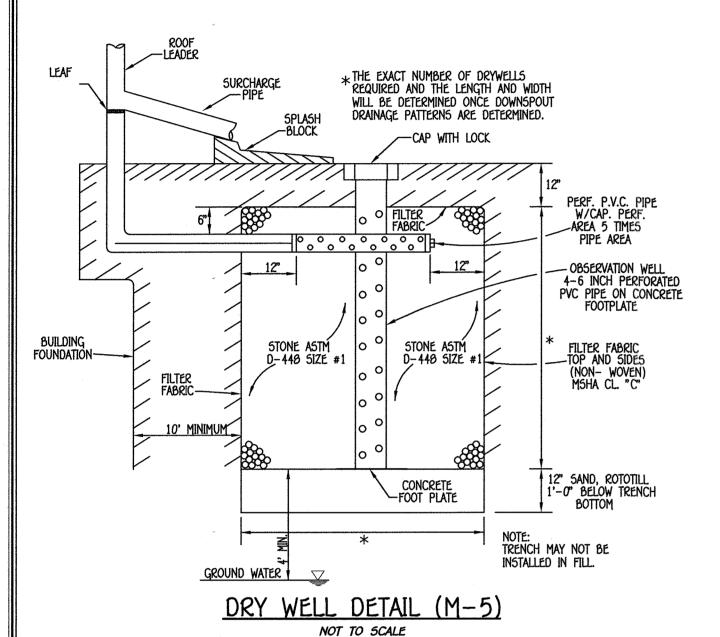
NO.	REVISION	DATE
1	REVISED GAS UNE EASE, FCE, CULVERT AND FLOODRIAIN SHT. 243	313120

# SUPPLEMENTAL PLAN TEN OAKS FARM LOTS 1 THRU 6

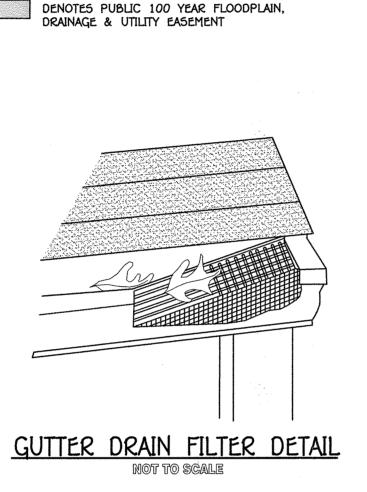
TAX MAP No. 28 GRID No. 14 PARCEL Nos. 140 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

#### 50ILS LEGEND CLASS KW FACTOR 50IL 0 0.37 Baile silt loam, 0 to 3 percent slopes GgB | Glenelg loam, 3 to 8 percent slopes в 0.28 GgC Glenely loam, 8 to 15 percent slopes в 0.28 GmB | Gienville silt loam, 3 to 8 percent slopes C 0.43 в 0.28 MaD Manor loam, 15 to 25 percent slopes



<u></u>	DRY WELL CHART														
<u> </u>															
	DRYWELL NO.	•			5POUT		UIRED			AREA OF TREATMENT	L		W		D
LO	T 3 (FRONT	r LT)	875	5Q.	FT.	91	C.F.	162	C.F.	100%*	9,	X	9,	x	5'
LO	T 3 (FRONT	rt)	875	5Q.	FT.	91	C.F.	162	C.F.	100%*	9,	x	9'	X	5'
LO	T 5 (FRONT	r LT)	875	5Q.	FT.	91	C.F.	162	C.F.	100%*	9,	X	9,	X	5'
LO	T 5 (FRONT	rt)	875	5Q.	FT.	91	C.F.	162	C.F.	100%*	9,	X	9'	x	5'
LO	T 5 (REAR	LT)	875	5Q.	FT.	91	C.F.	162	C.F.	100%*	9,	X	9,	X	5'
LO	T 5 (REAR	RT)	875	5Q.	FT.	91	C.F.	162	C.F.	100%*	9,	X	9'	X	5'

\* AREA OF TREATMENT EXCEEDS THAT REQUIRED.



LEGEND

---- EXISTING 2' CONTOURS

EXISTING TREE LINE

- - EXISTING 10' CONTOURS

50IL LINES AND TYPES

DENOTES FAILED PERC

DENOTES PASSED PERC

DENOTES PROPOSED SEPTIC EASEMENT

DENOTES EXISTING SEPTIC EASEMENTS

DENOTES 1500 Sq.Ft. ALTERNATE WELL SITE

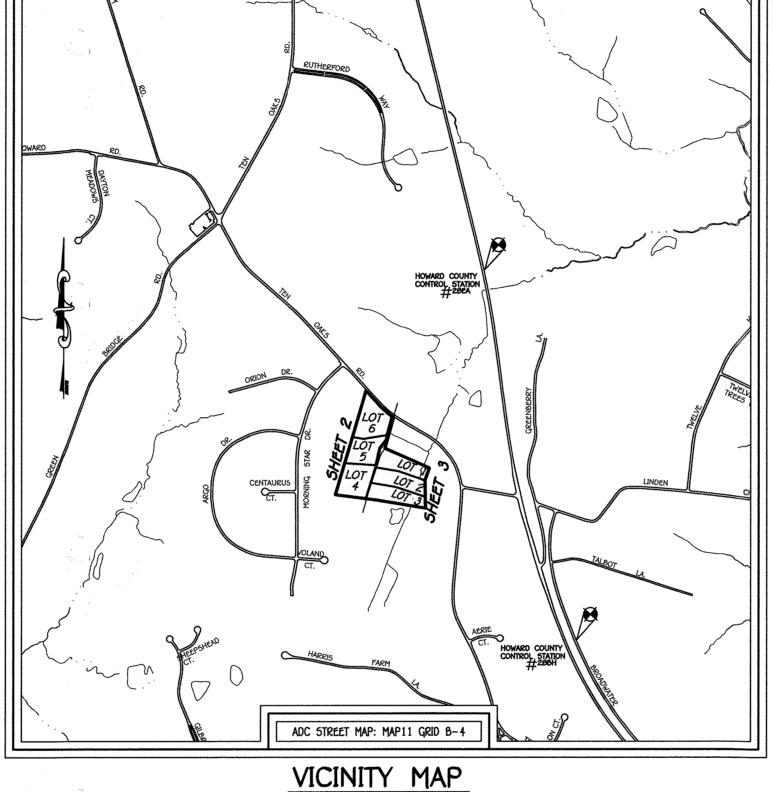
DENOTES EXISTING PERCS FROM 5/6/92

DENOTES 15% TO 25% SLOPES

DENOTES PROPOSED WELL

## STORMWATER MANAGEMENT NOTES

- 1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH 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 TO BE SHOWN ON A GRADING PLAN.



# SCALE: 1" = 1200'

BENCHMARK INFORMATION B.M.# 29EA - HOWARD COUNTY CONTROL STATION #29EA - HORIZONTAL - NAD '93)

> E 1,319,400.744 ELEVATION = 484.996 - VERTICAL - (NAVD '88)

ELEVATION = 556.000 - VERTICAL - (NAVD '00)

B.M.# 20HB - HOWARD COUNTY CONTROL STATION #20HB - HORIZONTAL - (NAD '03) N 567,540.744 F 1.320.551.726

## SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 20.12 AC.±. LIMIT OF DISTURBED AREA = 203.459 SQ.FT. OR 4.67 Ac. ± (SWM BASED ON LOD) PRESENT ZONING DESIGNATION = RR-DEO
- (PER 10/06/2013 COMPREHENSIVE ZONING PLAN) PROPOSED USE: RESIDENTIAL PREVIOUS HOWARD COUNTY FILES: ECP-16-013; WP-16-100 TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 1.76 AC±
- TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.16 AC± (15% TO 25% SLOPES) TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 5.76 AC. ± TOTAL AREA OF STREAM (INCLUDING BUFFER) = 2.64 AC. ± TOTAL AREA OF EXISTING FOREST = 0.55 AC. (EXCLUDING FLOODPLAIN)
- TOTAL AREA OF FOREST TO BE RETAINED = 0.55 AC± (FOREST CONSERVATION REGULATIONS, WILL BE MET BY AFFORESTATION, SINCE MINIMAL FOREST EXISTS ON-SITE OUTSIDE OF THE FLOODPLAIN) TOTAL AREA OF LOTS / BUILDABLE PARCELS = 20.12 AC±
- TOTAL GREEN OPEN AREA = 19.04 AC± (WITHIN LOD) TOTAL IMPERVIOUS AREA = 1.00 AC± (WITHIN LOD, EXCLUDES EXISTING IMPERVIOUS) TOTAL AREA OF ERODIBLE SOILS = 0.16 AC. ± TOTAL AREA OF ROAD DEDICATION = 0.16 AC. ±

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-440	No. 0 or No. 9 (1/0" to 3/0")				
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. Aggregațe (3/8" †o 3/4")				
Underdrain piping	F 750, Type P5 20 or AASHTO M-270	4" to 6" rigid schedule 40 PVC or 5DR35	Slotted or perforated pipe; 3/8" pert. @ 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 20 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n.ā	on-site testing of poured-in-place concrete required: 20 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved 5tate or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the 5tate of Maryland - design to include meeting ACI Code 350.R/09; 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"	5and 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.			

Chief, Development Engineering Division

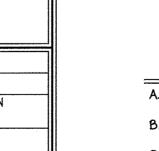
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

5-15-17

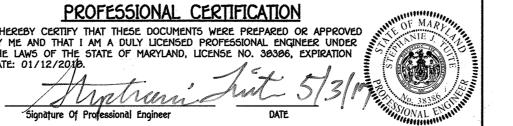
5.12.17

STORMWATER MANAGEMENT SUMMARY									
AREA ID.	ESDV REQUIRED CU.FT.	E5DV PROVIDED CU.FT.	REMARKS						
LOT 1 - 892 MICRO-BIORETENTION (M-6)									
LOT 2	OT 2 - 1,101		MICRO-BIORETENTION (M-6)						
LOT 3		662	DRY WELLS (M-5), ROOFTOP DISCONNECTION (N-1) & NON-ROOFTOP DISCONNECTIONS						
LOT 4	LOT 4 - 768 MICRO-BIORETENTION (EXISTING HOUSE DRIVEWAY)		MICRO-BIORETENTION (EXISTING HOUSE & DRIVEWAY)						
LOT 5	LOT 5 - 1,244 DRYWELLS (M-5		DRYWELLS (M-5) & BIORETENTION (F-6)						
LOT 6	_	1,163	BIORETENTION (F-6)						
TOTAL	5,707	6,557							

LOD = 4.67 ACRES (SITE)RCN = 63.2TARGET Pe = 1.3"



GRO55 AREA = 20.19 ACRE5



## 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

OWNER

ORVILLE E. & PATRICIA L. SHEPHERD

(ESTATE OF)

5020 TEN OAKS ROAD

CLARKSVILLE, MARYLAND 21029

C/O JAMES GREENFIELD 443-324-4732

INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED. 53 (cont) Any alterations to the plans for the house to remain on this lot will require a hearing

before the Historic Preservation Commission for Advisory Comments. 54. This plan was approved by the Planning Board under PB case No. 426 on January 5, 2017,

- Subject Property is Zoned RR-DEO Per The 10/06/13 Comprehensive Zoning Plan.

  Coordinates Based On Nad '83, Maryland Coordinate System As Projected By Howard County Geodetic Control Stations No. 28EA And No. 28HB.
- Sta. 20EA
   N 572,150.967
   E 1,319,400.744
   Elevation 404.996

   Sta. 20HB
   N 567,540.744
   E 1,320,551.726
   Elevation 556.000

   3. This Plan Is Based On Field Run Monumented Boundary Survey Performed On Or About June 7, 2015 By Fisher, Collins &
  - 4. B.R.L. Denotes Building Restriction Line.
    5. Denotes Iron Pin Set Capped "F.C.C. 106".
  - . Denotes Iron Pipe Or Iron Bar Found.
  - 7. O Denotes Angular Change In Bearing Of Boundary Or Rights-Of-Way. 8. Denotes Concrete Monument Set With Aluminum Plate "F.C.C. 106".
- Denotes Concrete Monument Or Stone Found. 10. For Flag Or Pipe Stem Lots, Refuse Collection, Snow Removal And Road Maintenance Are Provided To The Junction Of Flag Or Pipe Stem And The Road Right-Of-Way Line Only And Not Onto The Flag Or Pipe Stem Lot Driveway. 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. 12. All Lot Areas Are More Or Less (±). 13. Distances Shown Are Based On Surface Measurement And Not Reduced To Nad '83 Grid Measurement.
- 14. No Cemeteries Exist On This Site Base On A Visual Site Visit And Based On A Examination Of The Howard County Cemetery Inventory Map. No Historic Structures Exist On This Site
- 15. Property Subject To Prior Department Of Planning And Zoning File No's: WP-16-100, WP-16-159. And ECP-16-013.
  16. The Floodplain Shown For This Project Is Based On Howard County Digital Floodplain & FEMA. 17. Private Water And Sewage Will Be Used Within This Site
- 18. This Property Is Not Located Within The Metropolitan District. 19. There is An Existing Historic Dwelling And Swimming Pool Located On Lot 4 Which Are To Remain. All Accessory Structures
  Are To Be Removed On Site. No New Buildings, Extensions Or Additions To The Existing Dwelling Are To Be Constructed At
- A Distance Less Than The Zoning Regulation Requirements.

  20. This Plan Is In Compliance With The Amended Fifth Edition Of The Subdivision And Land Development Regulations Per
- Council Bill No. 45-2003 And The Zoning Regulations As Amended By Council Bill 75-2003. Development Or Construction On These Lots Or Parcels 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. 21. No Noise Study Is Required For This Project. 22. Section 16.121 Of The Subdivision Regulations Require A \$1,500.00 Payment For Fee-In-Lieu Of Providing Open Space
- For Non-Cluster Subdivisions In The RR Zoning District. The Developer Will Pay The Fee-In-Lieu In The Amount Of \$7,500.00 Based On 5 Non-Cluster Lots x \$1,500/Lot. 23. Wetlands Evaluation And Report Prepared By Eco-Science Professionals, Inc. Dated December 4, 2015. There is A 100 Year Floodplain, Wetlands And A Perennial Stream Located On Lots 1, 2 And 3. A 35-Foot Environmental Buffer Has
- Been Provided From The 25-Foot Wetland Buffer. 24. The Lots Shown Hereon Comply With The Minimum Ownership, Width And Lot Area As Required By The Maryland State
- Department Of The Environment. 25. Stormwater Mana.gement Practices Are Required In Accordance With The Design Manuals. Prior To Signature Approval Of The Final Plat Or Site Development Plan, The Developer Will Be Required To Execute The Declaration Of Covenant And/Or A Developers Agreement For The Construction Of The Stormwater Management Practices And A Maintenance Agreement. Drywells (M-5), Non-Rooftop Disconnection (N-2), Micro-Bioretention (M-6) And Bioretention (F-6) Have Been Provided To Treat Stormwater Management Requirements. These Devices Will Be Privately Owned And Maintained By The Individual Homeowners. Micro-Bioretention (M-6) And Bioretention (F-6) Which Treats The Common Driveway Impervious Surface Will
- Have Maintenance Responsibilities Described In The Driveway Maintenance Agreement. 26. ///// 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 Are 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.
- 27. Existing Well On Lot 4 To Be Properly Abandoned.
  28. Wells On Lots 1 Thru 6 Must Be Drilled Prior To Howard County Health Department Signature Of The Final Plat.
- 29. This Subdivision Is Within Growth Tier III Which Allows Major Subdivisions Of Greater Than 4 Lots That Utilize On-Site
- 30. The Private Use-In-Common Driveway Access Easement And Maintenance Agreement For Shared Driveways Is Recorded Simultaneously With This Plat. Lots 1 Thru 6 Shall Be The Only Lots Permitted To Use This Shared Driveway. 31. This Plan Has Been Prepared In Accordance With The Provisions Of Section 16.124 Of The Howard County Code And The Landscape Manual. Financial Surety For The Required Perimeter Landscaping Will Be Posted As Part Of The Builders
- Grading Permit In The Amount Of \$16,050.00. (38 Shade Trees & 31 Evergreen Trees, Based On The Total Number Of Required Shade Trees @ \$300.00 Each & Evergreen Trees @ \$150.00 Each) 32. A Pre-Submission Community Meeting For This Project Was Held On July 20, 2015 in Accordance With Section 16.127 Of The Howard County Subdivision And Land Development Regulations.
- 33. This Site Is Not Adjacent To A Scenic Road. 34. This Project Is In Conformance With The Latest Howard County Standards Unless Waivers Have Been Approved. 35. No Grading, Removal Of Vegetative Cover And Trees, Paving And New Structures Are Permitted Within The 100 Year
- Floodplain, 25-Foot Wetland Buffers And 100-Foot Stream Buffer. 36. APFO Traffic Report Dated June, 2015 Prepared By Mars Group.
- Free-Flow Speed Study Report Dated June, 2015 Prepared By Mars Group.
   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 = (5 Lots x 10%) = 0.5 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.
- 39. The Forest Conservation Easement Areas Within This Subdivision Have Been Established To Fulfill The Requirements Of Section 16.1200 Of The Howard County Code And The Forest Conservation Act. No Clearing, Grading Or Construction I 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 Ten Oaks Farm Subdivision Will Be Met Through The On-Site Retention 1.45 (0.55 Credited) Acres Of Forest, And On-Site Planting Of 3.12 Acres (Includes 3.01 Acres Of Forest Planting And 0.11 Acre Credit For Landscape Trees) In FCE No. 1. No Surety is Required For On-Site Retention, (F-16-123) Ten Oaks Farm. A Surety In The Amount Of \$65,557.00 (Based On 3.01 Acres x 43,560 Sq. Ft./Acre x \$0.50/5q. Ft.) Is Provided. Credit is Being Taken For 12 Proposed Landscape Trees @ 400 5q. Ft. / Tree Which Equals 4,800 5q.Ft. Of Landscape Credit (0.11 Acres).
- 40. This Plan is Subject To WP-16-100 Which On April 12, 2016 The Planning Director Approved A Request To Waive Section 16.120)b)(4)(iii)(b) Lot Design Which States That For A Lot Or Buildable Preservation Parcel Of 10 Acres Or Greater In Size That Floodplains, Wetlands, Streams, Their Buffers, And Forest Conservation Easements For Afforestation. Reforestation, Or Retention May Be Located On The Lot Or Parcel If The Building Envelope Is No Closer Than 35 Feet
- From These Environmental Features, Provided That A Deck May Project 10 Feet Beyond The Building Envelope. Approval Is Subject To The Following Conditions:
- 1. A 35 Foot Environmental BRL Shall Be Provided From The Environmental Buffer And Forest Conservation Easements (From Whichever Extends Further Into The Lots) 2. Subject To The Approval Of ECP-16-013 And Approval Of WP-16-159.
- 3. Waiver Approval Is Conditioned On The Approval Of The Required Percolation Testing, And Any Well And Septic Requirements Of The Health Department. 4. No Grading, Removal Of Vegetative Cover And Trees, Paving And New Structures Are Permitted Within The Floodplain,
- Wetlands, Stream And Buffers For All Lots Except The Essential Driveway Crossing Disturbance. 5. At The Subdivision Plan And Building Permit Stages The Applicant Should Make All Reasonable Efforts To Keep The Distance Between The Proposed House Sites And The Forest Conservation Easement Areas At A Maximum To Avoid Possible Future Encroachments By The Homeowners.
- 41. This Project is in Conformance With The Latest Howard County Standards Unless Waivers Have Been Approved. 42. No Grading, Removal Of Vegetative Cover And Trees, Paving And New Structures Are Permitted Within The 100 Year Floodplain, 25-Foot Wetland Buffers And 100-Foot Streambank Buffer, Except For The Use-In-Common Driveway. The Disturbance To The Stream Buffer Is Deemed As A Necessary Disturbance For The Construction Of The Widening Of The
- Existing Driveway. Per Section 16.116(c)(1)(i) Of The Subdivision Regulations. 43. All Construction Shall Be In Accordance With The Latest Standards And Specifications Of Howard County Plus MSHA Standards And Specifications, 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
- 46. The Existing Topography Shown Hereon Is Based On Howard County GIS Topography And Supplemented With Field Run Location Of Existing Driveway, On-Site Structures, Wetlands, And Streams Taken From A Field Run Survey
- Prepared By Fisher, Collins & Carter, Inc. Dated June 2015.
- 47. Existing Utilities Shown Based On Available County Information And Field Locations By Survey Prepared By Fisher. Collins & Carter, Inc. Dated June 2015.
- 48. Driveway Entrance To Be Provided In Accordance With Howard County Detail R-6.06. 49. Sight Distance At Ten Oaks Road Was Determined To Be Adequate By The Development Engineering Division. 50. Wells Must Be Drilled Prior To Howard County Health Department Signature Of The Final Plat.
- 51. The Following Shall Be Noted Regarding Traffic Control Signs In The County Right—Of—Way: (A) The R1-1 (Stop) Sign And The Street Name Sign (SNS) Assemblies For This Development Must Be Installed Before
- The Base Paving Is Completed. (B) The Traffic Control Device Locations Shown On The Plans Are Approximate And Must Be Field Approved By Howard County Traffic Division (410-313-2430) Prior To The Installation Of Any Of The Traffic Control Devices.
- (C) All Traffic Control Devices And Their Locations Shall Be in Accordance With The Latest Edition Of The Maryland Manual On Uniform Traffic Control Devices (MDMUTCD). (D) All Sign Posts Used For Traffic Control Signs Installed In The County Right-Of-Way Shall Be Mounted On A 2"
- Galvanized Steel, Perforated (Quick Punch), Square Tube Post (14 Gauge) Inserted Into A 2-1/2" Galvanized Steel, Perforated, Square Tube Sleeve (12 Gauge) - 3' Long. The Anchor Shall Not Extend More Than Two Quick Punch Holes Above Ground Level. A Galvanized Steel Pole Cap Shall Be Mounted On Top Of Each Post. (E) A Private Range Of Address Sign Shall Be Fabricated And Installed By Howard County Bureau Of Highways At The
- Driveway Access Point Onto Ten Oaks Road At The Developers/Owners Expense. Contact Howard County Traffic Division At 410-313-5752 For Details And Cost Estimate. 52. This Plan Is Subject to WP-16-159 Approved Request For Alternative Compliance Of Section 16.145(a) To Not Require
- Submission Of A Sketch Plan & A Preliminary Equivalent Sketch Plan. Approval is Subject To The Following Conditions: That Road Improvements Or Frontage Improvements Along Ten Oaks Road Are Not Required For This Subdivision. 2. The Development As Proposed Shall Not Impact Environmental Resources Or Buffers, Except For The Essential
- 3. Planning Board Approval Of F-16-123 is Required in Accordance With The Requirements Of Maryland Senate Bill 236 For Major Subdivisions In The Tler III Growth Area.
- 4. Add The Alternative Compliance Request Number. Purpose, Section, Date, And Conditions On All Subsequent Plan
- 53. There is an existing dwelling dating to approximately 1902, to remain on Lot 4.

SUPPLEMENTAL PLAN - TITLE SHEET

## TEN OAKS FARM

LOTS 1 THRU 6 ZONED RR-DEO

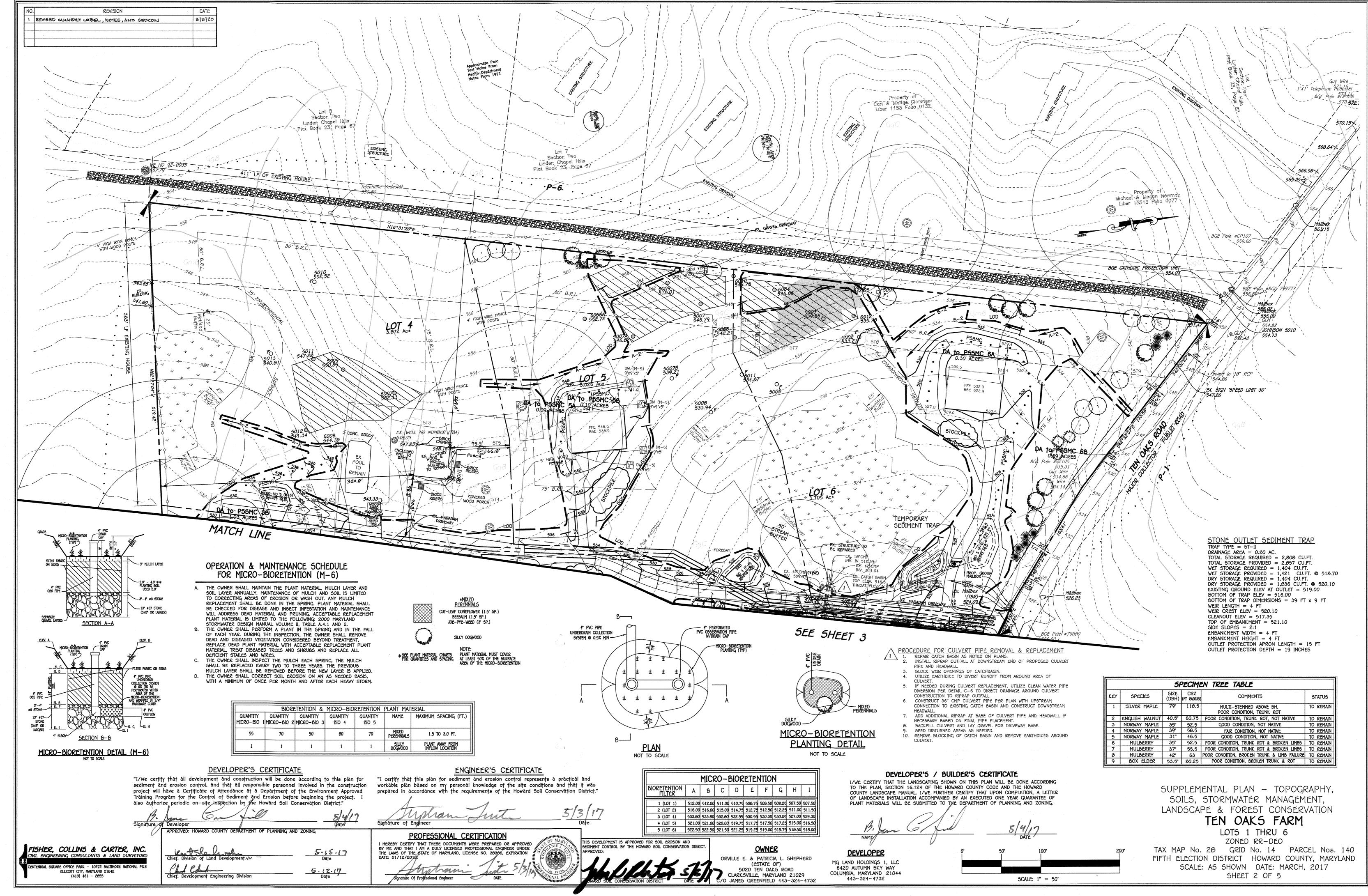
TAX MAP No. 28 GRID No. 14 PARCEL Nos. 140 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MARCH, 2017 SHEET 1 OF 5

FISHER, COLLINS & CARTER. INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYORS . SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER

MG LAND HOLDINGS 1, LLC 6420 AUTUMN SKY WAY COLUMBIA, MARYLAND 21044 443-324-4732

DEVELOPER



I\2015\15007\Engineering\Dwgs\15007 Support Plan.dw

- 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
- 3. All Bare Rood 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 PLANT INSTALLATION

- 1. Follow Sequence of Construction shown on Sheet 5.
- Proposed Reforestation Areas Impacted By The Site Grading Shall Be Topsoiled And Stabilized As Per Note 2 Of The "Planting / Soil
- 3. Plants Shall Be Installed And Maintained As Per Notes And Specifications For This Project.
- Upon Completion Of The Plantings, Signage Shall Be Installed As Per The Signage Detail.
- Plantings Shall Be Guaranteed and Maintained In Accordance With The "Guarantee Requirements" And "Maintenance Of Plantings" Associated

## 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.

### FOREST PROTECTION GENERAL NOTES

- 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.
- 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
- 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.
- ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN
- 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 MA
- i. The general contractor shall prevent parking of construction vehicles and equipment AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION
- REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED. 6. THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYEL
- ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY

## REFORESTATION PLANTING NOTES

- Plants, Related Material, And Operations Shall Meet The Detailed Description As Given On The Plans And As Described Herein.
- 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
- 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.
- 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.
- . 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.
- i. 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.
- ". Mowing And Applying Herbicides To The Reforestation Area is Prohibited At Any An 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.

## 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.

#### PRE-CONSTRUCTION MEETING

- 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
- 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. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL
- 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

## FOREST CONSERVATION WORKSHEET

VERSION 1.0	
BASIC SITE DATA:  A. TOTAL TRACT AREA	20.12 Ac 1.76 10.36 Ac
INFORMATION FOR CALCULATIONS:  D. AFFORESTATION THRESHOLD	3.67 4.59
F. EXISTING FOREST COVER WITHIN NET TRACT AREA	0.55
BREAK EVEN POINT: H. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	0.00
PROPOSED FOREST CLEARING:  J. TOTAL AREA OF FOREST TO BE CLEARED=  K. TOTAL AREA OF FOREST TO BE RETAINED=	0.00
PLANTING REQUIREMENTS:  L. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	0.00 0.00 0.00 0.00 0.00 0.00 3.12 0.00

BLAZE ORANGE PLASTIC MESH

HIGHLY VISIABLE FLAGGING

MAXIMUM & FEE

- ANCHOR POST SHOULD BE

MINIMUM 2" STEEL "U" CHANNE

OR 2" x 2" TIMBER 6' IN LENGTH

ANCHOR POST MUST BE INSTALLED

OF THE TOTAL HEIGHT OF POST

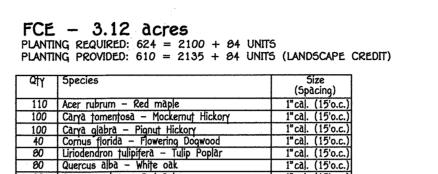
RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.

DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TO A DEPTH OF NO LESS THAN 1/3

#### SCHEDULE A - PERIMETER LANDSCAPE EDGE P-1 P-5 TOTAL P-6 PERIMETER ADJACENT TO ADJACENT TO ADJACENT TO ADJACENT TO ADJACENT TO ADJACENT TO CATEGORY ROADWAY METER PROPERTI METER PROPERT IMETER PROPER RIMETER PROPERT RIMETER PROPERTI LANDSCAPE TYPE Α 447 L.F. (LESS ENTRANCE) 400 L.F. 606 L.F. 512 L.F. 654 L.F. (LESS EX. HOUSE) 941 L.F. (LESS EX. HOUSE LINEAR FEET OF PERIMETER CREDIT FOR EXISTING TREES LF OF EX. TREELINE 512 LF OF EX. TREELIN 519 LF REMAINING O LF REMAINING TO REMAIN NUMBER OF PLANTS REQUIRED 9/11 SHADE TREES (447'/50' = 8.9 OR 9) $(400^{\circ}/60^{\circ} = 6.6 \text{ OR})$ (519'/60' = 0.6 OR)449'/60' = 7.5 OR 8)(941'/60' = 15.6 OREVERGREEN TREES CREDIT FOR EXISTING VEGETATION SHADE TREES SMALL/MEDIUM DECIDUOUS TREES OR EVERGREENS NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES

NOTE: CREDIT IS BEING TAKEN FOR AN EXISTING 53.5" BOXELDER ALONG PERIMETER 1



50 Quercus rubrā — Red Oāk
50 Quercus veluţinā — Blāck Oāk
15 Viburnum ācerifolium — Māpleleāf Viburnum
15 Viburnum denţāţum — Arrowwood Viburnum Note:

(1) Size proposed to be utilized and planted at 200 trees per acre (200 trees/acre x 3.00 acres = 600 trees). Shrubs (viburnums) not included in total quantity.

(2) Planting units:
3.5 units = 1 - 1" cal. tree 7 units = 1 - 2" cal. tree
(3) Credit taken for landscape plantings - 12 trees = 84 planting units
(4) Surety to be based on 3.00 acres due to landscape credit.

FOREST

RETENTION

AREA

OR STORAGE OF

PROHIBITED

VIOLATORS SUBJECT TO THE

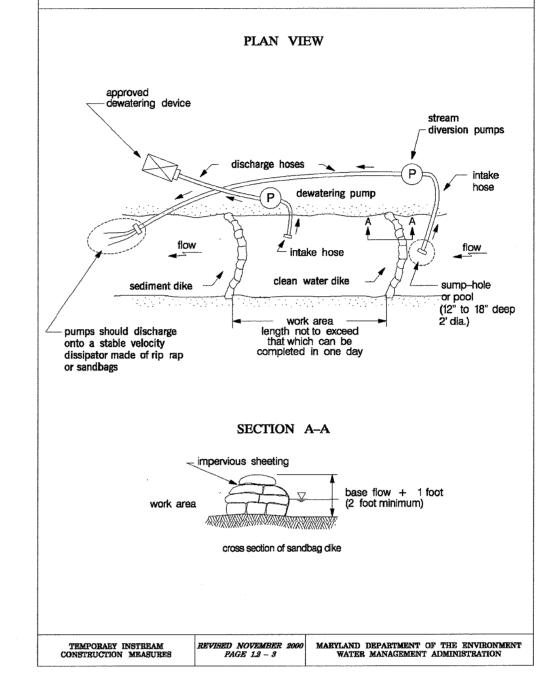
MARYLAND FOREST CONSERVATION ACT OF

11" MINIMUM

FINES AS IMPOSED BY THE

	LANDSCAPING PLANT LIST								
QTY.	QTY. KEY NAME								
16	A STATE OF THE STA	ACER RUBRUM 'RED SUNSET' (RED SUNSET RED MAPLE)	2.5" – 3" CAL. FULL CROWN, B&B						
16	$\odot$	TILIA CORDATA 'GREENSPIRE (GREENSPIRE LITTLELEAF LINDEN)	2.5" – 3" CAL. FULL CROWN, B&B						
20	*	THUJA PLICATA (GIANT ARBORVITAE 'GREEN GIANT')	5'-6' HT. 8&B						
11	Market .	ILEX 'NELLIE R. STEVENS' (NELLIE STEVENS HOLLY)	5'-6' HT. 8&B						
6	+	PLATANUS X ACERIFOLIA (LONDON PLANE)	2.5"-3" CAL. FULL CROWN, B&B						

TOTAL: 38 SHADE TREES & 31 EVERGREENS

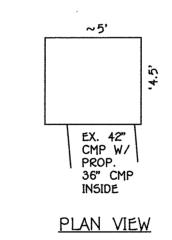


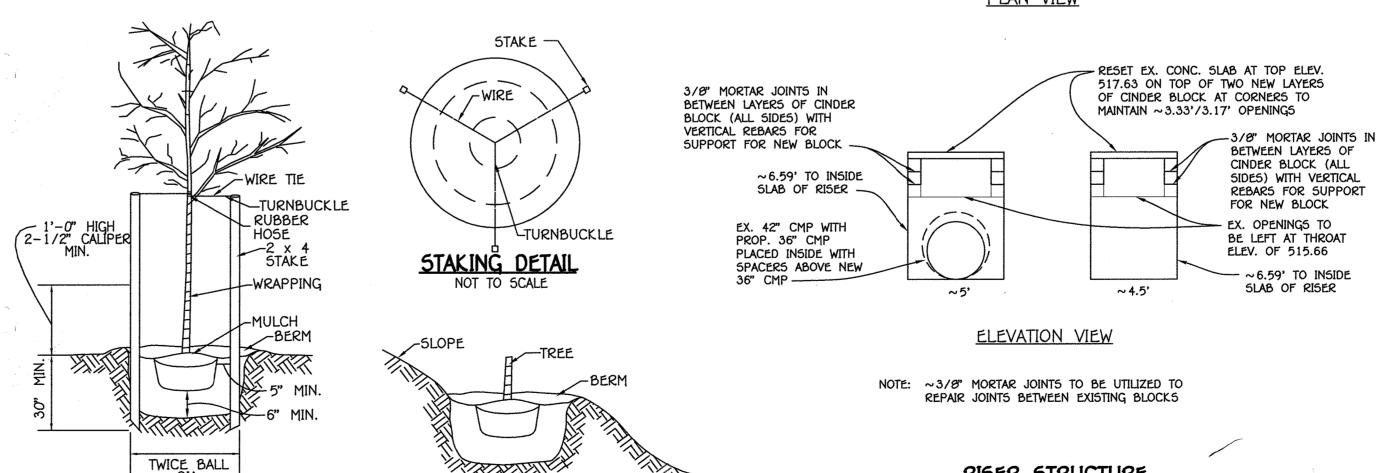
Maryland's Guidelines To Waterway Construction

DETAIL 1.2: PUMP-AROUND PRACTICE

REFORESTATION PROJECT THIS AREA CONTAINS NEW TREES.
PLEASE HELP US PROTECT YOUNG FOREST. TREES FOR YOUR FUTURE 11" MINIMUM NOTE: THE PROTECTIVE SIGNAGE SHALL BE IN PLACE FOR PERPETUITY.

> FOREST CONSERVATION SIGN DETAIL





DEVELOPER'S CERTIFICAT

NOT TO SCALE DEVELOPER'S / BUILDER'S CERTIFICATE I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER

RISER STRUCTURE

MODIFICATION DETAIL

OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

2 OF 2 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MATERIALS, 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 REQUIRED

LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

SHOULD ANY TREE DESIGNATED FOR PRESERVATION, FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS,
THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE

SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE LANDSCAPE MANUAL.

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD

COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED PERIMETER LANDSCAPING WILL BE POSTED AS PART OF THE BUILDERS GRADING PERMIT IN THE AMOUNT OF \$16,050.00 (38 SHADE

TREES & 31 EVERGREENS, BASED ON THE TOTAL NUMBER OF REQUIRED SHADE TREES @ \$300.00 EACH & EVERGREEN TREES @ \$150.00 EACH).

4. THE FOREST CONSERVATION EASEMENT AREAS WITHIN THIS SUBDIVISION HAVE BEEN ESTABLISHED TO FULFILL

THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT;

THROUGH THE ON-SITE RETENTION 1.45 (0.55 CREDITED) ACRES OF FOREST, AND ON-SITE PLANTING OF 3.12

ACRES (INCLUDES 3.01 ACRES OF FOREST PLANTING AND 0.11 ACRE CREDIT FOR LANDSCAPE TREES) IN FCE

CREDIT IS BEING TAKEN FOR 12 PROPOSED LANDSCAPE TREES @ 400 SQ. FT. / TREE WHICH EQUALS 4,000

ISOMETRIC VIEW

6 IN MIN.

SECTION A-A

SECTION B-B

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

3. PERFORATE BAFFLE BOARD WITH 3 ROWS OF 1 INCH DIAMETER HOLES 6 INCHES ON CENTER, EMBED A MINIMUM OF 4 INCHES INTO GROUND, AND EXTEND BAFFEL BOARD MINIMUM OF 12 INCHES INTO EARTH DIKE.

5. USE CLEAN 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE WOVEN MONOFILAMENT GEOTEXTILE ON UPSTREAM FACE AND COVER WITH A MINIMUM OF 6 INCHES OF ADDITIONAL STONE.

5. USE NONWOVEN AND WOVEN MONOFILAMENT GEOTEXTILES AS SPECIFIED IN SECTION H-1 MATERIALS.

5. SET WEIR CREST OF STONE 6 INCHES LOWER THAN THE TOP OF EARTH DIKE. USE MINIMUM LENGTH OF 6 FEET FOR WEIR CREST.

REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO WITHIN 6 INCHES OF WEIR CREST. REPLACE GEOTEXTILE AND STONE FACING WHEN STRUCTURE CEASES TO DRAIN. MAINTAIN LINE, GRADE, AND CROSS SECTION.

UPON REMOVAL OF STONE OUTLET STRUCTURE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

L = 6 FT MIN.

4 IN EMBEDMENT

POST 2 IN x 2 IN x 18 IN MIN.

STANDARD SYMBOL

**₹** 

MAXIMUM DRAINAGE AREA = 1/2 ACRE

-18 IN MIN.

STORAGE VOLUME

1 OF 2

- WOVEN MONOFILAMENT

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STANDARD SYMBOL

TSOS

2 IN x 10 IN x 12 FT

NO. 1. NO SURETY IS REQUIRED FOR ON-SITE RETENTION. (F-16-123) TEN OAKS FARM, A SURETY IN THE

AMOUNT OF \$65,557.60 (BASED ON 3.01 ACRES X 43,560 SQ. FT./ACRE X \$0.50/SQ. FT.) IS PROVIDED.

DETAIL E-7 TEMPORARY STONE OUTLET

STRUCTURE

EARTH DIKE

WEIR CREST

6 IN MIN.

DETAIL E-7 TEMPORARY STONE OUTLET

2. USE NONWOVEN GEOTEXTILE ON INTERFACE BETWEEN GROUND AND STONE.

STRUCTURE

. PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.

2:1 OR FLATTER-

2 TO 3 IN STONE-

NONWOVEN GEOTEXTILE -

U.S. DEPARTMENT OF AGRICULTURE
TURAL RESOURCES CONSERVATION SERVI

CONSTRUCTION SPECIFICATIONS

SQ.FT. OF LANDSCAPE CREDIT (0.11 ACRES).

HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION ARE ALLOWED. THE FOREST CONSERVATION ACT REQUIREMENTS FOR TEN OAKS FARM SUBDIVISION WILL BE MET

DETAILS TEN OAKS FARM

LOTS 1 THRU 6

E.19

ZONED RR-DEO TAX MAP No. 28 GRID No. 14 PARCEL Nos. 140 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MARCH, 2017 SHEET 4 OF 5

TREE PROTECTION DETAIL

BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.

PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER W/Man -

USE 3' WIRE "U" TO SECURE

USE 2" x 4"

LUMBER FOR

CROSS BACKING

OWNER ORVILLE E. & PATRICIA L. SHEPHERD (ESTATE OF) 5020 TEN OAKS ROAD

C/O JAMES GREENFIELD 443-324-4732

DEVELOPER MG LAND HOLDINGS 1, LLC 6420 AUTUMN SKY WAY COLUMBIA, MARYLAND 21044 CLARKSVILLE, MARYLAND 21029

443-324-4732

FISHER. COLLINS & CARTER. INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS nnial square office park — 10272 Baltimore national pike ELLICOTT CITY, MARYLAND 21042

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 5-15-17

FOREST PROTECTION DEVICE ONLY.

ROOT DAMAGE SHOULD BE AVOIDED.

PROTECTIVE SIGNAGE MAY ALSO BE USED.

NOTES:

F-16-123

## A. Soil Preparation

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.

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.

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:

used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of confrasting 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.

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

Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be

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 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 t such fineness that at least 50 percent will pass through a #100 mesh sieve and 90 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

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

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

## 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

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 a

cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less 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.

## 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

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

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 0 (phosphorus), 200 pounds per acre; K 0 (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.

CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

ELLICOTT CITY, MARYLAND 21042

(410) 461 - 2855

nnial square office park – 10272 Baltimore national pike

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 phys 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 THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND in the construction project will have a Certificate of Attendance at a Department SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISRICT 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." 5/4/17 Signature of Developer Date

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

Division of Land Development A 5-15-17 5.12.17 Chief, Development Engineering Division

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.

i. 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.

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 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

1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of

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

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

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)

To stabilize disturbed soils with vegetation for up to 6 months

## 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.

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 Symmary

		iomporar   occar			
lardiness Zon beed Mixture	e (from Figure B. (from Table B.1):	Fertilizer Rate (10-20-20)	Lime Rate		
Species	Application Rate (Ib/ac)	Seeding Dates	Seeding Depths		
BARLEY	96	3/1 - 5/15.	J <sup>a</sup>	436 lb/ac	2 tons/ac
oats	72	8/15 - 10/15	₹ĵ º	(10 lb/ 1000 sf)	(90 lb/ 1000 sf)
RYE	112		1,"		

## PERMANENT SEEDING NOTES (B-4-5)

## A. Seed Mixtures

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

DATE: 01/12/2018.

 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

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

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.

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

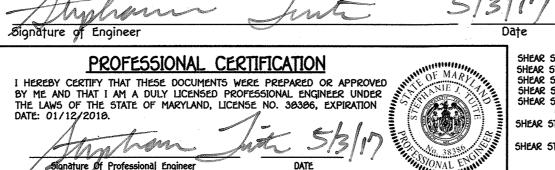
d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter The resulting seedbed must be in such condition that future moving of grasses will pose no difficulty. 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 Fertilizer Rate (10-20-20) | Lime Rate Seed Mixture (from Table B.3): P205 (lb/ac) Depths 1/4-1/2 45 lbs. in. per acre 90 lb/ac | 90 lb/ac | 2 tons/ac TALL FESCUE 100 (2 lb/ (2 lb/ (90 lb/ (1.0 lb/ 1000 sf) |1000 sf) | 1000 sf)

## 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."



 $62.4 \text{ LBS/FT}^3 \times 0.2 \text{ FT } \times 0.07 = 0.9 \text{ LBS/FT}^2$ SHEAR STRESS FOR PSSMC 38 (LOT 3) =  $62.4 \text{ LB5/FT}^3 \times 0.3 \text{ FT} \times 0.06 = 1.1 \text{ LB5/FT}^2$ SHEAR STRESS FOR PSSMC 4A (LOT 4) =  $62.4 \text{ LBS/FT}^3 \times 0.2 \text{ FT } \times 0.02 = 0.3 \text{ LBS/FT}^2$ 

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE
TURAL RESOURCES CONSERVATION SERVICE
2011 HEAR STRESS FOR PSSMC 1A (LOT 1) =  $62.4 LBS/FT^{\circ} \times 0.1 FT \times 0.00 = 0.5 LBS/FT^{\circ}$ HEAR STRESS FOR PSSMC 18 (LOT 1) =  $62.4 \text{ LBS/FT}^3 \times 0.2 \text{ FT } \times 0.10 = 1.2 \text{ LBS/FT}^3$ SHEAR STRESS FOR PSSMC 2A (LOT 2) = 62.4 LB5/FT $^3$  x 0.2 FT x 0.16 = 2.0 LB5/FT $^2$  SHEAR STRESS FOR PSSMC 2B (LOT 2) = 62.4 LB5/FT $^3$  x 0.2 FT x 0.13 = 1.6 LB5/FT $^2$ 

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

growth and thatch. Broken pads and torn or uneven ends will not be acceptable.

inches. Water sod during the heat of the day to prevent wilting.

grass height of at least 3 inches unless otherwise specified.

must be provided in accordance with Section B-3 Land Grading

4. Access the stockpile area from the upgrade side.

material must be covered with impermeable sheeting.

a. Prior to the start of earth disturbance,

Site Analysis:

Total Area of Site: \_\_\_\_

Area to be roofed or paved:

Area to be vegetatively stabilized:

Evidence of sediment discharge Identification of plan deficiencie

Use I and IP March 1 - June 15

available when the site is active.

DETAIL C-8 MOUNTABLE BERM

Use III and IIIP October 1 - April 30

ISOMETRIC VIEW

6 IN MIN.

SECTION A-A

. USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE.

CONSTRUCTION SPECIFICATIONS

30 IN MIN/B DIKE

Monitoring/sampling Maintenance and/or corrective action performed

Area Disturbed: \_\_

soil scientist prior to its installation.

Sod Installation

changes to drainage patterns.

a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.

Sod must not be harvested or transplanted when moisture content (excessively dry of wet) may adversely affect its survival.

prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and

The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.

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.

LOD and protected areas are marked clearly in the field. A minimum of 40 hour notice to CID must be given at the following stages:

Complete the operations of laying, tamping, and irrigating for any piece of sod within eight hours.

b. After the first week, sod watering is required as necessary to maintain adequate moisture content

8-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

A mound or pile of soil protected by appropriately designed erosion and sediment control measures

Conditions Where Practice Applies

b. Upon completion of the installation of perimeter erosion and sediment controls, but before

STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.

5.12 Acres 1.00 Acres

\_\_\_\_\_4.04 Acres

Identification of sediment controls that require maintenance Identification of missing or improperly installed sediment controls

Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.

Stream channels must not be disturbed during the following restricted time periods (inclusive):

concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).

Weather information (current conditions as well as time and amount of last recorded precipitation)

proceeding with any other earth disturbance or grading,
c. Prior to the start of another phase of construction or opening of another grading unit,

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

3. Runoff from the stockpile area must drain to a suitable sediment control practice.

must be made for discharging concentrated flow in a non-erosive manner

d. Prior to the removal or modification of sediment control practices.

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

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

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

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.

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

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. Benchin

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

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

6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.

8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated

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

HOWARD SOIL CONSERVATION DISTRICT (HSCD)

STANDARD SEDIMENT CONTROL NOTES A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future

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.

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

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

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

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

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

All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25 minimum intervals, with lower ends curied uphill by 2 in elevation.

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

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 H5CD, no more than 30 acres cumulatively may be disturbed at a given time. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.

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.

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

Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:

Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).

STANDARD SYMBOL

areas on the project site except for those areas under active grading.

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.

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 MARYLANI

#### SHEAR STRESS FOR PSSMC 6A (LOT 6) = $62.4 \text{ LBS/FT}^3 \times 0.2 \text{ FT} \times 0.10 = 0.3 \text{ LBS/FT}^2$ SHEAR STRESS FOR PSSMC 68 (LOT 6) = 62.4 LB5/FT $^{\circ}$ x 0.3 FT x 0.035 = 0.7 LB5/FT $^{\circ}$ ORVILLE E. & PATRICIA L. SHEPHERD (ESTATE OF) 5020 TEN OAKS ROAD CLARKSVILLE, MARYLAND 21029

C/O JAMES GREENFIELD 443-324-4732

CONSTRUCTION SPECIFICATIONS: :

DEVELOPER MG LAND HOLDINGS 1, LLC 6420 AUTUMN SKY WAY COLUMBIA. MARYLAND 21044 443-324-4732

MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION

USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2×2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WRE HANNG A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES MODE AND BE A MINIMUM 0F 6 INCHES LONG. ""S SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.

. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL QUIVARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS, OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.

KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

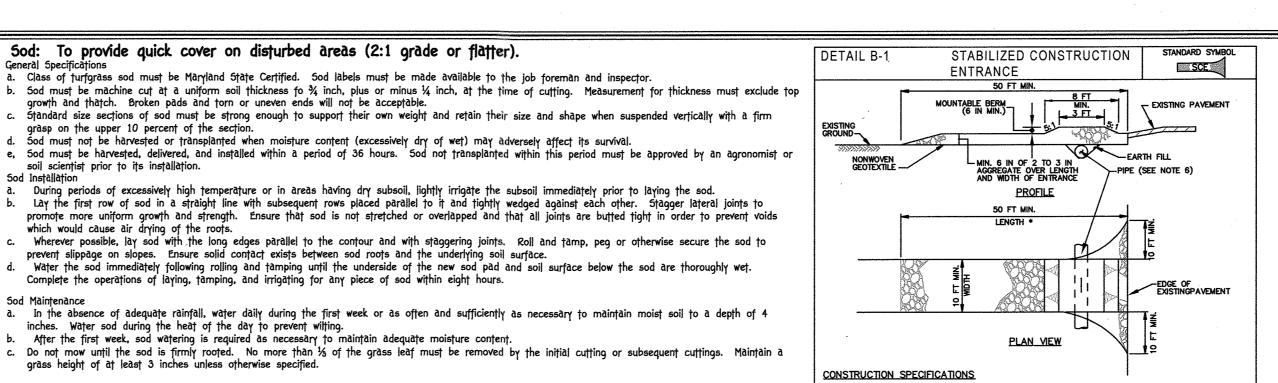
IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLEI ONCE THE MATTING IS KEYED AND STRILED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

SHPAR STRESS FOR PSSMC 58 (LOT 5) = 62.4 LB5/FT x 0.2 FT x 0.02 = 0.3 LB5/FT

2011

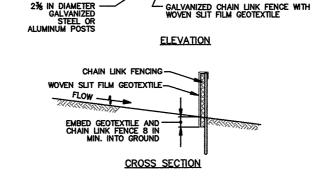
STABILIZATION MATTING / PSSMC - \* 2.0 ib/ft\*
CHANNEL APPLICATION > (\* include shear stress)



PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (\*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.

MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR

TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011 DETAIL E-3 SUPER SILT FENCE |-----SSF------| 10 FT MAX.



GROUND SURFACE—

CONSTRUCTION SPECIFICATIONS

FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.

FASTEN WOVEN SUT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THUPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011 EARTH DIKE PLACE DESIGNATION (e.g. A-1) ON FLOW CHANNEL SIDE OF DE CROSS SECTION DIKE TYPE CONTINUOUS GRADE 0.5% MIN. TO 10% MAX. SLOPE a - DIKE HEIGHT 18 IN MIN. 30 IN MIN. b - DIKE WIDTH 24 IN MIN. 36 IN MIN. c - FLOW WIDTH 4 FT MIN. 6 FT MIN. d - FLOW DEPTH 12 IN MIN. 24 IN MIN. PLAN VIEW

FLOW CHANNEL STABILIZATION

CONSTRUCTION SPECIFICATIONS

SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOIL

REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE. . EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.

CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.

MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011 SEQUENCE OF CONSTRUCTION OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (2 WEEKS) NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE BEGINNING ANY WORK AT 1-600-257-7777

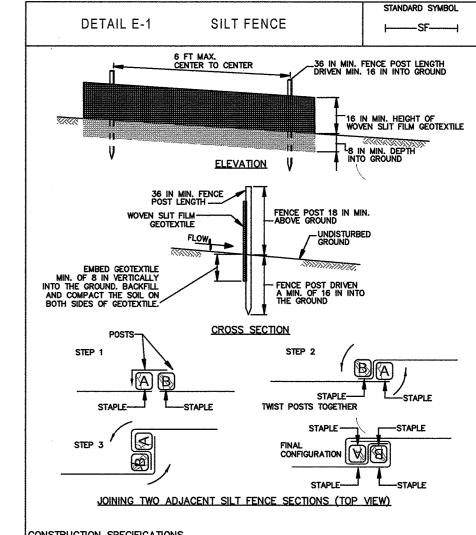
NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK. UTILIZE EXISTING DRIVEWAY AS STABILIZED CONSTRUCTION ENTRANCE. INSTALL SILT FENCE, SUPER SILT FENCE, EARTH DIKES, AND SEDIMENT TRAP. (1 DAY) INSTALL STREAM PUMP AROUND (PER DETAIL 1.2 ON SHEET 4) FOR REPAIR TO RISER STRUCTURE AND CULVERT PIPE UNDER DRIVEWAY. (30 DAYS) REMOVE NECESSARY TREES AND ROUGH GRADE/WIDEN COMMON DRIVEWAY, ROUGH GRADE LOTS AND INSTALL TSOS. (1 WEEK PER LOT) INSTALL TEMPORARY SEEDING. (1 DAY PER LOT)
CONSTRUCT HOUSES AND DRIVEWAYS. INSTALL SEPTIC SYSTEMS. (4 MONTHS PER LOT)

INSTALL ROOF LEADERS & DRYWELLS UPON CONSTRUCTION OF HOUSES. FINE GRADE SITE. (1 WEEK INSTALL PERMANENT SEEDING WITH CONSTRUCTION ON EACH LOT ALONG WITH PERMANENT SOIL STABILIZATION MATTING IN SWALES AS SHOWN ON THE PLANS. (1 DAY PER LOT) UPON COMPLETION OF GRADING WITHIN DRAINAGE AREA TO BIORETENTION AND MICRO-BIORETENTION FACILITIES AND REMOVAL OF TSOS AND SEDIMENT TRAP, INSTALL BIORETENTION AND MICRO-BIORETENTION FACILITIES. (1 WEEK) ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS.

NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A DAILY BASIS. SCE TO BE INSTALLED AT DIRECTION OF INSPECTOR.

THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE

WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH

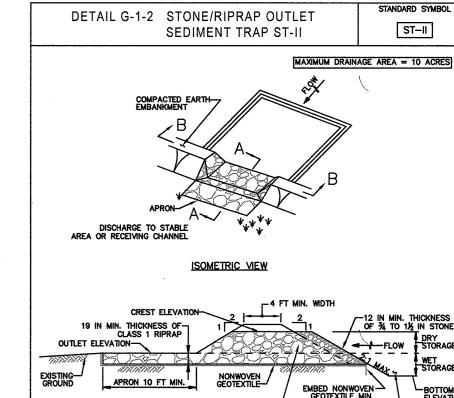


USE WOOD POSTS 1 $\frac{1}{4}$  X 1 $\frac{1}{4}$   $\pm$   $\frac{1}{6}$  INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "1" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APAR USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION

PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.

WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.

REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011



4 TO 7 IN STONE -SECTION A-A WEIR LENGTH 19 IN MIN. CLASS I SECTION B-B

CONSTRUCTION SPECIFICATIONS CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.

USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE WEIR CREST. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.

PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE BOTTOM AND SIDES OF OUTLET AND APRON PRIOR TO PLACEMENT OF RIPRAP. OVERLAP SECTIONS OF GEOTEXTILE AT LEAST 1 FOOT WITH THE SECTION NEARER TO THE TRAP PLACED ON TOP. EMBED GEOTEXTILE AT LEAST 6 INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.

 USE CLEAN 4 TO 7 INCH RIPRAP TO CONSTRUCT THE WEIR. USE CLASS I RIPRAP FOR THE APRON.
USE OF RECYCLED CONCRETE EQUIVALENT IS ACCEPTABLE. PLACE 1 FOOT OF CLEAN % TO 1% INCH STONE OR EQUIVALENT RECYCLED CONCRETE ON THE UPSTREAM FACE OF THE WEIR.

CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO APPROVED PLAN, AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR. O. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.

REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION, AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODLY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE (BRADE AND CROSS SECTION 2. WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE

13. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

SEDIMENT & EROSION CONTROL NOTES & DETAILS

## TEN OAKS FARM

LOTS 1 THRU 6 ZONED RR-DEO

TAX MAP No. 28 GRID No. 14 PARCEL Nos. 140 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MARCH, 2017 SHEET 5 OF 5