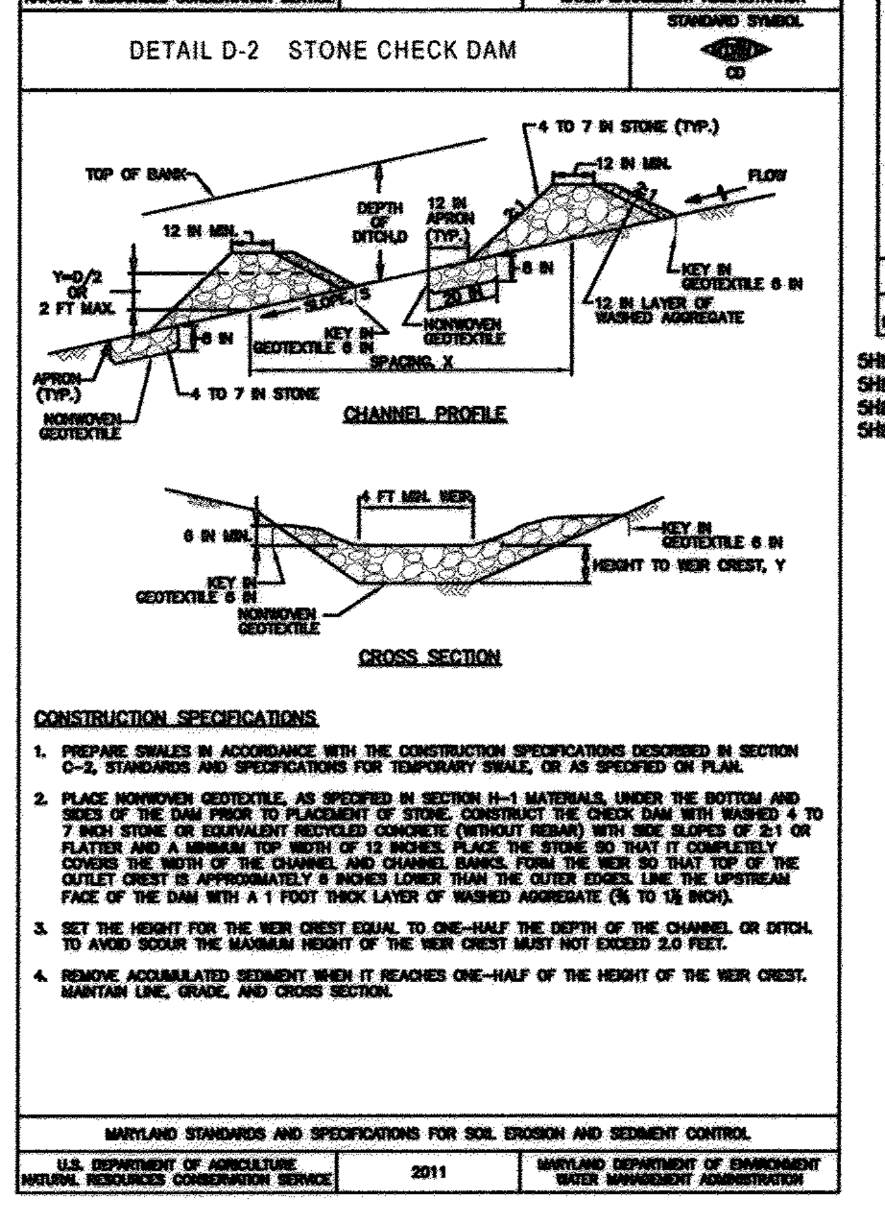
SEQUENCE OF CONSTRUCTION

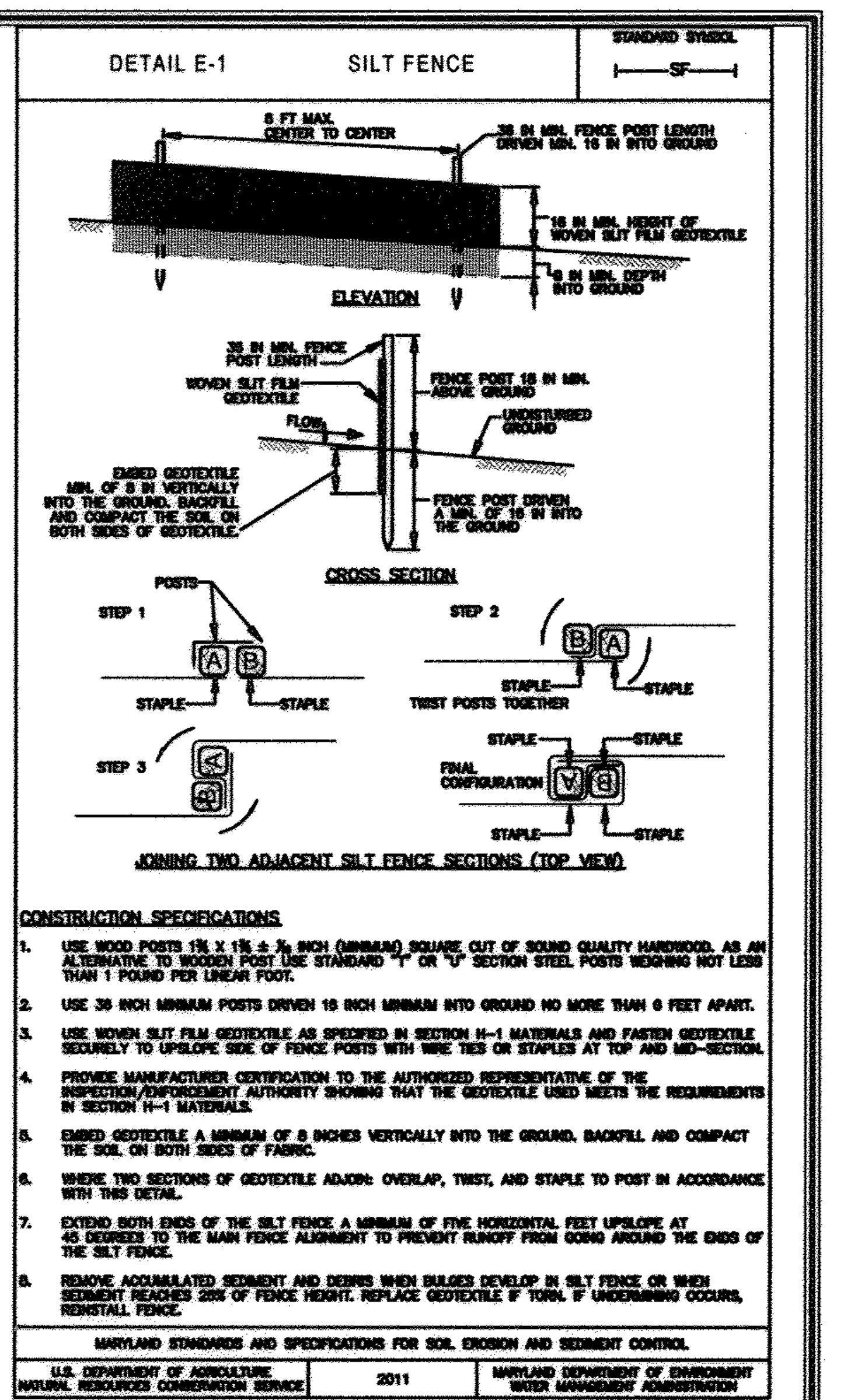
1. OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (2 WEEKS)
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE, AND EARTH DIKE. (1 DAY)
4. REMOVE NECESSARY TREES AND ROUGH GRADE COMMON DRIVEWAY. ROUGH GRADE LOTS. (1 WEEK PER LOT)
5. INSTALL TEMPORARY SEEDING AND PERMANENT SOIL STABILIZATION MATTING WHERE NECESSARY. (1 DAY PER LOT)
6. INSTALL CHECK DAMS IN SWALE ADJACENT TO DRIVEWAY.
7. CONSTRUCT HOUSES AND DRIVEWAYS. INSTALL SEPTIC SYSTEMS. (6 MONTHS PER LOT)
8. INSTALL ROOF LEADERS & DRYWELLS UPON CONSTRUCTION OF HOUSES. FINE GRADE SITE. (1 WEEK PER LOT)
9. INSTALL PERMANENT SEEDING WITH CONSTRUCTION ON EACH LOT. (1 DAY PER LOT)
10. UPON COMPLETION OF GRADING WITHIN DRAINAGE AREA, INSTALL MICRO-BIORETENTION ON LOT 3. (1 WEEK)
11. ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED. (3 DAYS)

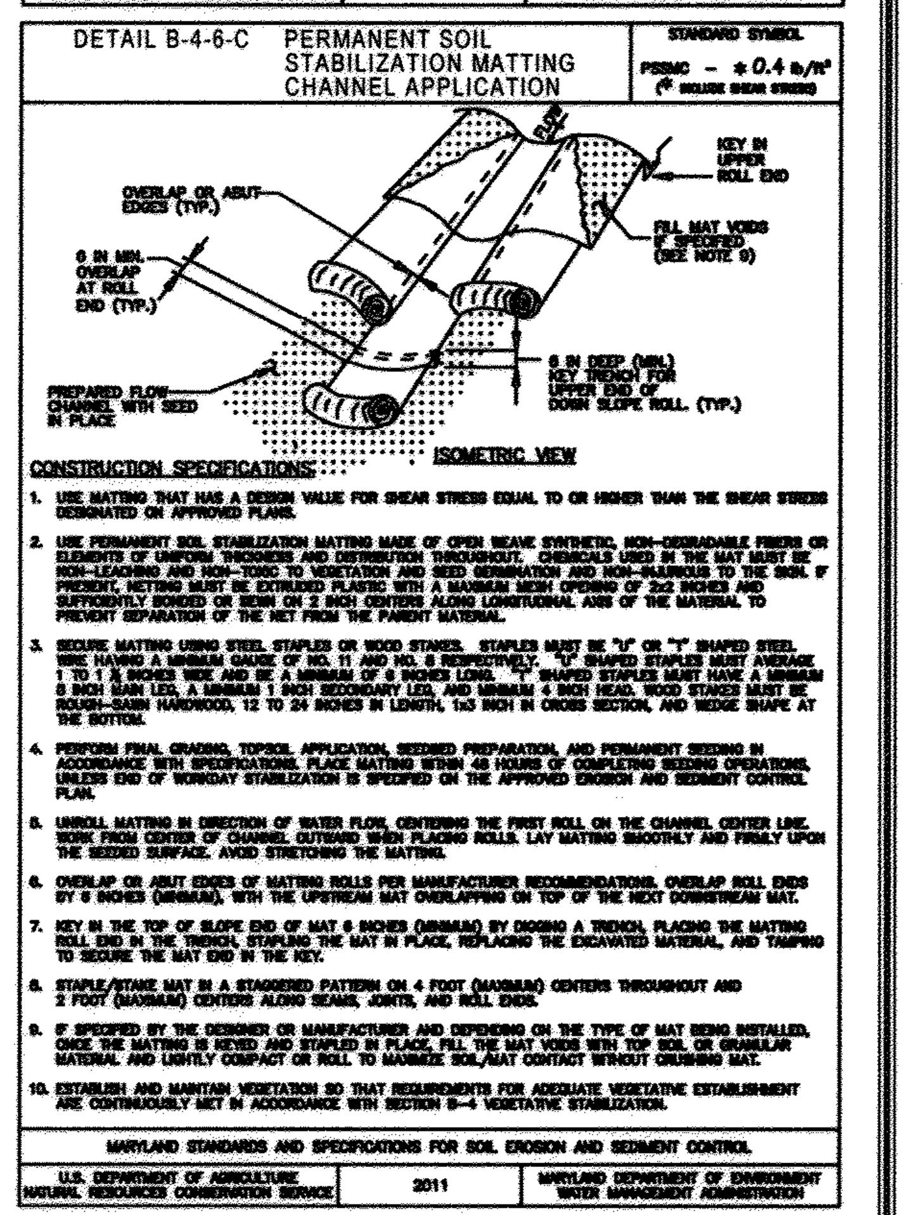
NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A DAILY BASIS.











SHEAR STRESS FOR PSSMC (LOT 1 SWALE) = 62.4 LBS/FT³ x 0.09 FT x 0.025 = 0.14 LBS/FT²
SHEAR STRESS FOR PSSMC (LOT 2 SWALE) = 62.4 LBS/FT³ x 0.09 FT x 0.025 = 0.14 LBS/FT²
SHEAR STRESS FOR PSSMC (LOT 3 SWALE) = 62.4 LBS/FT³ x 0.12 FT x 0.025 = 0.19 LBS/FT²
SHEAR STRESS FOR PSSMC (LOC DRIVEWAY) = 62.4 LBS/FT³ x 0.06 FT x 0.100 = 0.37 LBS/FT²

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."

J Casasco 1/12/18
Signature of Developer Date
P A Casasco 1/12/18

PROFESSIONAL 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 1/12/18
Signature of Engineer Date

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

John R Robertson 1/25/18
Howard SCD Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

for LKS 2/26/18
Chief, Division of Land Development Date

Chad Edmondson 2.1.18
Chief, Development Engineering Division Date

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21351, EXPIRATION DATE: 07/15/2019.

1/10/2018
Signature Of Professional Land Surveyor DATE

TODD M. HILL
No. 21351

OWNER/DEVELOPER

PAUL A. CASASCO AND
JENNIFER K. CASASCO
3365 JENNINGS CHAPEL ROAD
WOODBINE, MARYLAND 21797
301-529-5728

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NOTE:
ONLY THE OWNERS SHOWN HEREON MAY USE THESE PLANS TO OBTAIN BUILDING AND GRADING PERMITS.

SEDIMENT CONTROL NOTES
SQUARE WOODS
LOTS 1 THRU 3
ZONED: RC-DEO
TAX MAP #20 GRID# 04 PARCEL #140
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1"=30' DATE: JANUARY 10, 2018
SHEET 7 OF 7

F-18-021

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