

REVISED ROAD CONSTRUCTION PLANS GUILFORD OVERLOOK LOTS 1-15 AND OPEN SPACE LOTS 16-19 AND NON-BUILDABLE BULK PARCEL A SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

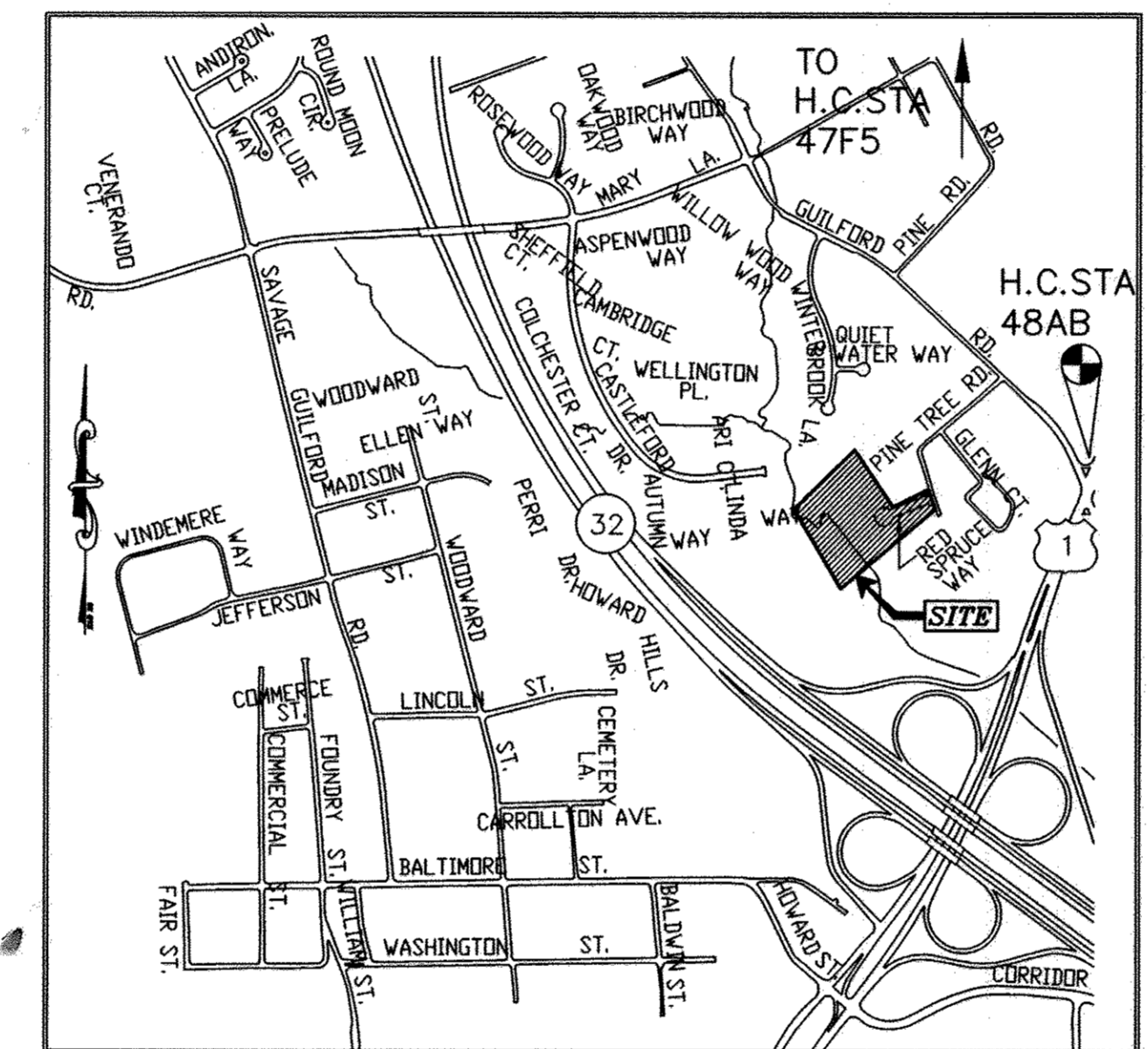
GENERAL NOTES:

1. SUBJECT PROPERTY ZONED R-12 PER 2-2-04 COMPREHENSIVE ZONING AND THE "COMP LITE" ZONING AMENDMENTS EFFECTIVE 7/28/2006
2. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
3. TOPOGRAPHY SHOWN HEREON IS BASED ON AERIAL SURVEY PREPARED BY WINGS TOPOGRAPHY INC. DATED MARCH 2008.
4. BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT MAY 2008 BY SHANABERGER AND LANE.
5. COORDINATES BASED ON NAD '83 (HORIZONTAL) AND NAVD '88 (VERTICAL) MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 47FA AND 48AB
 STA. No. 47F5 N 535,985.0520 E 1,365,653.4720 ELEV. 234.997
 STA. No. 48AB N 538,384.4442 E 1,366,415.7936 ELEV. 225.656
6. **PROJECT BACKGROUND:**
 TAX MAP : 47 . PARCEL : 499 . GRID: 6.
 ELECTION DISTRICT : SIXTH
 ZONING: R-12
 DEED REFERENCE : 1147/407
 ADDRESS: 8692 PINE TREE RD. JESSUP, MD 20794
 DPZ FILE REFERENCE: SP-10-002, WP-10-105
7. **AREA TABULATION**
 GROSS AREA OF PROPERTY TRACT: 7.08 AC.±
 AREA OF FLOODPLAIN: 2.6 AC.±
 MINIMUM LOT SIZE PROPOSED: 7,200 SQ.FT.
 NUMBER OF BUILDABLE LOTS PROPOSED: 15 LOTS
 NUMBER OF OPEN SPACE LOTS PROPOSED: 4 LOTS
 NUMBER OF PARCELS PROPOSED: 1 PARCEL
 AREA OF PROPOSED LOTS: 2.86 AC.±
 AREA OF OPEN SPACE REQUIRED: 408 ± 2.832 AC.±
 AREA OF CREDITED OPEN SPACE PROVIDED: 2.83 AC.± (40%)
 AREA OF NON-CREDITED OPEN SPACE PROVIDED: 0.05 AC ±
 TOTAL AREA OF OPEN SPACE PROVIDED: 2.83 AC ±
 AREA OF RECREATIONAL OPEN SPACE REQUIRED: 200 SQ.FT./LOT = 3,000 SQ.FT.
 AREA OF RECREATIONAL OPEN SPACE PROVIDED: 3,200 SQ.FT.
 AREA OF PUBLIC ROAD DEDICATION: 1,313 SQ.FT. (0.03AC.±)
 AREA OF PUBLIC ROAD ROW: 22,600 SQ.FT. (0.52 AC.±)
 AREA OF NON-BUILDABLE BULK PARCEL A: 42,689 SQ.FT. (0.98 AC.±)
8. WATER IS PUBLIC. EXISTING CONTRACT NO. 24-4667-D WILL BE UTILIZED.
9. SEWER IS PUBLIC. EXISTING CONTRACT NO. 24-4667-D WILL BE UTILIZED.
10. STORMWATER MANAGEMENT IS PROVIDED BY BIO-SWALE, USE OF RAIN GARDENS, ROOFTOP AND NON-ROOFTOP DISCONNECTION AND SHEET FLOW TO THE BUFFER IN ACCORDANCE WITH THE 2007 MARYLAND STORMWATER DESIGN MANUAL. STORMWATER MANAGEMENT FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED BY HOA.
11. THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY MILDENBERG, BOENDER AND ASSOCIATES, INC. DATED JANUARY 2010.
12. FOREST STAND AND WETLANDS DELINEATION PREPARED BY WILDMAN ENVIRONMENTAL SERVICES DATED MAY 26, 2009.
13. AFPO ROAD TEST WAS PREPARED BY TRAFFIC GROUP, DATED DECEMBER 15, 2009, AND APPROVED ON MARCH 9, 2010.
14. NOISE STUDY PREPARED BY MILDENBERG, BOENDER AND ASSOCIATES, INC. DATED APRIL, 2011.
15. NO HISTORIC STRUCTURES, CEMETERIES, OR GRAVE SITES EXIST ON-SITE. SITE IS NOT ADJACENT TO A DESIGNATED SCENIC ROAD.
16. SOIL DELINEATION IS BASED ON HOWARD COUNTY SOIL SURVEY MAP 2004.
17. THIS SUBDIVISION COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1202 OF THE HOWARD COUNTY CODE FOR PUBLIC FOREST CONSERVATION BY PROVIDING RETENTION OF 1.02 ACRES OF FOREST AND BY PLACEMENT OF 0.47 ACRES OF REQUIRED REFORESTATION INTO AN OFF-SITE EASEMENT ON PROPERTY IDENTIFIED AS THE ROSEBAR PROPERTY, PRESERVATION PARCEL A, LOCATED ON TAX MAP NO. 14 AND IDENTIFIED AS PARCEL 221, SITUATED ON THE WEST SIDE OF HOBBS ROAD, THE ROSEBAR FOREST CONSERVATION EASEMENT HAS BEEN SHOWN ON SHEET 18 OF SDP-97-115, NEW COLONY VILLAGE. DPZ HAS DETERMINED THAT A REDLINE REVISION SHALL BE MADE TO SDP-97-115 TO SHOW 0.47 ACRES OF REFORESTATION DEDUCTED FROM THE TOTAL FOREST CONSERVATION EASEMENT LOCATED ON THE ROSEBAR PROPERTY. SURETY FOR THE OFF-SITE FOREST CONSERVATION EASEMENT ON THE ROSEBAR PROPERTY HAS BEEN PREVIOUSLY POSTED BY THE OWNER OF THE EASEMENT HOLDER. NO SURETY IS POSTED FOR RETENTION. A DEED OF FOREST CONSERVATION EASEMENT AND FOREST CONSERVATION AGREEMENT IS REQUIRED FOR THIS FINAL PLAT.
18. ALL EXISTING STRUCTURES ARE TO BE REMOVED UNLESS OTHERWISE NOTED.
19. EXISTING UTILITIES ARE BASED ON A FIELD SURVEY AND HOWARD COUNTY MAP.
20. THIS PROJECT IS SUBJECT TO WP-10-105 WHICH REQUESTS WAIVER OF SECTION 16.1212(a)(1) TO ALLOW FOR THE REDUCTION OF FRONTAGE OF OPEN SPACE LOT 16, AND SECTION 16.1205(a)(7) TO ALLOW FOR THE REMOVAL OF SPECIMEN TREE NO. 5, APPROVED ON JULY 8, 2010, SUBJECT TO FOLLOWING CONDITION:
 1. ACCESS TO 0/5 LOT 16 DEDICATED TO HOWARD COUNTY, SHALL BE PROVIDED BY USE-IN-COMMON ACCESS EASEMENT FOR LOTS 9 THRU 14 AND 0/5 LOT 16. A NOTE SHALL BE ADDED TO SP-PLANS AND F-PLANS INDICATING THAT HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS SHALL NOT BE RESPONSIBLE FOR MAINTENANCE OF THE SHARED DRIVEWAY WITHIN THE USE-IN-COMMON ACCESS EASEMENT.
 2. REMOVAL OF SPECIMEN TREE # 5 IS APPROVED BUT WILL REQUIRE REPLACEMENT WITH TWO (2) PERIMETER SHADE TREES ALONG THE SOUTHERN PROPERTY LINE OF LOT 9.
21. THE STREET LIGHT LOCATIONS AND TYPES OF LIGHTS SHOWN ARE AS FOLLOWS:
 - 100-WATT HPS VAPOR "PRIME" POST TOP FIXTURE ON A 14" BLACK FIBERGLASS POLE AT ROAD "A" STATION 0+15, 13' RIGHT, AND LP STATION 2+09, 3' BACK.
 A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY STREET TREE.
22. TRAFFIC CONTROL DEVICES:
 A. THE R1-1 ("STOP") SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY 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 (410-313-5752) PRIOR TO THE INSTALLATION OF ANY 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" (MD-MUTCD).
 D. ALL SIGNS POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT OF WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2.5" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) 3 FEET LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
23. A SITE INSPECTION ON THE PROPERTY WAS COMPLETED ON APRIL 13, 2010 BY MILDENBERG BOENDER AND ASSOCIATES, INC. AND TO THE BEST OF MY KNOWLEDGE, THERE IS NO EVIDENCE THAT SP-PLANS OR THE SEPTIC EXISTS. IF DISCOVERED DURING THE DEMOLITION OR CONSTRUCTION PROCESS, THE WELL AND SEPTIC WILL BE PROPERLY ABANDONED/SEALED AND THE HOWARD COUNTY HEALTH DEPARTMENT WILL BE NOTIFIED.
24. PERIMETER LANDSCAPING AND THE TRASH PAD SCREENING SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL AND AS SHOWN ON THE LANDSCAPE PLAN SHEET OF THE ROAD CONSTRUCTION DRAWINGS. SURETY AMOUNT OF \$7,980.00 FOR 25 SHADE TREES, 3 EVERGREENS AND 10 SHRUBS SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN.
25. NO GRADING, REMOVAL OF VEGETATIVE COVER OF TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, EXCEPT THAT AS DETERMINED TO BE NECESSARY DISTURBANCE.
26. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ZONING REGULATIONS AS AMENDED BY CODE-2001. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACKS AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT.
27. ROAD FRONTAGE FOR OPEN SPACE LOT 18 IS PROVIDED THROUGH ADJOINING OPEN SPACE LOT 35 OF THE WINTERBROOK SUBDIVISION.
28. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
29. 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.
30. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
31. STREET LIGHT PLACEMENT AND TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II (1993) AND MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENT (JUNE 2993). A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
32. TRASH PAD FOR LOT 9 TO 14 SHALL BE MAINTAINED BE HOA.
33. MDE TRACKING NUMBER 201261183

SHEET INDEX	
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LEGEND

- SLOPES GREATER THAN 25%
- 15% TO 25% SLOPES
- FLOODPLAIN
- WETLANDS
- FOREST CONSERVATION EASEMENT (RETENTION)
- FOREST CONSERVATION (AFFORESTATION)
- EXISTING TREE LINE
- LIMIT OF DISTURBANCE
- SUPER SILTENCE
- TREE PROTECTION FENCE
- DENOTES FOREST CONSERVATION SIGNAGE
- DENOTES PERIMETER LANDSCAPE EDGE
- AREA DEDICATED TO HO.CO. FOR PURPOSE OF PUBLIC ROAD
- NON-CREDITED OPEN SPACE
- PUBLIC WATER AND SEWER EASEMENT
- PRIVATE USE-IN-COMMON ACCESS EASEMENT
- RECREATIONAL OPEN SPACE
- 100 YR. FLOODPLAIN ELEVATION



VICINITY MAP
SCALE: 1"=1000' (5053/8-K)

AS-BUILT NOTES:

- 1.) HORIZONTAL DATUM FOR THIS AS-BUILT IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM WAD 88/ ADU 07 AS PROJECTED FROM H.C. GEODETIC CONTROL STATIONS 47F5 AND 48AB. VERTICAL DATUM FOR THIS AS-BUILT IS NORTH AMERICAN VERTICAL DATUM NAVD 88 AS PROJECTED FROM THE ABOVE MENTIONED HOWARD COUNTY GEODETIC CONTROL STATIONS.
- 2.) THE INSTRUMENTS USED IN PERFORMING THE AS-BUILT WERE A 5" TOTAL STATION AND PRISM.
- 3.) THIS AS-BUILT WAS PERFORMED BY BENCHMARK ENGINEERING, INC.

RIGHT OF WAY ELEVATION CHART NAD 83

RAW PT. NO.	DESCRIPTION	ELEVATION
100	REBAR & CAP	207.25'
101	REBAR & CAP	208.59'
102	REBAR & CAP	208.13'
103	REBAR & CAP	197.26'
104	REBAR & CAP	188.99'
105	REBAR & CAP	188.31'
106	WALL IN PAVING	189.30'
107	CONC. MON.	209.09'
108	REBAR & CAP	210.43'

STORMWATER MANAGEMENT PRACTICES

LOT #	GREEN ROOF (Y/N)	PERMEABLE PAVEMENTS (Y/N)	REINFORCED TURF (Y/N)	DISCONNECTION OF ROOFTOP RUNOFF N-1 (NUMBER)	DISCONNECTION OF NON-ROOFTOP RUNOFF N-2 (Y/N)	SHEETFLOW TO CONSERVATION AREAS N-3 (Y/N)	RAINWATER HARVESTING M-1 (NUMBER)	SUBMERGED GRAVEL WETLANDS M-2 (NUMBER)	LANDSCAPE INFILTRATION M-3 (NUMBER)	INFILTRATION BERMS M-4 (NUMBER)	DRY WELLS M-5 (NUMBER)	MICRO-BIORETENTION M-6 (NUMBER)	RAIN GARDENS M-7 (NUMBER)	SWALES M-8 (NUMBER)	ENHANCED FILTERS M-9 (NUMBER)
1															
2					Y								1		
3					Y								1		
4					Y								1		
5				2	Y	Y									
6				2	Y	Y									
7				2	Y	Y									
8				2	Y	Y									
9					Y	Y									
10				2	Y	Y									
11				4	Y	Y									
12				3	Y	Y									
13					Y	Y									
14				3	Y	Y									
15					Y	Y									

BY THE DEVELOPER:
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *Mark Long* DATE: 8/16/14

PRINTED NAME OF DEVELOPER: **Mark Long**

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Signature: *R. Jacob Hikmat* DATE: 8/15/14

PRINTED NAME OF ENGINEER: **R. JACOB HIKMAT**

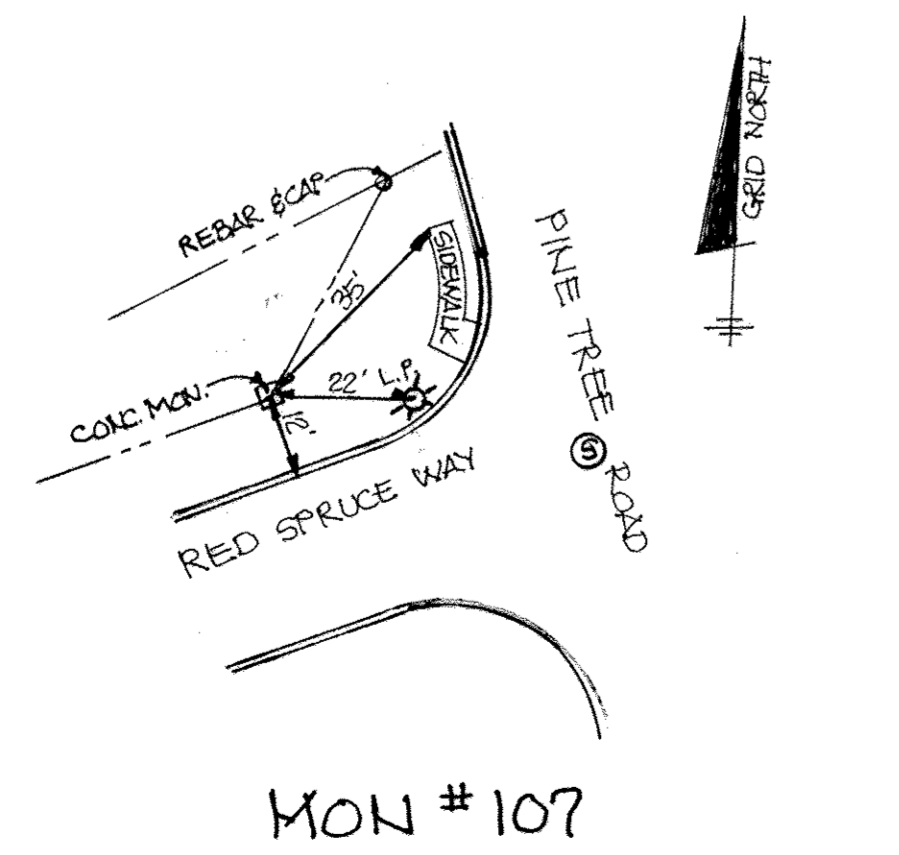
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *John K. Hinkley* DATE: 9/2/14

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF BUREAU OF HIGHWAYS DATE: 9-10-2014

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF DIVISION OF LAND DEVELOPMENT DATE: 9-17-14

APPROVED: DEPARTMENT OF ENGINEERING
 CHIEF DEVELOPMENT ENGINEERING DIVISION DATE: 9-9-14



MON # 107

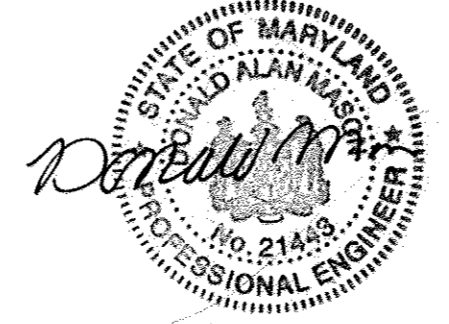
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 9/3/16.

Signature: *R. Jacob Hikmat* DATE: 8/18/14

R. JACOB HIKMAT P.E. DATE: 8/18/14

AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E. DATE: 5/11/13



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 21443 Expiration Date: 12-21-18

OWNER/DEVELOPER

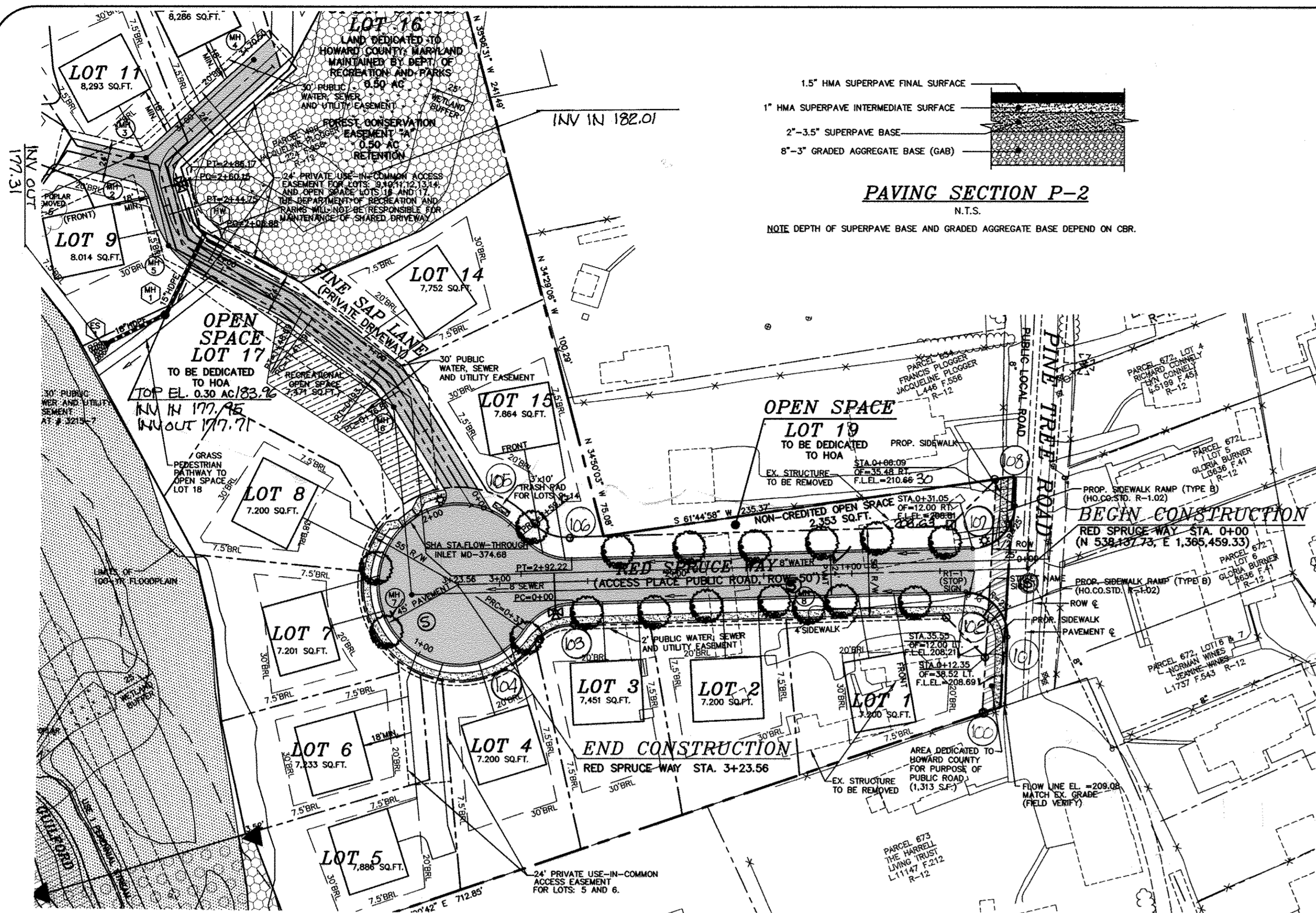
PLOGGER LLC
 6800 DEERPATH RD. SUITE 100
 ELK RIDGE, MARYLAND 21075
 410-579-2442
 CONTACT NAME: MARK LEVY

date	AUG 2014
project	08-002
illustration	MMM
scale	1"=50'
approval	MM
date	JULY 2014
description	revisions

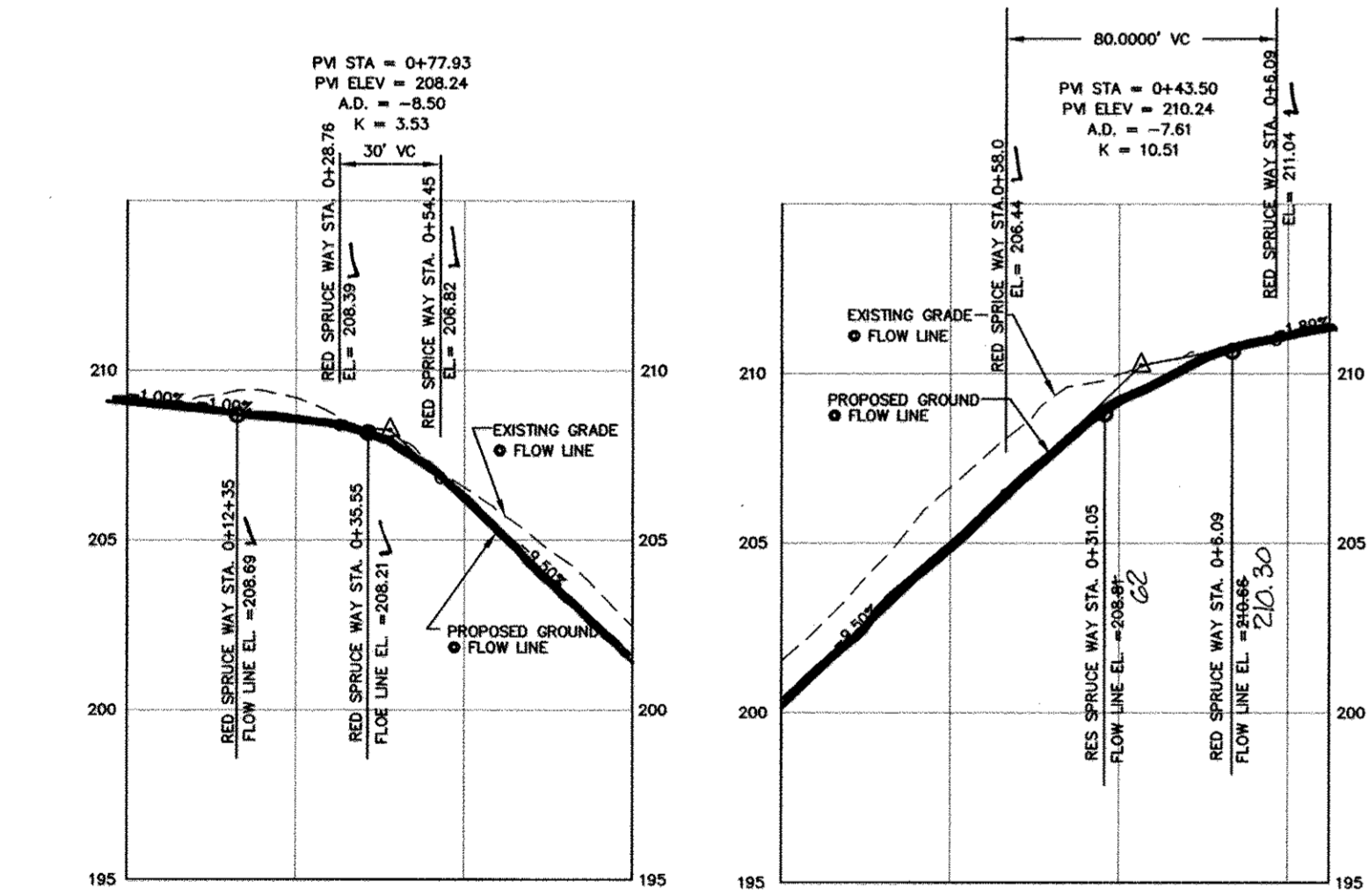
REV.	FILE	REV. AREA	TABULATION	NOTE	DATE
1					

GUILFORD OVERLOOK
 LOTS 1-15 AND OPEN SPACE LOTS 16-19 AND NON-BUILDABLE BULK PARCEL A
 TAX MAP 47, BLOCK 6, PARCEL 499
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 COVER SHEET

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 7350-B Grace Drive, Columbia, Maryland, 21044
 (410) 997-0286 Ball. (410) 997-0288 Fax

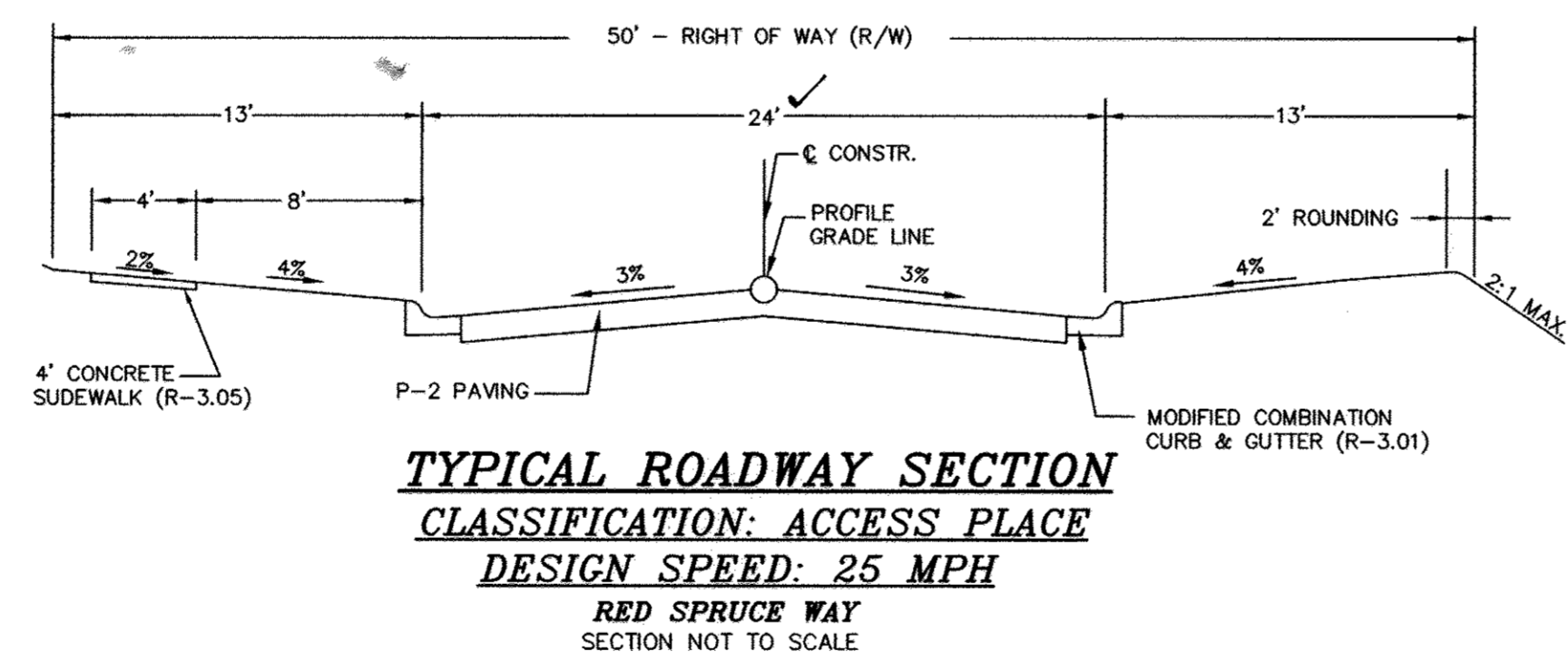


**RED SPRUCE WAY
PLAN VIEW**
SCALE: 1"=50'

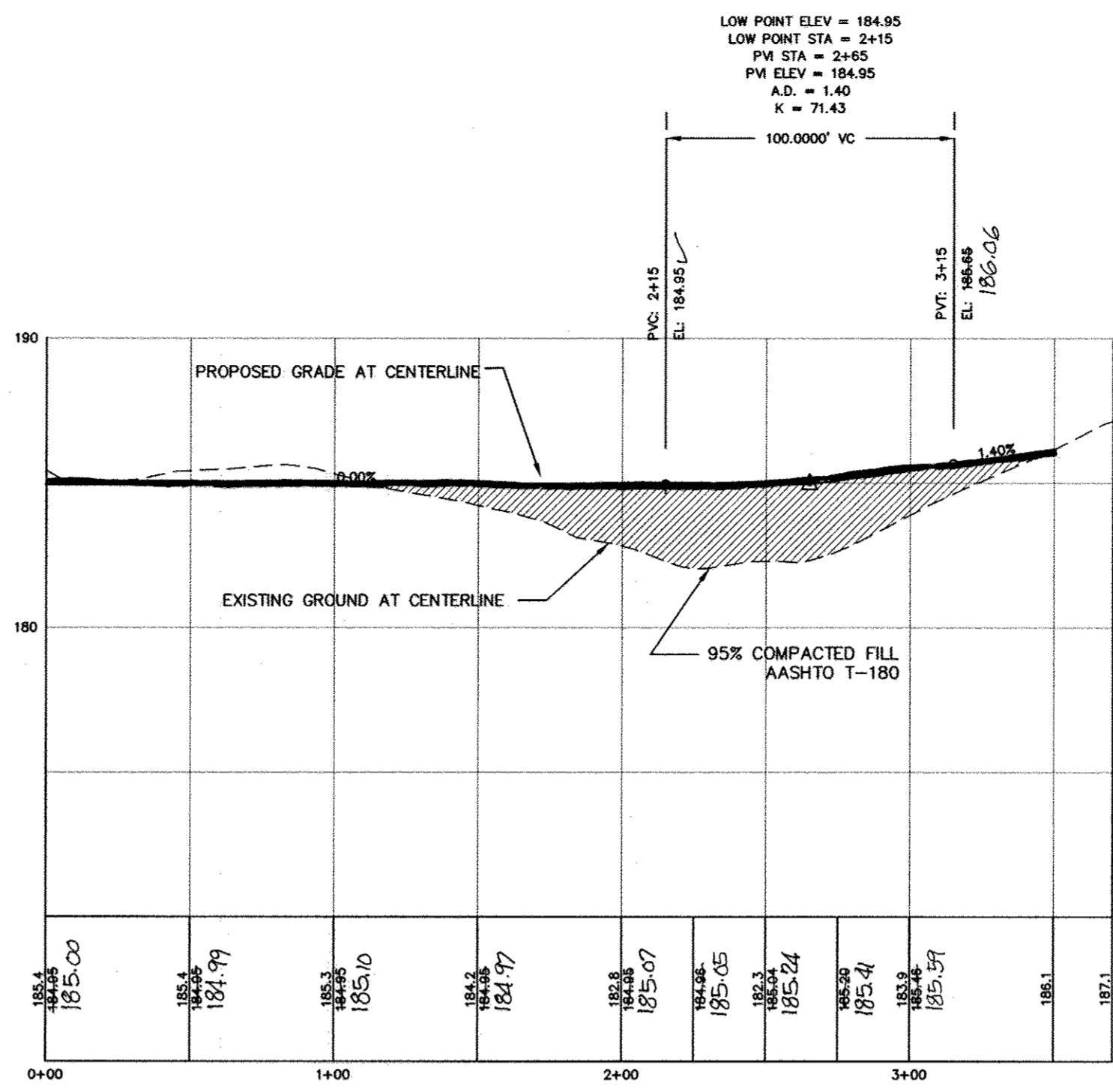


FILLET PROFILE OF LEFT TURNING RADIUS
SCALE: HOR. 1"=50', VER. 1"=5'

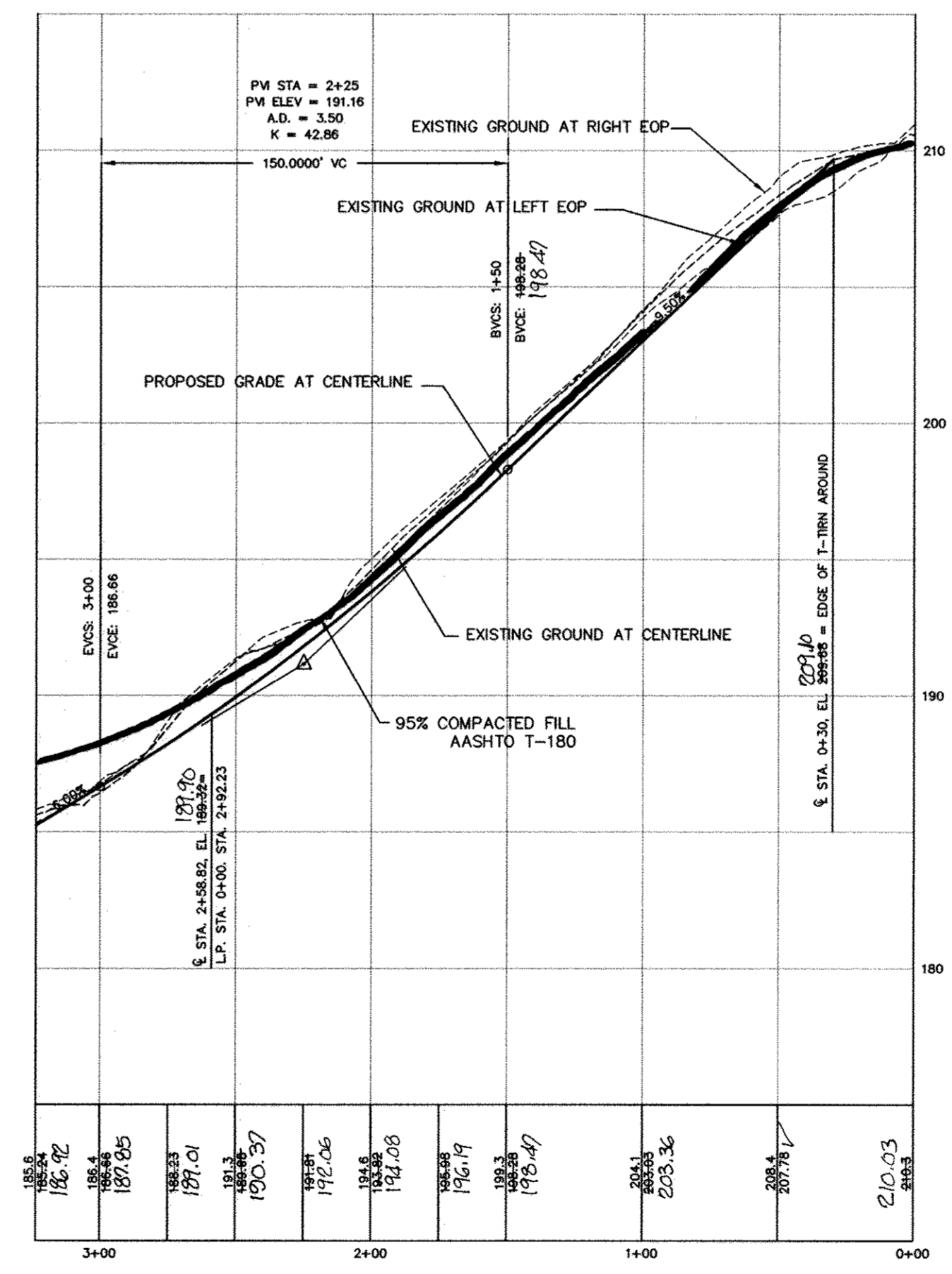
FILLET PROFILE OF RIGHT TURNING RADIUS
SCALE: HOR. 1"=50', VER. 1"=5'



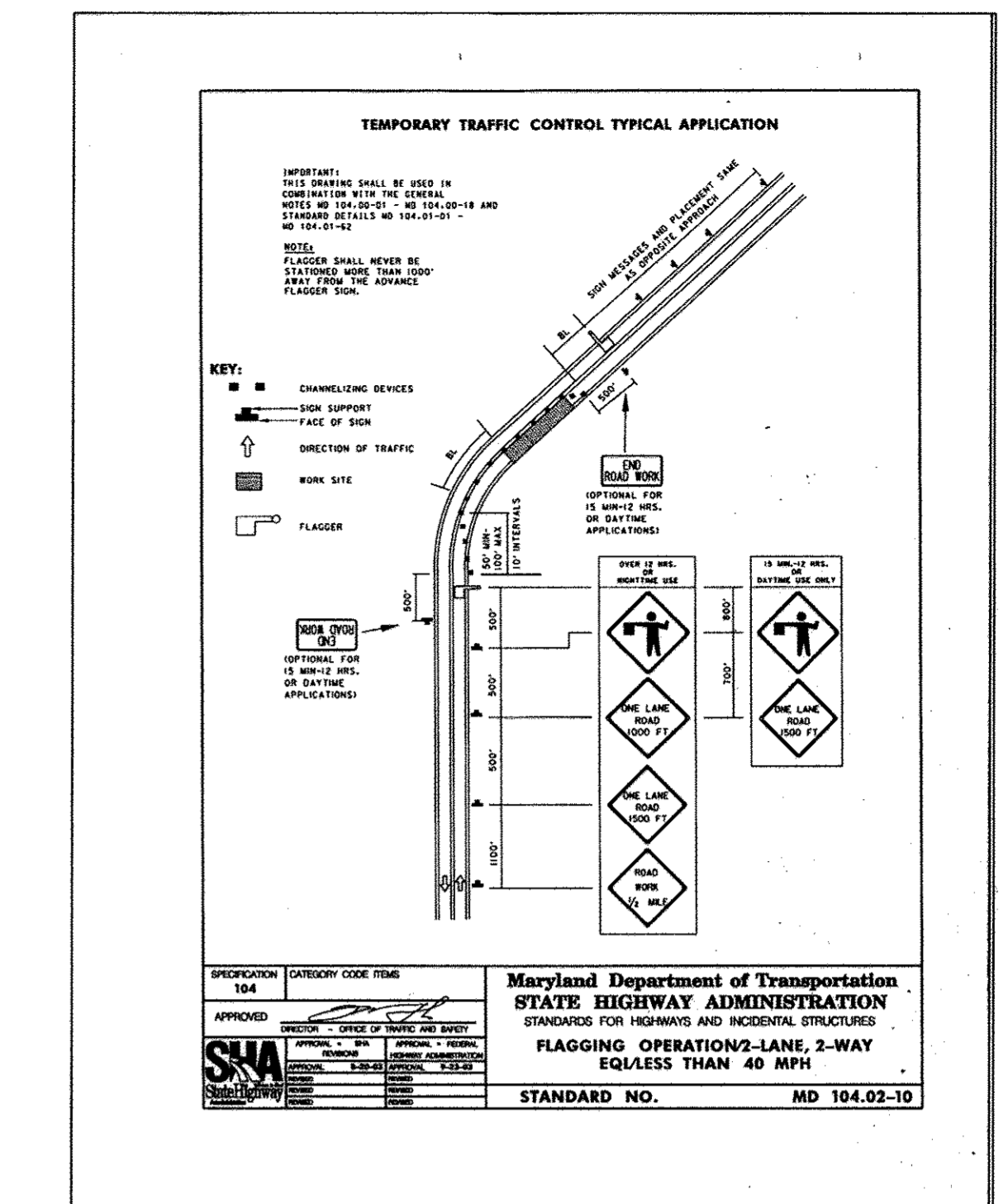
TYPICAL ROADWAY SECTION
CLASSIFICATION: ACCESS PLACE
DESIGN SPEED: 25 MPH
RED SPRUCE WAY
SECTION NOT TO SCALE



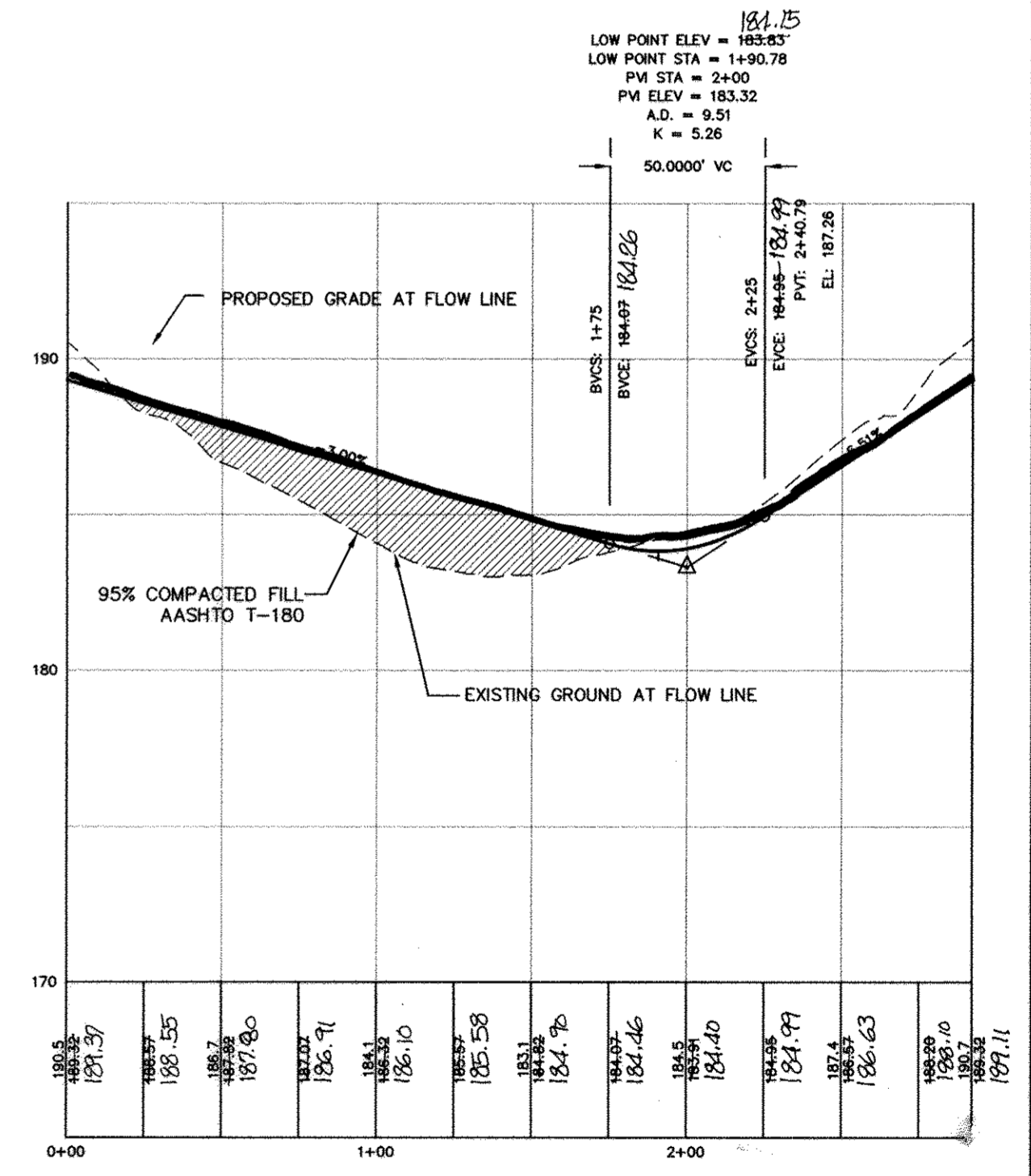
USE-IN-COMMON DRIVEWAY PROFILE
(PRIVATE DRIVEWAY, DESIGN SPEED = 15 MPH, 24' PRIVATE EASEMENT)
SCALE: HOR. 1"=50', VER. 1"=5'



RED SPRUCE WAY PROFILE
(ACCESS PLACE PUBLIC ROAD, DESIGN SPEED = 25 MPG, ROW=50')
SCALE: HOR. 1"=50', VER. 1"=5'



Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
FLAGGING OPERATION/2-LANE, 2-WAY
EQUALLY LESS THAN 40 MPH
STANDARD NO. MD 104.02-10



RED SPRUCE WAY LINEAR PROFILE
SCALE: HOR. 1"=50', VER. 1"=5'

APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF BUREAU OF HIGHWAYS
[Signature] 9-10-2014
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature] 9-17-14
DATE

[Signature] 9.9.14
DATE



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 9/3/16.

[Signature] 8/15/14
R. JACOB HIKMAT P.E. DATE

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

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License No. 21443, Expiration Date: 12-21-18

OWNER/DEVELOPER
PLOGGER LLC
6800 DEERPATH RD. SUITE 100
ELKRIDGE, MARYLAND 21075
410-579-2442
CONTACT NAME: MARK LEVY

project	date	approval
08-002	AUG 2014	MMM
illustration	MMM	MMM
scale	1"=50'	RJH

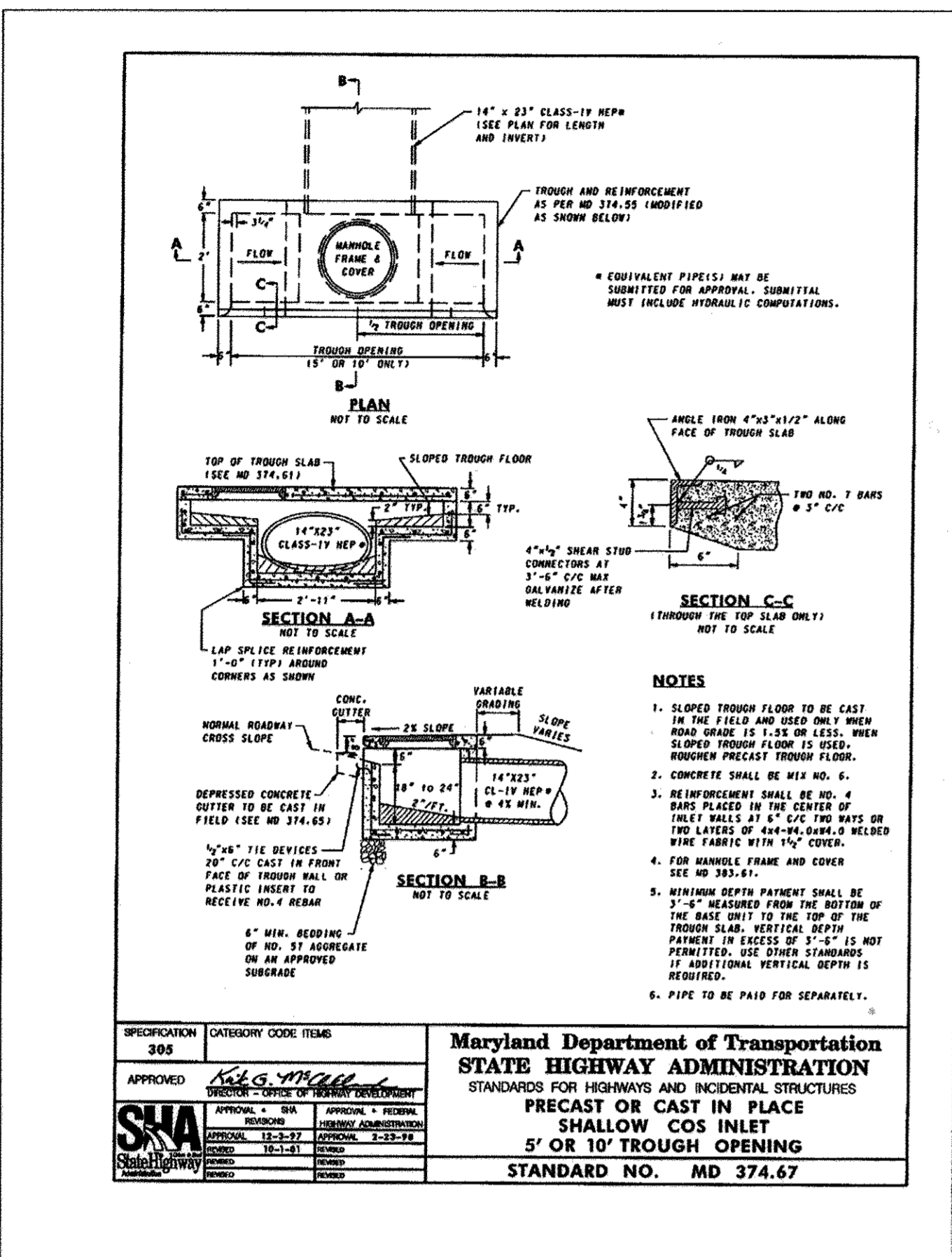
NO.	DATE	DESCRIPTION	REVISIONS
1	JULY 2014	REVISE TITLE AND PRIVATE ROAD NAME	

GUILFORD OVERLOOK
LOTS 1-15 AND OPEN SPACE LOTS 16-19 AND NON-BUILDABLE BULK PARCEL A
REVISED ROAD CONSTRUCTION PLAN
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND, TAX MAP 47, BLOCK 6, PARCEL 499
ROAD PLAN, PROFILE AND TYPICAL SECTION

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia Maryland, 21044
(410) 997-0296 Fax: (410) 997-0298

SOIL SCHEDULE

- Fo (D) FOLLINGSBY SANDY LOAM, 0-2% SLOPES.
- Ho (D) HATBORO SILT LOAM, 0+3% SLOPES.
- RuB (C) RUSSETT AND BELTSVILLE SOILS, 2-5% SLOPES.
- UwC (D) URBAN LAND-WOODSTONE-SASSAFRAS COMPLEX, 5-10% SLOPES



Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
**PRECAST OR CAST IN PLACE
 SHALLOW CROSS INLET
 5' OR 10' TROUGH OPENING
 STANDARD NO. MD 374.67**

NOTE: GRADING IN THE FLOODPLAIN AREA FOR THE SEWER LINEAR HAS BEEN DETERMINED TO BE ESSENTIAL DISTURBANCE.



- LEGEND**
- [Symbol] SLOPES GREATER THAN 25%
 - [Symbol] 15% TO 25% SLOPES
 - [Symbol] FLOODPLAIN
 - [Symbol] WETLANDS
 - [Symbol] FOREST CONSERVATION EASEMENT (RETENTION)
 - [Symbol] EXISTING TREE LINE
 - [Symbol] LIMIT OF DISTURBANCE
 - [Symbol] SUPER SILT FENCE
 - [Symbol] FOREST CONSERVATION EASEMENT (NON CREDITED)
 - [Symbol] 100 YR. FLOODPLAIN X-SECTION
 - [Symbol] 100 YR. FLOODPLAIN ELEVATION
 - [Symbol] INLET PROTECTION

NOTE: DOUBLE ROW OF SUPER SILT FENCE TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

"NO AS-BUILT INFORMATION IS" PROVIDED ON THIS SHEET

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 R. JACOB HIKMAT
 9-15-15
 5/11/18 AS-BUILT

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21413, Expiration Date: 12-21-18

OWNER/DEVELOPER
 PLOGGER LLC
 6800 DEERPATH RD. SUITE 100
 ELK RIDGE, MARYLAND 21075
 410-579-2442
 CONTACT NAME: MARK LEVY

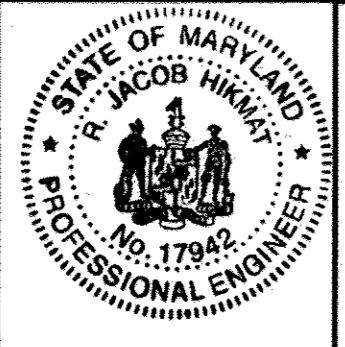
BY THE DEVELOPER:
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF BUREAU OF HIGHWAYS
 DATE: 9-10-2014

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 9-17-14

APPROVED: DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES
 CHIEF, DIVISION OF ENGINEERING
 DATE: 9-9-14



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 9/3/16.

R. JACOB HIKMAT P.E.
 DATE: 8/19/14

Project	08-002	date	AUG 2014
Illustration	MMM	engineering	MMM
scale	1"=50'	approval	RJH

ADD UNDERDRAIN, CUTOFFALL, EYE BOLT, SWALE.	REUSE TIME BLOCK	date	8-24-14
no.	description	revisions	

GUILFORD OVERLOOK
 LOTS 1-15 AND OPEN SPACE LOTS 16-19 AND NON-BUILDABLE BULK PARCEL A
 REVISED ROAD CONSTRUCTION PLAN
 GRADING AND SEDIMENT CONTROL PLAN
 SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND, TAX MAP 47, BLOCK 6, PARCEL 499

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 7850-B Grace Drive, Columbia, Maryland, 21044
 (410) 997-0296 Fax

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

DEFINITION
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

A. SOIL PREPARATION

- 1. TEMPORARY STABILIZATION**
 - a. SEEDING 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 LOOSENEED, IT MUST NOT BE ROLLED OR GRADED UNLESS UNDER THE CLOSEST SUPERVISION OF THE INSPECTOR. 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.
 - b. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
 - c. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
 - d. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES.
 - e. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF SOIL TEST.
 - f. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - g. AREAS TO BE TOPSOILED MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN. 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.
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 AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRACTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, TRASH, OR OTHER MATERIALS LARGER THAN 1/8 INCHES IN DIAMETER.
b. 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.
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 SOODING 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 AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO 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 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 REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED 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 USED WHEN THE GROUND IS NOT FROZEN.
 - c. INOCULANTS: THE INOCULANT FOR TREESING LEGUMES 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 COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
 - d. SOO 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 EACH DIRECTION, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
 - b. DRILL OR CULTEPACER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL. CULTEPACER 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.
 - 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 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM) 100 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. SEED AND FERTILIZER ON SITES 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 OR CLEAN STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLLY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
 - b. WOOD CELLULOSE FIBER: MULCHING OF SPECIALLY PREPARED WOOD CELLULOSE FIBER MUST BE PROCESSED INTO A 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 FOR INSPECTION OF THE MULCH. THE MULCH MUST BE FREE OF NOXIOUS WEED SEEDS.
 - 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 IS UNIFORM IN LENGTH 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 CAPABILITY. THE PERCOLATION COVER AND SEED MUST BE 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 BE PHYTO-TOXIC TO PLANTS.
 - 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 SEEDS ARE 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 AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE FIBER WITH FERTILIZER TO OBTAIN 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, 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. THIS PRACTICE IS THE MOST EFFECTIVE FOR 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 POLYURETHANE, TERRETTA, TERRA TACK, AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON GRESTS OF BANKS.
 - iv. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
 - b. WHEN MULCHING FLATTER AREAS, NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

STANDARD SEDIMENT CONTROL NOTES:

- 1) MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1855).
- 2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERE TO.
- 3) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
 - B) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 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 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 DONE WHEN RECOMMENDED SEEDING DATED DO NOT ALLOW FOR PROPER CONSTRUCTION AND ESTABLISHMENT OF GRASSES.
- 5) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 6) SITE ANALYSIS:
TOTAL AREA OF SITE: 7.08 ACRES
AREA DISTURBED: 0.32 ACRES
AREA TO BE REPAIRED OR PAVED: 0.32 ACRES
AREA TO BE VEGETATIVELY STABILIZED: 5.32 ACRES
TOTAL CUT: 5.00 CU. YDS.
TOTAL FILL: 5.00 CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION: TBD
THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITIES MEASUREMENTS.
- 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 HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 9) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUIRED UPON COMPLETION OF INSTALLATION OF PERIMETER SEDIMENT CONTROL STRUCTURES, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- 10) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK FILLED AND STABILIZED BY THE END OF EACH WORKING DAY, WHICHEVER IS SHORTER. ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCESSING WITH CONSTRUCTION.
- 11) A PROJECT IS TO BE CONSIDERED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 PER GRADING UNIT) AT A TIME. A SUBSEQUENT GRADING UNIT SHALL BE BEGUN ONLY WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND NO DISTURBANCE OR REDISTURBANCE OF THE PREVIOUSLY STABILIZED AND APPROVED BY THE APPROVAL AUTHORITIES, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

TEMPORARY SEEDING FOR SITE STABILIZATION

PLANT SPECIES	SEEDING RATE (LB/AC)	SEEDING DEPTH (INCHES)	RECOMMENDED SEEDING DATED BY PLANT HARDNESS ZONE			
			5B AND 6A	6B	7A AND 7B	7C
COOL SEASON GRASSES						
ANNUAL RYEGRASS (LOLIUM PERENNE SSP. MULTIFLORUM)	40	1.0	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; MAY 15 TO NOV 30	
BARLEY (HORDEUM VULGARE)	96	2.2	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; MAY 15 TO NOV 30	
OATS (Avena SATIVA)	72	1.7	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; MAY 15 TO NOV 30	
WHEAT (TRITICUM AESTIVUM)	120	2.8	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; MAY 15 TO NOV 30	
CEREAL RYE (SECALE ITALICA)	112	2.8	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; MAY 15 TO NOV 30	
WARM SEASON GRASSES						
FOXTAIL MILLET (SETARIA ITALICA)	30	0.7	JUN 1 TO JUL 31	MAY 16 TO JUL 31	MAY 1 TO AUG 14	
PEARL MILLET (PENNISETUM GLAUCUM)	20	0.5	JUN 1 TO JUL 31	MAY 16 TO JUL 31	MAY 1 TO AUG 14	

PERMANENT SEEDING SUMMARY

NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)				LIME RATE
					N	P ₂ O ₅	K ₂ O		
1	TALL FESCUE	100	MARCH 1-MAY 15 AUG 15-OCT 15	1/4"-1/2"	45 LBS. PER ACRE (2 LB./1000 SF)	90 LBS. PER ACRE (2 LB./1000 SF)	90 LBS. PER ACRE (2 LB./1000 SF)	2 TONS / ACRE (90 LBS. / 1000 SF)	

STANDARD STABILIZATION NOTES:

- 1) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
 - A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER 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 OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17022 EXP DATE 9/3/16.

R. JACOB HIKMAT, P.E. DATE: 8/18/14

(B-4-4) STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOIL WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE
TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURB SOIL.

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. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED 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.
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-4-3.1.b, AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

(B-4-5) STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOIL WITH PERMANENT VEGETATION.

PURPOSE
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER OF DISTURBED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES

- a. SELECT ONE OR MORE OF THE SPECIES OF MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED IN THE SITE CONDITION OR PURPOSE.
- b. FIND ON TABLE B.2 ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY.
- c. IDENTIFY SPECIFIC MIXTURES FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DINES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT. THEY MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD GUIDE, SECTION 342-CRITICAL AREA PLANTING.
- d. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
- e. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FROM FERTILIZED (40-0-0) AT 3 1/2 POUNDS PER 1000 SF. (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

B. TURFGRASS MIXTURES

- a. AREAS WHERE TURFGRASS MAY BE DESIRE 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 OF MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY.
 - 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 SEEDING RATES: 1.5 TO 2.0 POUNDS PER 1000 SF. 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 WHICH TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SF. 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 MIXTURE. FOR USE IN DROUGHT AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MAINTENANCE IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS TO 5 PERCENT. SEEDING RATE: 5 TO 8 PERCENT PER 1000 SF. 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 CERTIFIES FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATES 1 1/2 TO 3 POUNDS PER 1000 SF.

C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURE

WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDNESS ZONES: 5B,6A)
CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONE: 6B)
SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONE: 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 AREA TO PREPARE A PROPER SEEDBED, REMOVE STONE AND DEBRIS OVER 1.5 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASS WILL BE WITHOUT DIFFICULTY.

E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY WATER TO SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH 0.5 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 SEASON, OR ON ADVERSE SITES.

(B-4-8) STANDARDS AND SPECIFICATION FOR STOCKPILE AREA

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 STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND 1 BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3-3 LAND GRADING.
3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
4. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVISE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
5. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
6. STOCKPILE MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.

IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST 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 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.

TEMPORARY SEEDING FOR SITE STABILIZATION

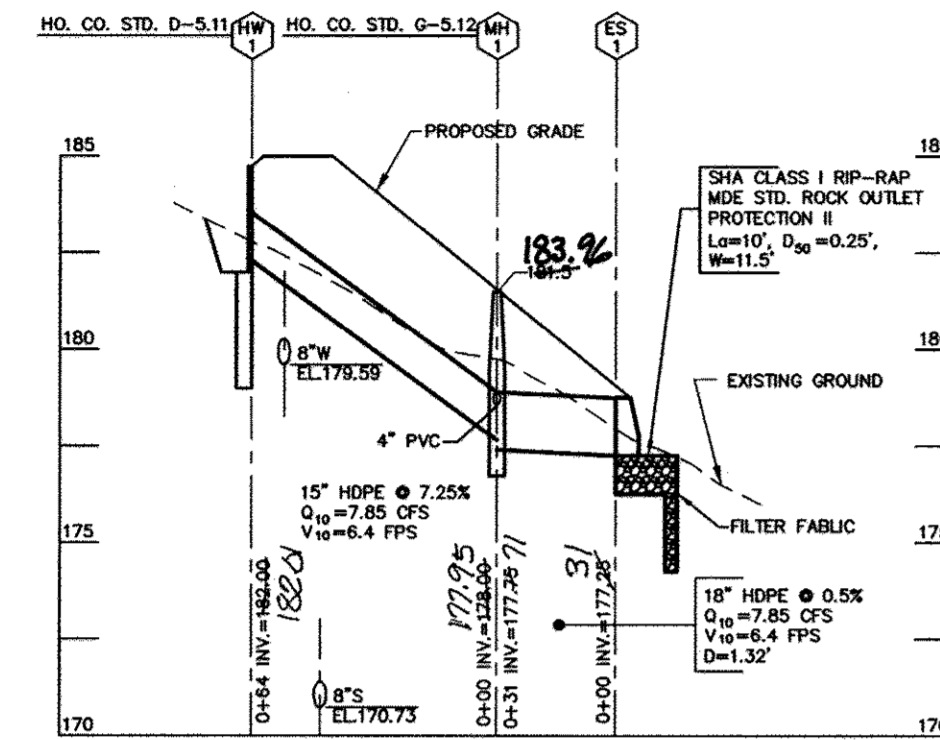
PLANT SPECIES	SEEDING RATE (LB/AC)	SEEDING DEPTH (INCHES)	RECOMMENDED SEEDING DATED BY PLANT HARDNESS ZONE			
			5B AND 6A	6B	7A AND 7B	7C
COOL SEASON GRASSES						
ANNUAL RYEGRASS (LOLIUM PERENNE SSP. MULTIFLORUM)	40	1.0	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; MAY 15 TO NOV 30	
BARLEY (HORDEUM VULGARE)	96	2.2	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; MAY 15 TO NOV 30	
OATS (Avena SATIVA)	72	1.7	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; MAY 15 TO NOV 30	
WHEAT (TRITICUM AESTIVUM)	120	2.8	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; MAY 15 TO NOV 30	
CEREAL RYE (SECALE ITALICA)	112	2.8	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; MAY 15 TO NOV 30	
WARM SEASON GRASSES						
FOXTAIL MILLET (SETARIA ITALICA)	30	0.7	JUN 1 TO JUL 31	MAY 16 TO JUL 31	MAY 1 TO AUG 14	
PEARL MILLET (PENNISETUM GLAUCUM)	20	0.5	JUN 1 TO JUL 31	MAY 16 TO JUL 31	MAY 1 TO AUG 14	

PERMANENT SEEDING SUMMARY

NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)				LIME RATE
					N	P ₂ O ₅	K ₂ O		
1	TALL FESCUE	100	MARCH 1-MAY 15 AUG 15-OCT 15	1/4"-1/2"	45 LBS. PER ACRE (2 LB./1000 SF)	90 LBS. PER ACRE (2 LB./1000 SF)	90 LBS. PER ACRE (2 LB./1000 SF)	2 TONS /	

SOIL SCHEDULE

- Fa (D) FOLLINGTON SANDY LOAM, 0-2% SLOPES.
- Ha (D) HATBORO SILT LOAM, 0+3% SLOPES.
- RuB (C) RUSSETT AND BELTSVILLE SOILS, 2-5% SLOPES.
- UwC (D) URBAN LAND-WOODSTONE-SASSAFRAS COMPLEX, 5-10% SLOPES



STORM DRAIN PROFILE

SCALE: HOR. 1"=50'
VER. 1"=5'



DRAINAGE AREA MAP

SCALE: 1"=50'

NOTES:

- CONTRACTOR SHALL PROVIDE 3"-14" BEVEL AROUND PIPE OPENINGS UPSTREAM HEADWALLS.

D	E	F	G	H	J	K	L	N	R	Δ VOL. CY
12"	2'-8"	7'-2"	3'-0"	2'-8"	2'-0"	8"	8"	8"	#8-12" O/C	1.50
18"	2'-11"	7'-5"	3'-0"	2'-8"	2'-0"	8"	8"	8"	#8-12" O/C	1.60
21"	3'-4"	7'-8"	3'-0"	2'-8"	2'-0"	8"	8"	8"	#8-12" O/C	1.80
24"	3'-8"	8'-0"	3'-0"	2'-8"	2'-0"	8"	8"	8"	#8-12" O/C	1.90
27"	3'-11"	8'-3"	3'-0"	2'-8"	2'-0"	8"	8"	8"	#8-12" O/C	2.00
30"	4'-2"	8'-6"	3'-0"	2'-8"	2'-0"	8"	8"	10"	#8-12" O/C	2.80
36"	4'-8"	10'-0"	3'-0"	2'-8"	2'-0"	8"	10"	10"	#8-12" O/C	3.15
42"	5'-3"	11'-6"	4'-0"	3'-0"	2'-8"	8"	10"	10"	#8-12" O/C	3.87
48"	5'-10"	13'-0"	4'-0"	3'-0"	3'-0"	8"	10"	12"	#8-8" O/C	5.08
54"	6'-5"	14'-6"	5'-0"	3'-0"	3'-3"	9"	12"	12"	#8-8" O/C	6.50
60"	7'-0"	16'-0"	5'-0"	3'-0"	3'-6"	9"	12"	12"	#8-8" O/C	7.88
66"	7'-7"	17'-6"	6'-0"	3'-0"	3'-9"	9"	12"	14"	#8-8" O/C	9.14
72"	8'-2"	19'-0"	6'-0"	3'-0"	4'-3"	9"	12"	14"	#8-8" O/C	11.10

Δ - BASED ON 2:1 CHANNEL SIDE SLOPE AND 45° ANGLE

Howards County, Maryland
Department of Public Works

Approved: *[Signature]*
Chief, Bureau of Engineering

TYPE 'A' Headwall
Circular Pipe

Detail
D-5.11

PIPE SCHEDULE

QUANTITY	PIPE SIZE
64	15" HDPE
31	18" HDPE

STRUCTURE SCHEDULE

NO.	LOCATION*	TOP**	INV. IN	INV. OUT	COMMENTS
HW-1	USE-IN-COMMON DR. STA. 2+21; OFFSET 11.0' RT.	-	-	182.00	HEAD WALL TYPE A (HO.CO.STD. D-5-11)
MH-1	USE-IN-COMMON DR. STA. 2+12; OFFSET 50.5' LT.	181.56 183.36	178.00	177.75	MANHOLE (HO.CO.STD. G-5.12)
ES-1	USE-IN-COMMON DR. STA. 2+11; OFFSET 78.0' LT.	-	-	188.25	18" HDPE END SECTION

- * STATIONS GIVEN TO CENTERLINE FACE OF INLET AT TOP OF CURB FOR INLETS LOCATED WITHIN THE ROAD RIGHT-OF-WAY. STATIONS FOR YARD INLETS TO CL OF INLET. LOCATION OF MANHOLES IS TO CL OF MANHOLE COVER. END SECTION GIVEN TO THE CENTERLINE OF PIPE AT THE CONNECTION OF THE STORM DRAIN PIPE TO THE END SECTION.
- ** ELEVATIONS MEASURED TO CENTER OF ALL INLETS.

FOR REVISIONS BY
BEI ONLY

5/2/18 AS-BUILT 8-15-18

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 21443 Expiration Date: 12-31-19

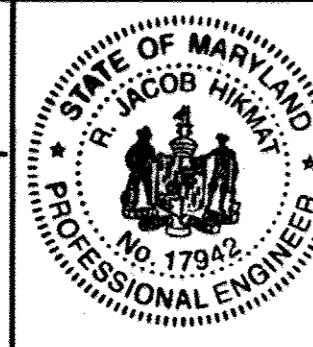
OWNER/DEVELOPER

PLOGGER LLC
6800 DEERPATH RD. SUITE 100
ELKRIDGE, MARYLAND 21075
410-579-2442
CONTACT NAME: MARK LEVY

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 9-10-2014
CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 9-17-14
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 9.9.14
CHIEF, DEVELOPMENT ENGINEERING DIVISION



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 9/3/16.

R. JACOB HIKMAT P.E. 8/19/14

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E. Date: 5/2/18

project	08-002	date	AUG. 2014
illustration	MMM	engineering	MMM
scale	1"=50'	approval	MMM

1.	ADD UNDERDRAIN CATCHALL FOR SWALE	DATE	JULY 2014
2.	REVISE TITLE	DATE	JULY 2014

GUILFORD OVERLOOK
LOTS 1-15 AND OPEN SPACE LOTS 16-19 AND NON-BUILDABLE BULK PARCEL A
REVISED ROAD CONSTRUCTION PLAN
SIXTH ELECTON DISTRICT, HOWARD COUNTY, MARYLAND, TAX MAP 47, BLOCK 6, PARCEL 499

STORM DRAIN PROFILES AND DRAINAGE AREA MAP

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia Maryland, 21044
(410) 997-0298 Cell. (410) 997-0298 Fax.

SOIL SCHEDULE

- Fa (D) FOLLINGTON SANDY LOAM, 0-2% SLOPES.
- Ha (D) HATBORO SILT LOAM, 0+3% SLOPES.
- RuB (C) RUSSETT AND BELTSVILLE SOILS, 2-5% SLOPES.
- UwC (D) URBAN LAND-WOODSTONE-SASSAFRAS COMPLEX, 5-10% SLOPES

ESD NARRATIVE

1. THE PROPERTY CONSISTS OF 7.08 ACRES WITH APPROXIMATELY 3.75 ACRES BEING PRESERVED AS OPEN SPACE, FLOODPLAIN, WETLANDS, STREAM AND THEIR BUFFERS COMPRISE ALMOST 2.8 ACRES OF THE SITE. ALL NATURAL RESOURCES HAVE BEEN PROTECTED IN ACCORDANCE WITH HOWARD COUNTY REGULATIONS. NO GRADING OR REMOVAL OF VEGETATION IS ALLOWED.
2. THE IMPROVEMENTS AND DEVELOPED AREA WILL MAINTAIN THE EXISTING DRAINAGE PATTERNS AS CLOSE AS POSSIBLE. NO IMPACT IS PROPOSED THAT WOULD ALTER ANY NATURAL FLOW PATTERNS.
3. THE OVERWHELMING MAJORITY OF STORMWATER MANAGEMENT REQUIREMENTS ARE MET VIA NON-STRUCTURAL PRACTICES. SWM REQUIREMENTS ON LOTS 1 THRU 4 REQUIRE A MICRO SCALE FACILITY TO MEET CPv REQUIREMENT ONLY. SWM REQUIREMENTS ON LOTS 5 THRU 15 WERE MET ALMOST ENTIRELY BY NON-STRUCTURAL PRACTICES. SWM FOR REMAINING CPv REQUIREMENTS FROM LOTS 5 THRU 15 AND AREA OF PUBLIC RIGHT-OF-WAY WERE PROVIDED IN THE MICRO SCALE FACILITY (BIO SWALE) LOCATED ON OPEN SPACE LOT 17.
4. THE REQUIRED EROSION AND SEDIMENT CONTROL MEASURES WILL BE IN ACCORDANCE WITH THE LATEST MDE STANDARDS AND SPECIFICATIONS UTILIZING SILT FENCES AND SUPER SILT FENCES. NO CONCENTRATION FLOW IS PROPOSED. NO SEDIMENT TRAPS OR BASINS ARE REQUIRED.
5. TABLE 5.2, SUMMARY OF SITE DEVELOPMENT STRATEGIES WAS UTILIZED TO THE EXTENT ALLOWABLE BY THE CURRENT HOWARD COUNTY ZONING AND LAND DEVELOPMENT REGULATIONS BY UTILIZING SHARED DRIVEWAY AND MINIMIZING EARTH DISTURBANCE.
6. IN DESIGNING THIS PROJECT AND AFTER WE PLANNED THE PROJECT TO MINIMIZE IMPERVIOUS AREAS, WE UTILIZED ESD MEASURES IN THE FOLLOWING ORDER OF PREFERENCE:
 - A. SHEETFLOW TO CONSERVATION AREA.
 - B. DISCONNECTION OF ROOFTOP.
 - C. DISCONNECTION OF NON-ROOFTOP.
 - D. RAIN GARDEN
 - E. MICRO-SCALE PRACTICES.
7. THERE ARE NO DESIGN MANUAL WAIVERS PLANNED FOR THIS SITE IN REGARD TO ENVIRONMENTAL DISTURBANCES.

SWM PRACTICES SCHEDULE

LOT #	PROPOSED PRACTICES
1	NON-ROOFTOP DISCONNECTION (N-2) RAIN GARDEN (M-7)
2	NON-ROOFTOP DISCONNECTION (N-2) RAIN GARDEN (M-7)
3	NON-ROOFTOP DISCONNECTION (N-2) RAIN GARDEN (M-7)
4	NON-ROOFTOP DISCONNECTION (N-2) RAIN GARDEN (M-7)
5	NON-ROOFTOP DISCONNECTION (N-2) ROOFTOP DISCONNECTION (N-1) SHEETFLOW TO CONSERVATION AREA (N-3) (132.9 C.F.) BIO SWALE (M-8)
6	NON-ROOFTOP DISCONNECTION (N-2) ROOFTOP DISCONNECTION (N-1) SHEETFLOW TO CONSERVATION AREA (N-3) (146.0 C.F.) BIO SWALE (M-8)
7	NON-ROOFTOP DISCONNECTION (N-2) ROOFTOP DISCONNECTION (N-1) SHEETFLOW TO CONSERVATION AREA (N-3) (67.2 C.F.) BIO SWALE (M-8)
8	NON-ROOFTOP DISCONNECTION (N-2) ROOFTOP DISCONNECTION (N-1) SHEETFLOW TO CONSERVATION AREA (N-3) (34.8 C.F.) BIO SWALE (M-8)
9	NON-ROOFTOP DISCONNECTION (N-2) ROOFTOP DISCONNECTION (N-1) SHEETFLOW TO CONSERVATION AREA (N-3) (64.2 C.F.) BIO SWALE (M-8)
10	NON-ROOFTOP DISCONNECTION (N-2) ROOFTOP DISCONNECTION (N-1) SHEETFLOW TO CONSERVATION AREA (N-3) (36.9 C.F.) BIO SWALE (M-8)
11	NON-ROOFTOP DISCONNECTION (N-2) ROOFTOP DISCONNECTION (N-1) SHEETFLOW TO CONSERVATION AREA (N-3) (4.2 C.F.) BIO SWALE (M-8)
12	NON-ROOFTOP DISCONNECTION (N-2) ROOFTOP DISCONNECTION (N-1) SHEETFLOW TO CONSERVATION AREA (N-3) (79.4 C.F.) BIO SWALE (M-8)
13	NON-ROOFTOP DISCONNECTION (N-2) ROOFTOP DISCONNECTION (N-1) SHEETFLOW TO CONSERVATION AREA (N-3) (56.29 C.F.) BIO SWALE (M-8)
14	NON-ROOFTOP DISCONNECTION (N-2) ROOFTOP DISCONNECTION (N-1) SHEETFLOW TO CONSERVATION AREA (N-3) (46.7 C.F.) BIO SWALE (M-8)
15	NON-ROOFTOP DISCONNECTION (N-2) ROOFTOP DISCONNECTION (N-1) SHEETFLOW TO CONSERVATION AREA (N-3) (119.3 C.F.) BIO SWALE (M-8)
R/W	(1,309.8 C.F.) BIO SWALE (M-8)

Project	08-002	Date	AUG. 2014
Illustration	MM	Engineering	MM
Scale	1"=50'	Approval	RJH

DATE	2-27-16	DATE	
BY	MM	DESCRIPTION	
NO.	1	REV. TITLE, REV. OPEN SPACE LOT 18, CREATE NON-BUILDABLE BULK PARCEL "A", REV. FOREST CONSERVATION EASEMENT"	

GUILFORD OVERLOOK
 LOTS 1-15 AND OPEN SPACE LOTS 16-19 AND NON-BUILDABLE BULK PARCEL A
 REVISED ROAD CONSTRUCTION PLAN
 SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND, TAX MAP 47, BLOCK 6, PARCEL 499
SWM PLAN

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 7350-B Grace Drive, Columbia, Maryland, 21044
 (410) 997-0296 Fax (410) 997-0296 Cell

BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature of Developer: [Signature] DATE: 8/18/14
 Printed Name of Developer: [Name]

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Signature of Engineer: [Signature] DATE: 8/18/14
 Printed Name of Engineer: R. JACOB HIKMAT

APPROVED: DEPARTMENT OF PUBLIC WORKS
 Chief Bureau of Highways: [Signature] DATE: 9-10-2014

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development: [Signature] DATE: 9-17-14

APPROVED: DEPARTMENT OF DEVELOPMENT
 Chief, Development Engineering Division: [Signature] DATE: 9-9-14



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 9/3/16.

Signature: [Signature] DATE: 8/18/14
 R. JACOB HIKMAT P.E.

AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E. Date: 5/21/16

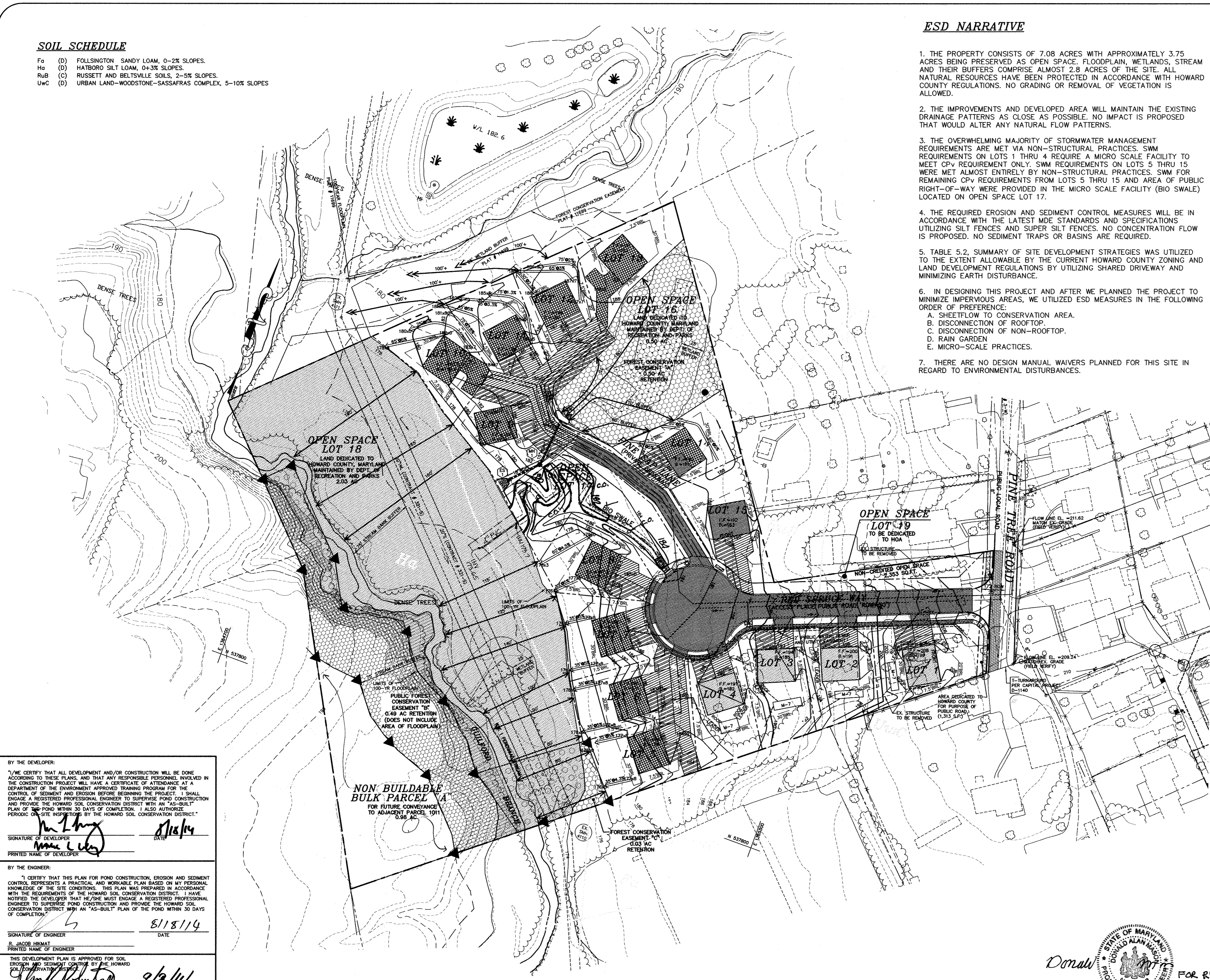
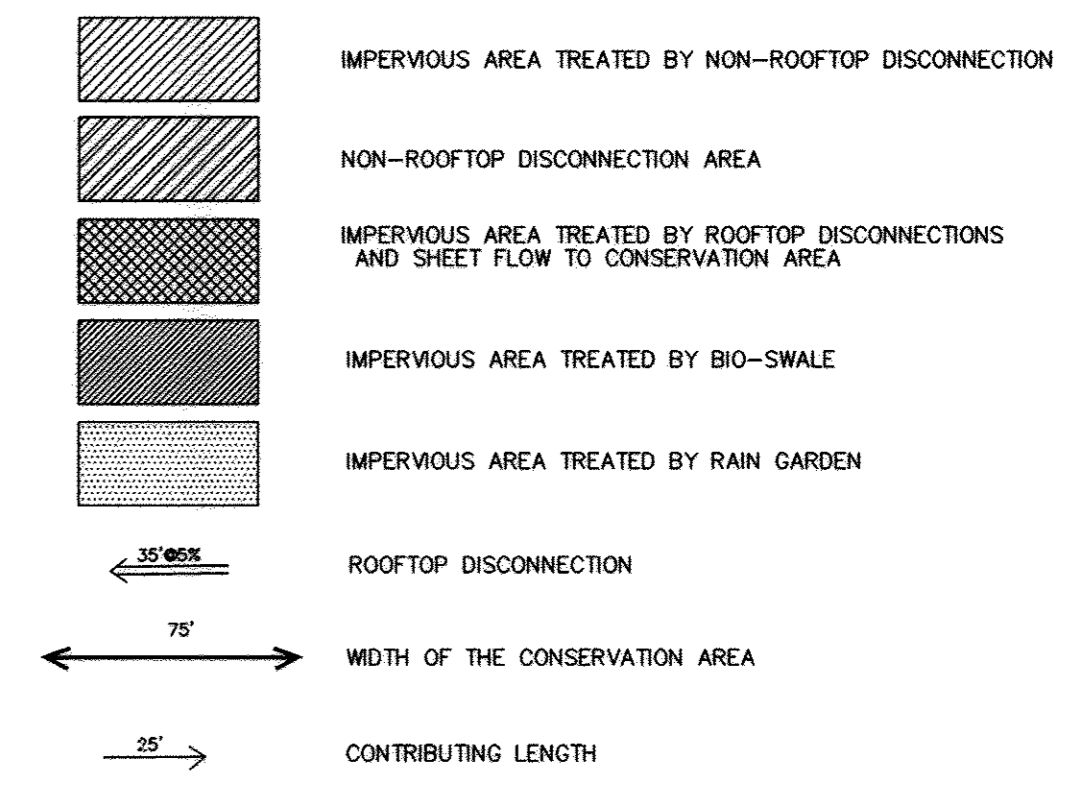


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

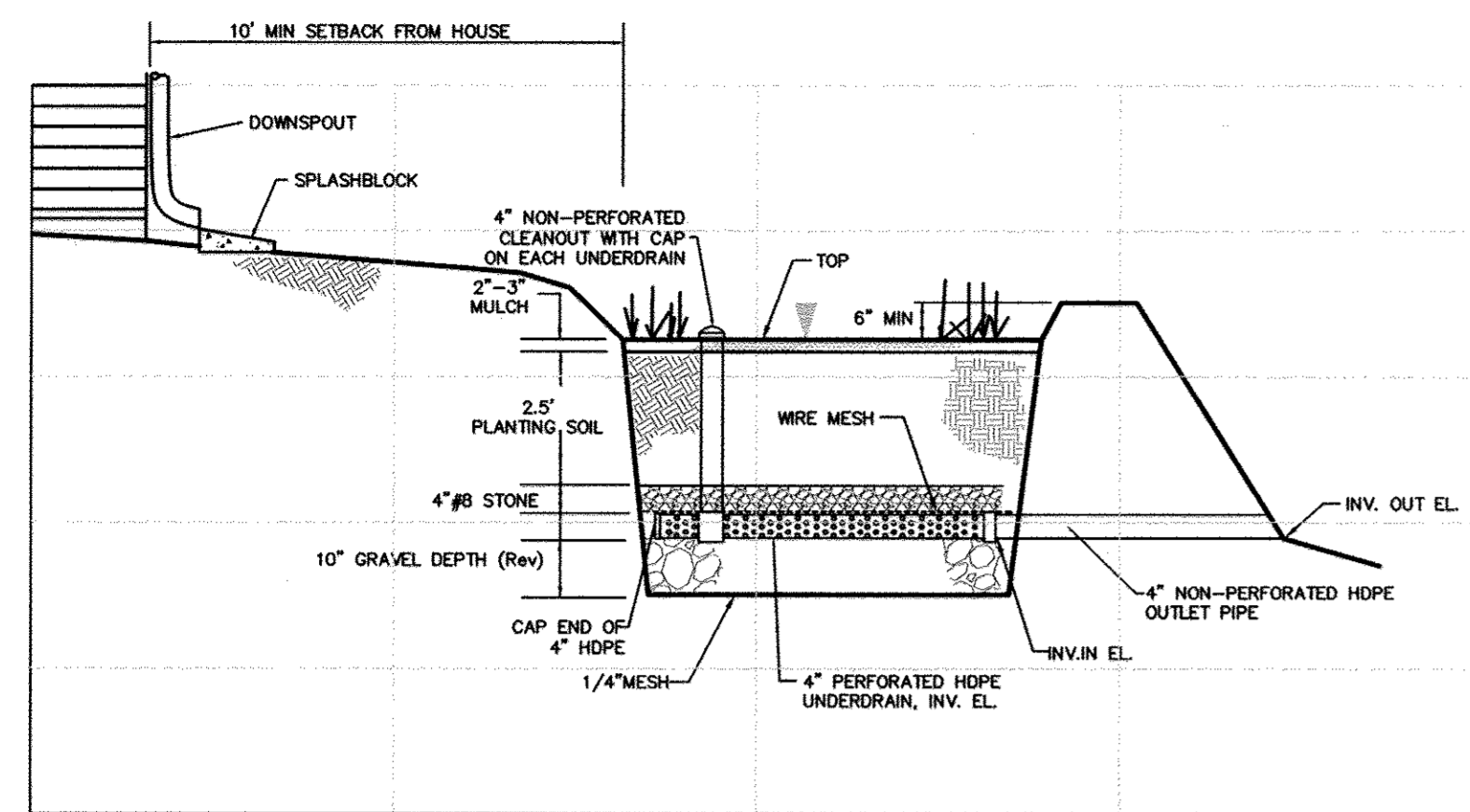
License No. 21443 Expiration Date: 12-24-18

OWNER/DEVELOPER
 PLOGGER LLC
 6800 DEERPATH RD, SUITE 100
 ELK RIDGE, MARYLAND 21075
 410-579-2442
 CONTACT NAME: MARK LEVY

AS-BUILT

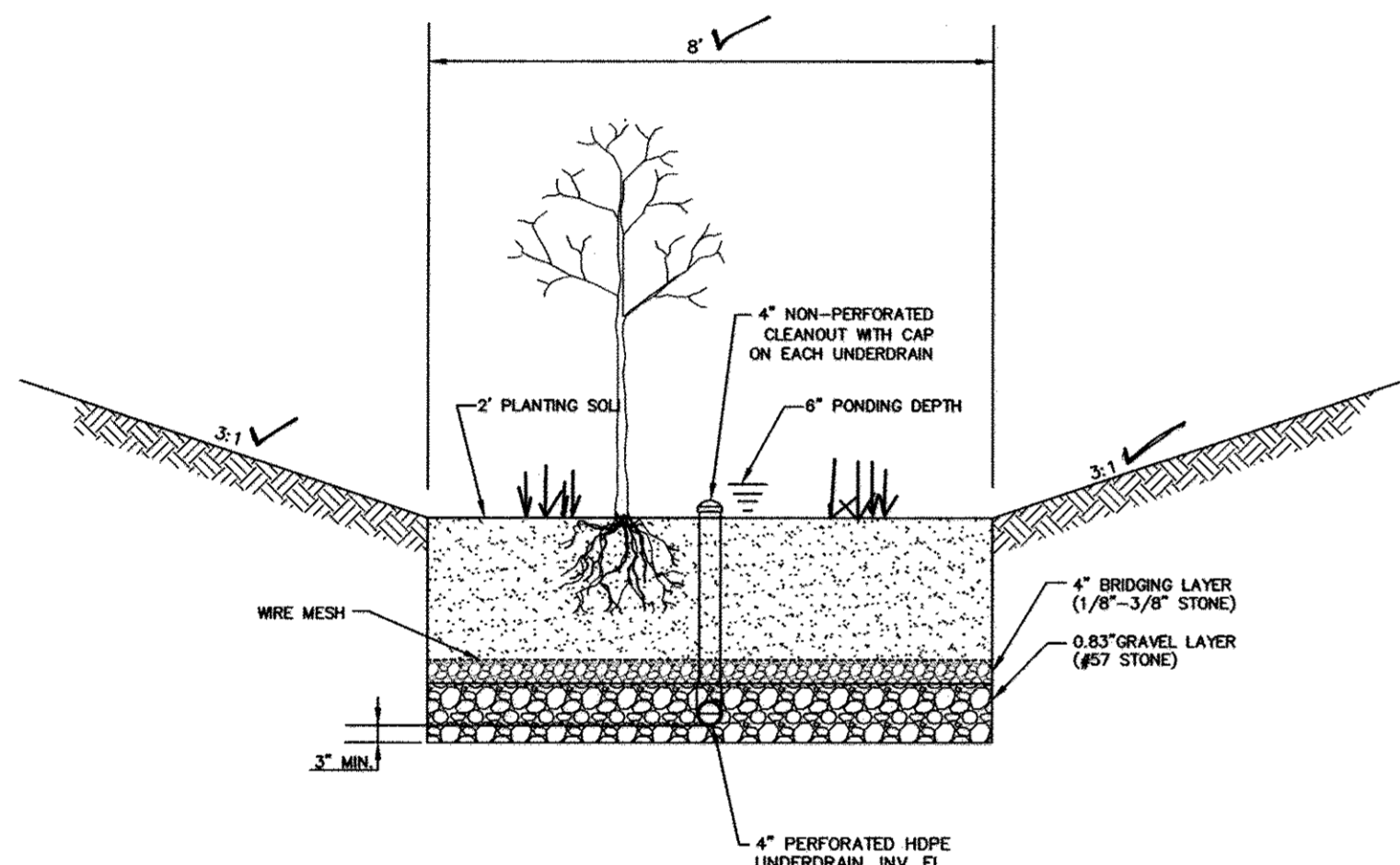


P: 2004-08-002 PINE TREE RD/FINAL 08-002-FINAL.DWG

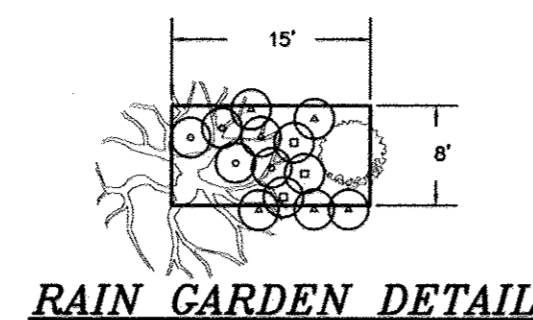


TYPICAL RAIN GARDEN PROFILE

NOTE: FINAL DESIGN OF THE RAIN GARDENS WILL BE PROVIDED AT SDP STAGE.



TYPICAL BIO SWALE DETAIL



RAIN GARDEN DETAIL

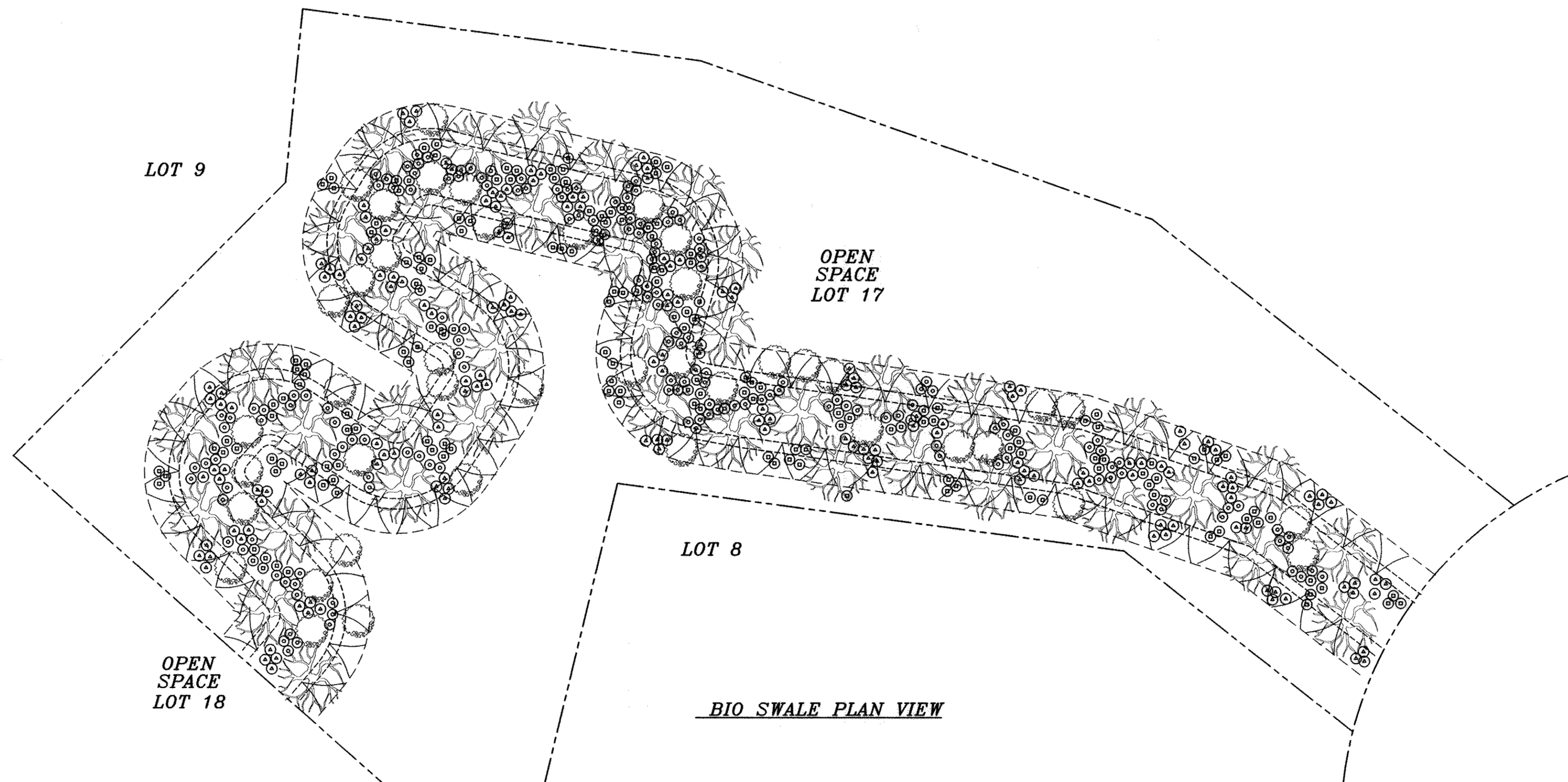
PLANT LIST

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
1	⊙	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2-1/2' - 3' CAL.
1	○	ILEX GLABRA	INK BERRY	2' - 3' HT.
6	⊙	LOBELIA SIPHILITICA	GREAT BLUE LOBELIA	1 GAL. CONTAINER
4	⊙	ONOCLEA SENSIBILIS	SENSITIVE FERN	1 GAL. CONTAINER
3	⊙	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER

TOTAL: 13 PERENNIALS, 1 SHRUB, 1 TREE (PER EACH RAIN GARDEN)

OPERATION AND MAINTENANCE SCHEDULE FOR RAIN GARDENS AND BIO SWALE

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR, IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.



BIO SWALE PLAN VIEW

PLANT LIST

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
42	⊙	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2-1/2' - 3' CAL.
42	○	ILEX GLABRA	INK BERRY	2' - 3' HT.
167	⊙	LOBELIA SIPHILITICA	GREAT BLUE LOBELIA	1 GAL. CONTAINER
167	⊙	ONOCLEA SENSIBILIS	SENSITIVE FERN	1 GAL. CONTAINER
167	⊙	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER

TOTAL: 300 PERENNIALS, 26 SHRUB, 26 TREE

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E.

Date: 5/2/16



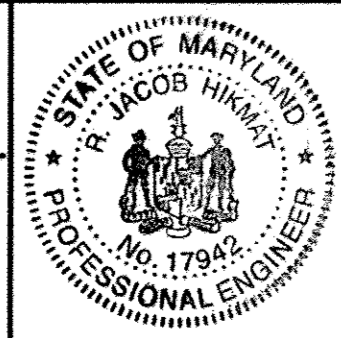
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 21443 Expiration Date: 12-31-19

APPROVED: DEPARTMENT OF PUBLIC WORKS
Melvin 9-10-2014
CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Kate 9-17-14
CHIEF, DIVISION OF LAND DEVELOPMENT

Chad 9-9-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 9/3/16.

R. JACOB HIKMAT P.E.

8/18/14
DATE

OWNER/DEVELOPER
PLOGGER LLC
6800 DEERPATH RD. SUITE 100
ELKRIDGE, MARYLAND 21075
410-579-2442
CONTACT NAME: MARK LEVY

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, Maryland, 21044
(410) 997-0286 Bldg. (410) 997-0288 Fax.

SOIL SCHEDULE

- Fa (D) FOLLINGTON SANDY LOAM, 0-2% SLOPES.
- Ha (D) HATBORO SILT LOAM, 0+3% SLOPES.
- RuB (C) RUSSETT AND BELTSVILLE SOILS, 2-5% SLOPES.
- UwC (D) URBAN LAND-WOODSTONE-SASSAFRAS COMPLEX, 5-10% SLOPES.

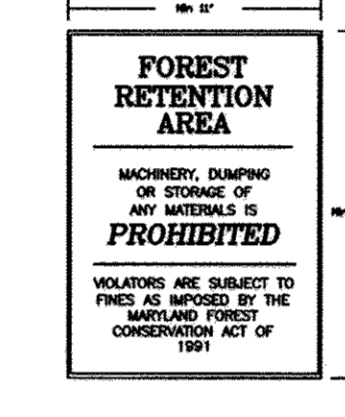
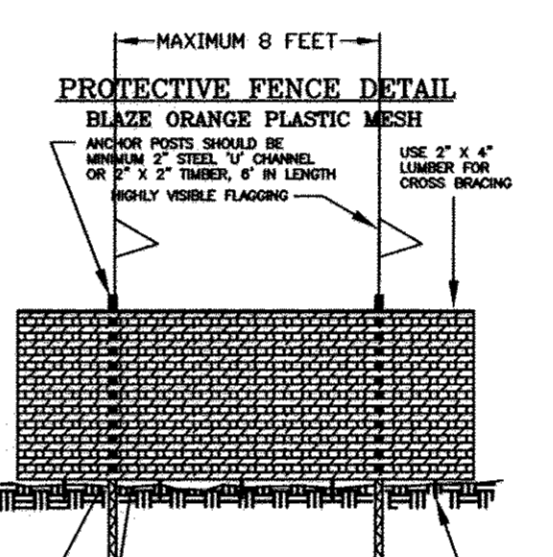
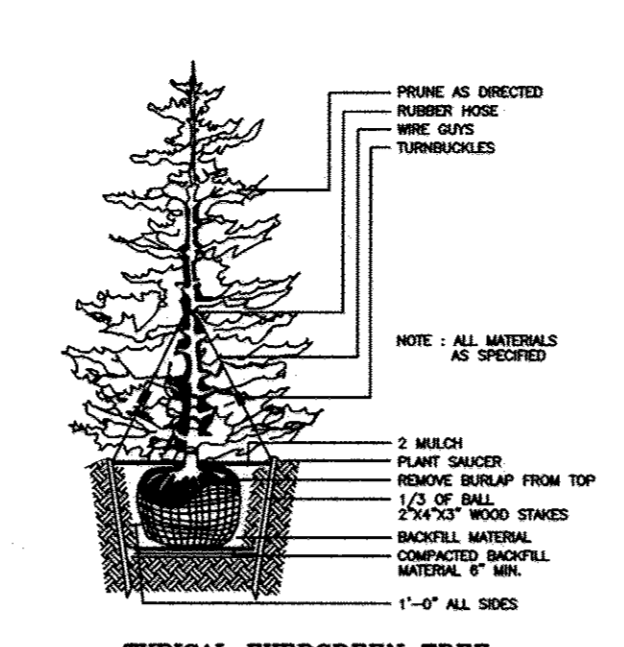
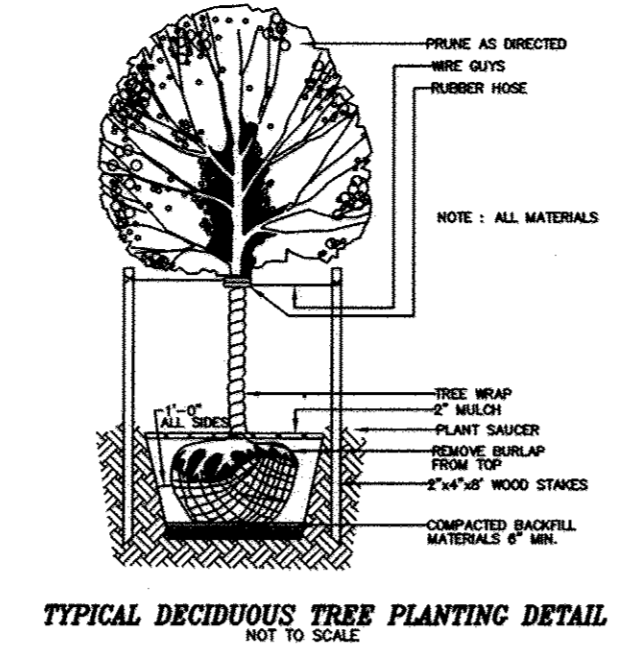
LEGEND

- SLOPES GREATER THAN 25%
- 15% TO 25% SLOPES
- FLOODPLAIN
- WETLANDS
- FOREST CONSERVATION EASEMENT (RETENTION)
- EXISTING TREE LINE
- LIMIT OF DISTURBANCE
- SUPER SILTANCE
- FOREST CONSERVATION EASEMENT (NON CREDITED)



PLANTING SPECIFICATIONS AND NOTES

- SITE PREPARATION AND SOILS**
- PROTECTION FENCES AND SILT FENCES FOR SEDIMENT AND EROSION CONTROL ARE TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
 - DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
 - SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTED SLUDGE.
 - SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME FEAT MULCH.
 - ALL MIXING IN 3 AND 4 SHALL BE LIMITED TO CONTAINER GROWN OR SMALL BURLAP STOCK ONLY AND CONFINED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.
- PLANT STORAGE AND INSPECTION**
- FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
 - FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
 - PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.
 - UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL, AND MOISTENED ENVIRONMENT.
- PLANT INSTALLATION**
- THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD. AFTER PLANT INSTALLATION, RANGE SOILS SHOULD BE PLANTED FIELD AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER GENEROUSLY TO SETTLE SOIL BACKFILLED AROUND TREES.
 - PLANTING FIELD DIMENSIONS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING. EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING. EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING.
 - CARE SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THROUGH LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN 1/2" IN DIAMETER ARE ENCOUNTERED, PLEASE TRY TO DISMOUNT THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES. THEY WERE HERE FIRST.
 - CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSED FROM THE SOIL. IF THE ROOTS ENIRCLE THE ROOT BALL, SUBSTITUTION IS STRONGLY RECOMMENDED. J-SHAPED OR KINNED ROOT SYSTEMS SHOULD ALSO BE NOTED. ROOTS MAY NOT BE TRIMMED ON SITE, DUE TO THE INCREASED CHANCES OF SOIL BURNING DISEASES.
 - FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL. THEN FEEL BACK BURLAP TO BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL MIXTURE INDICATED ABOVE AND WATER GENEROUSLY.
 - FOR TREES PLANTED IN THE AFFORESTATION AREA, CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FOUR (4), PER SPECIES, OVER THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE RANDOM SPACING OF INDIVIDUAL TREES AT PROPER SPACING INDICATED ON PLANT LIST.
- PLANTING**
- DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPIRIT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
 - NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE ITS NEEDS.
 - IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. HOME MEAL OR SEWED-BASED PRODUCTS ARE AVAILABLE COMMERCIALY AND ARE RECOMMENDED. THEY HAVE THE ABILITY TO SUPPLY NUTRIENTS TO THE PLANT AS NEEDED WHILE MINIMIZING THE RISK OF EXCESS NUTRIENTS ENTERING THE FOREST SYSTEM AND WATER SUPPLY.
- POST CONSTRUCTION PERIOD PROTECTION AND MANAGEMENT PROGRAM**
- ANNUAL MAINTENANCE DURING THE GROWING SEASON FOR A THREE YEAR PERIOD.
 - ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTS.
 - VOLUNTEER SEEDING OF NATIVE, LOCAL AND ENDEMIC VEGETATION IS TO BE EXPECTED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEGATIVELY EFFECTING THE PLANTED STOCK.
 - REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE, INVASIVE SPECIES AND ALL HERBACEOUS WEEDS WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED STOCK.
 - REMOVE AND DISPOSE OF MAN-MADE TRASH INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL NATURALLY OCCURRING OR ACCUMULATING UNLESS IT IS SMOTHERING PLANTING STOCK.
 - FOR THE 24 MONTH MANAGEMENT PERIOD, IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.
- GENERAL NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY LANDSCAPE MANUAL.
 - PERIMETER LANDSCAPING AND TRASH PAD SCREENING SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL AND AS SHOWN ON THE LANDSCAPE PLAN SHEET OF THE ROAD CONSTRUCTION DRAWINGS. SURETY IN THE AMOUNT OF \$20,000 FOR 3 SHREDS AND 10 SHRUBS SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS FINAL PLAN, F-11-059.
 - THIS SUBDIVISION COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1202 OF THE HOWARD COUNTY CODE FOR PUBLIC FOREST CONSERVATION BY PROVIDING RETENTION OF 1.02 ACRES OF FOREST AND BY PLACEMENT OF 0.47 ACRES OF REQUIRED REFORESTATION INTO AN OFF-SITE EASEMENT ON PROPERTY IDENTIFIED AS THE ROSEBARK PROPERTY, PRESERVATION PARCEL A, LOCATED ON TAX MAP NO. 14 AND IDENTIFIED AS PARCEL 221, SITUATED ON THE WEST SIDE OF HOBBS ROAD, THE ROSEBARK FOREST CONSERVATION EASEMENT HAS BEEN SHOWN ON SHEET 18 OF SSP-97-115, WEST COLONY VILLAGE. DPZ HAS DETERMINED THAT A REDLINE REVISION SHALL BE MADE TO SSP-97-115 TO SHOW 0.47 ACRES OF REFORESTATION DEDUCTED FROM THE TOTAL FOREST CONSERVATION EASEMENT LOCATED ON THE ROSEBARK PROPERTY. SURETY FOR THE OFF-SITE FOREST CONSERVATION EASEMENT ON THE ROSEBARK PROPERTY HAS BEEN PREVIOUSLY POSTED BY THE OWNER OF THE EASEMENT HOLDER, NO SURETY IS POSTED FOR RETENTION, A DEED OF FOREST CONSERVATION EASEMENT AND FOREST CONSERVATION AGREEMENT IS REQUIRED FOR THIS FINAL PLAN.
 - FOREST CONSERVATION SIGNAGE SHALL BE PLACED FOR PERPETUITY.



LANDSCAPE PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
25		ACER SACCHARUM 'GREEN MOUNTAIN'	GREEN MOUNTAIN SUGAR MAPLE OR EQUIVALENT	2 1/2" - 3" CAL.
3		PINUS THUNBERGIANA	JAPANESE BLACK PINE OR EQUIVALENT	6" - 8" HT.
10		TAXUS MEDIA 'HICKSI'	HICKS NEW OR EQUIVALENT	2 1/2" - 3" HT.
TOTAL				

STREET TREE PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
17		PYRUS SARGENTI OR EQUIVALENT	SARGENT CHERRY OR EQUIVALENT	2 1/2" - 3" CAL.
TOTAL				

SCREEN CALCULATIONS

TRASH PAD - 16' TYPE C BUFFER
 10 SHRUBS PROVIDED.
 NOTE - EVERGREEN SHRUBS HAVE BEEN PROPOSED TO BUFFER THE TRASH PAD AREA.
 NOTE - MAINTENANCE OF THE TRASH PAD AND SCREENING SHALL BE THE RESPONSIBILITY OF THE HOA.

STREET TREE CALCULATIONS

RED SPRUCE WAY - 680 / 40 = 17
 TOTAL TREES REQUIRED = 17 TREES

SCHEDULE A : PERIMETER LANDSCAPED EDGE

CATEGORY	ADJACENT TO ROADWAYS				ADJACENT TO PERIMETER PROPERTIES				TOTAL
	(PERIMETER 1)	A (PERIMETER 2)	A (PERIMETER 3)	A (PERIMETER 4)	A (PERIMETER 5)	A (PERIMETER 6)	B (LOT 1)	(LOT 9) *	
LANDSCAPE TYPE	130.32 LF	712.85' LF	537.32 LF	518.60 LF	235.37 LF	108.0 LF	108.0 LF	108.0 LF	
LINEAR FEET OF PERIMETER									
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	N/A	YES, 290.00 LF.	YES, 537.32 LF.	YES, 170.00 LF.	YES, 164.00 LF.	NO	NO	NO	
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	N/A	NO	NO	NO	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	7 SHADE TREE 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	6 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	4 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	4 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	2 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	2 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	25 SHADE TREES 3 EVERGREEN TREES 0 SHRUBS
NUMBER OF PLANTS PROVIDED	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	7 SHADE TREE 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	6 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	4 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	4 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	2 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	2 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	25 SHADE TREES 3 EVERGREEN TREES 0 SHRUBS

* NOTE: ADDITIONAL TWO (2) REPLACEMENT TREES WILL BE PLANTED ON THE BACK OF LOT 9 FOR REMOVING OF S.P.# 5.

SPECIMEN TREE CHART

KEY	SPECIES	SIZE	CONDITION
SP 1	YELLOW POPLAR	47"DBH	GOOD (TO REMAIN)
SP 2	YELLOW POPLAR	35"DBH	GOOD (TO REMAIN)
SP 3	YELLOW POPLAR	30"DBH	GOOD (TO REMAIN)
SP 4	YELLOW POPLAR	34"DBH	GOOD (TO REMAIN)
SP 5*	YELLOW POPLAR	38"DBH	GOOD (TO BE REMOVE)
SP 6	YELLOW POPLAR	34"DBH	GOOD (TO REMAIN)
SP 7	YELLOW POPLAR	42"DBH	GOOD (TO REMAIN)
SP 8	YELLOW POPLAR	30"DBH	GOOD (TO REMAIN)

*NOTE: PER W-10-105, APPROVAL WAS GIVEN TO REMOVE SP-5 AND REPLAZED WITH 2 SHADED TREES ON LOT 9.

FOREST CONSERVATION DATA

FOREST CONSERVATION WORKSHEET

NET TRACT AREA: 7.08
 A. Total tract area: 7.08
 B. Area within 100 year floodplain & overhead transmission line = 2.80
 C. Area to remain in agricultural production = 0.00
 D. Net tract area = 4.28

LAND USE CATEGORY:
 Total the number "1" under the appropriate land use zoning, and limit to only one entry.
 ARA MORI DDA MORI CPO CA
 0 0 0 1 0 0 0
 E. Afforestation Threshold: 15% x D = 0.67
 F. Conservation Threshold: 20% x D = 0.80
 G. Existing forest cover (including floodplain) = 3.40
 H. Area of forest above afforestation threshold = 2.73
 I. Area of forest above conservation threshold = 2.50
 J. BREAK-EVEN POINT = 1.40
 K. Forest retention above threshold with no mitigation = 1.40
 L. Clearing permitted without mitigation = 2.00
 M. Total area of forest to be cleared = 2.38
 N. Total area of forest to be retained = 1.92
 O. Reforestation for clearing above conservation threshold = 0.60
 P. Reforestation for clearing below conservation threshold = 0.00
 Q. Credit for retention above conservation threshold = 0.15
 R. Total reforestation required = 0.47
 S. Total reforestation required = 0.47
 T. Total reforestation and afforestation required = 0.60

"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET"

OWNER/DEVELOPER

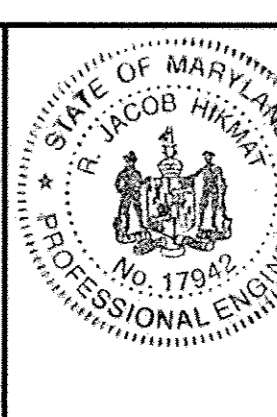
PLUGGER LLC
 6800 DEERPATH RD., SUITE 100
 ELKRIODGE, MARYLAND, 21075
 410-579-2442
 CONTACT NAME: MARK LEVY

DEVELOPER'S/OWNER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE IN ACCORDANCE WITH THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME: *Mark Levy* DATE: *9/10/2014*

APPROVED - DEPARTMENT OF PUBLIC WORKS
 DATE: 9-10-2014
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 DATE: 9-17-14
 APPROVED: DEVELOPMENT ENGINEERING DIVISION
 DATE: 9-9-14



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 9/3/16.
 R. JACOB HIKMAT P.E. DATE: 8/13/14

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21423, Expiration Date: 12-21-16



date	AUG. 2014
project	08-002
illustration	MMK
scale	1"=50'
revision	

date	JULY 2014
description	REV. TITLE, REV. OPEN SPACE LOT 16, GREAT NON-BUILDABLE BULK PARCEL A, REV. FOREST CONSERVATION EASEMENT, REV. FOREST CONSERVATION EASEMENT.
no.	

GUILFORD OVERLOOK
 LOTS 1-15 AND OPEN SPACE LOTS 16-19 AND NON-BUILDABLE BULK PARCEL A
 REVISED ROAD CONSTRUCTION PLAN
 SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND, TAX MAP 47, BLOCK 6, PARCEL 499
 LANDSCAPE AND FOREST CONSERVATION PLAN

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 7350-B Grace Drive, Columbia, Maryland, 21044
 (410) 997-0298 Fax

PLANTING SPECIFICATIONS AND NOTES

- PROTECTION FENCING IS TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
- DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
- SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTED SLOUGH. SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME PEAT MOSS.
- ALL MIXING IN 3 AND 4 SHALL BE LIMITED TO CONTAINER GROWN OR BALL AND BURLAP STOCK ONLY AND CONFINED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

PLANT STORAGE AND INSPECTION

- FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
- FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
- PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.
- UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL, AND MOISTENED ENVIRONMENT.

PLANT INSTALLATION

- THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD. AFTER PLANT INSTALLATION, RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER, GENEROUSLY, TO SETTLE SOIL BACKFILLED AROUND TREES.
- PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATION NEAR EXISTING FOREST.

- CARE SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THROUGH LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. F ROOTS GREATER THAN 1/2 INCH ARE ENCOUNTERED PLEASE TRY TO DIG AROUND THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES. THEY WERE HERE FIRST.
- CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND THE ROOT BALL SUBSTITUTION IS STRONGLY RECOMMENDED. J-SHAPED OR KINNED ROOT SYSTEMS SHOULD ALSO BE NOTED. ROOTS MAY NOT BE TRIMMED ON SITE, DUE TO THE INCREASED CHANCES OF SOIL BORNE DISEASES.
- FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL. THEN PEEL BACK BURLAP TO BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL. MATURE ROOTS AND WATER GENEROUSLY.
- FOR TREES PLANTED IN THE AFFORESTATION AREA, CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FIVE (5), PER SPECIES, OVER THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE RANDOM SPACING OF INDIVIDUAL TREES AT PROPER SPACING INDICATED ON PLANT LIST.
- AVOID PLANTING IN A STRAIGHT GRID PATTERN. TREES SHALL BE PLANTED ON AN AVERAGE SPACING AS INDICATED ON PLANT LISTS TO OBTAIN A MORE NATURAL APPEARANCE.
- NEWLY PLANTED TREES MAY NEED WATERING AS MUCH AS ONCE A WEEK FOR THE ENTIRE GROWING SEASON, DUE TO THE VERY DEEP, WELL DRAINED NATURE OF THE NATIVE SOILS FOUND ON THIS SITE COMBINED WITH THE LOOSENESS OF THE BACKFILLED AREA WITHIN THE PLANTING FIELD. THE NEXT TWO YEARS MAY REQUIRE WATERING ONLY A FEW TIMES A YEAR DURING SUMMER AND DRY MONTHS. AFTER THAT PERIOD, TREES SHOULD ONLY NEED WATER IN SEVERE DROUGHTS. ANY WATERING PLAN SHOULD COMPENSATE FOR RECENT RAINFALL PATTERNS.

FERTILIZING

- DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
- NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE ITS NEEDS.
- IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. BONE MEAL OR SEAWEED BASED PRODUCTS ARE AVAILABLE COMMERCIALY AND ARE RECOMMENDED. THEY HAVE THE ABILITY TO SUPPLY NUTRIENTS TO THE PLANT AS NEEDED WHILE MINIMIZING THE RISK OF EXCESS NUTRIENTS ENTERING THE FOREST SYSTEM AND WATER SUPPLY.

MAINTENANCE SCHEDULE

- ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
- ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.
- VOLUNTEER SEEDING OF NATIVE, LOCAL AND ENDEMIC VEGETATION IS TO BE EXPECTED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEGATIVELY EFFECTING THE PLANTED STOCK.
- REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE, NOXIOUS, INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED WOODY NURSERY STOCK.
- REMOVE AND DISPOSE OF MAN-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL NATURALLY OCCURRING OR ACCUMULATING, UNLESS IT IS SMOTHERING PLANTING STOCK.
- A 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MANAGEMENT PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.

SUPERVISION

- ALL FOREST CONSERVATION ACTIVITIES SHALL BE DONE UNDER THE DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER QUALIFIED PROFESSIONAL, AS DETERMINED BY THE REQUIREMENTS OF COMAR 08.19.06.01 AND THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.

NOTE :

THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENTS EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

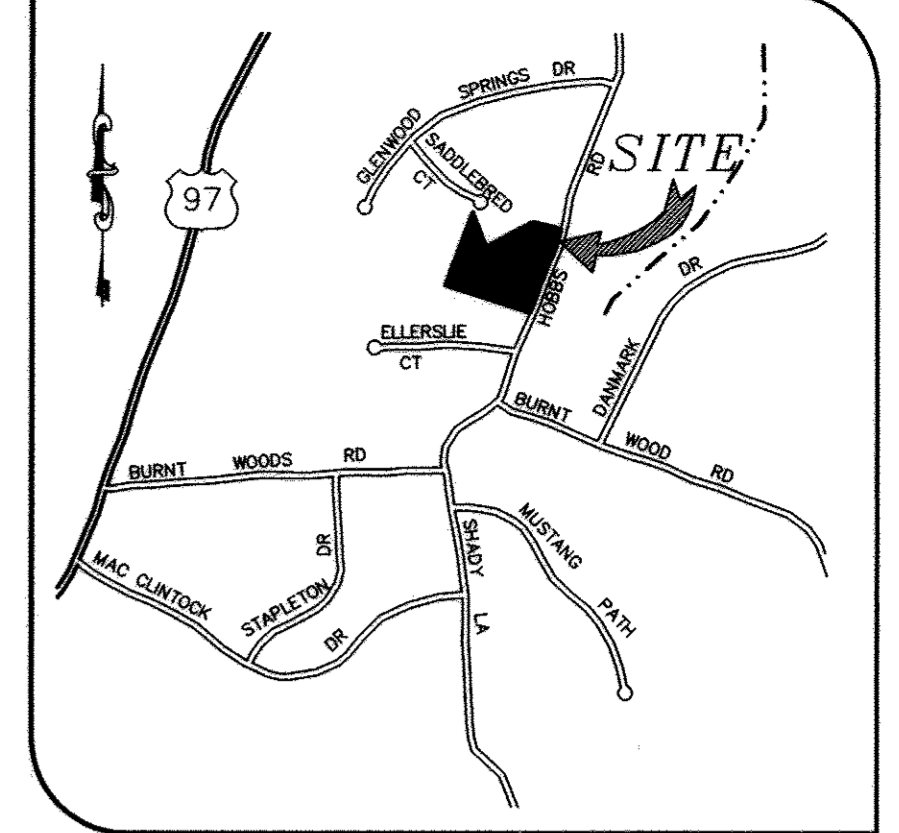
THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, SOIL COMPACTION, OR EXCAVATION, INTRODUCTION OF TOXIC CHEMICALS OR OTHER DISTURBANCES DETRIMENTAL TO THE LIVE SPECIMEN TREES OR CRITICAL ROOT ZONES FOR THESE TREES EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

SOILS CLASSIFICATION

SYMBOL	DESCRIPTION
BoA	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES (D)
ChB	CHILLUM-RUSSETT LOAMS, 2 TO 5 PERCENT SLOPES (B)
GaA	GLENELG LOAM, 0 TO 3 PERCENT SLOPES (B)
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES (B)

OFF-SITE FOREST CONSERVATION EASEMENT AREAS

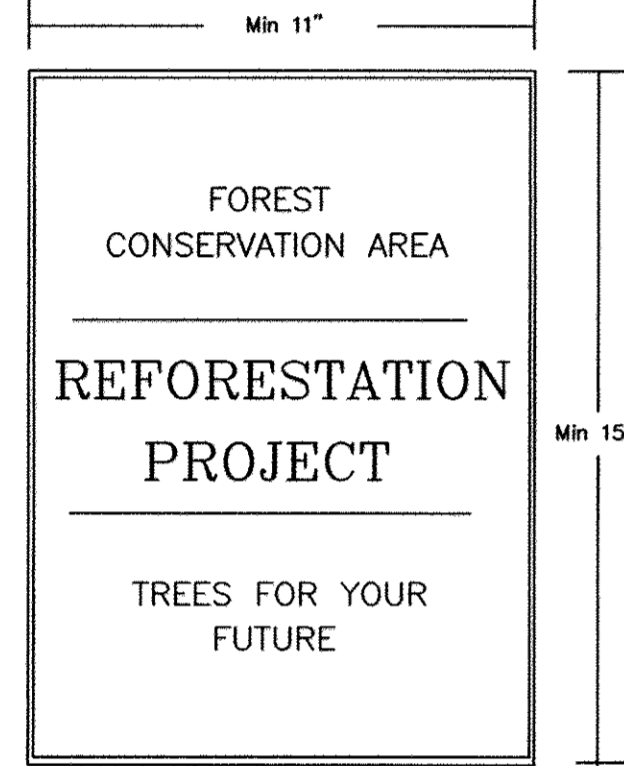
PROJECT	EASEMENT AREA PROVIDED	REMAINING EASEMENT AREA	FINAL PLAN #
NORDAU PROPERTY	0.77 ACRES±	8.10 ACRES±	F-12-047
TURLEY'S MEADOW	1.36 ACRES±	6.74 ACRES±	F-13-084
MONTGOMERY CROSSING PHASE 2	1.08 ACRES±	5.66 ACRES±	F-14-029
TURLEY'S OVERLOOK	0.52 ACRES±	5.14 ACRES±	F-14-079
BETHEL MINISTRIES, INC.	0.81 ACRES±	4.33 ACRES±	SDP-14-042
GUILFORD OVERLOOK	0.47 ACRES±	3.86 ACRES±	F-11-059



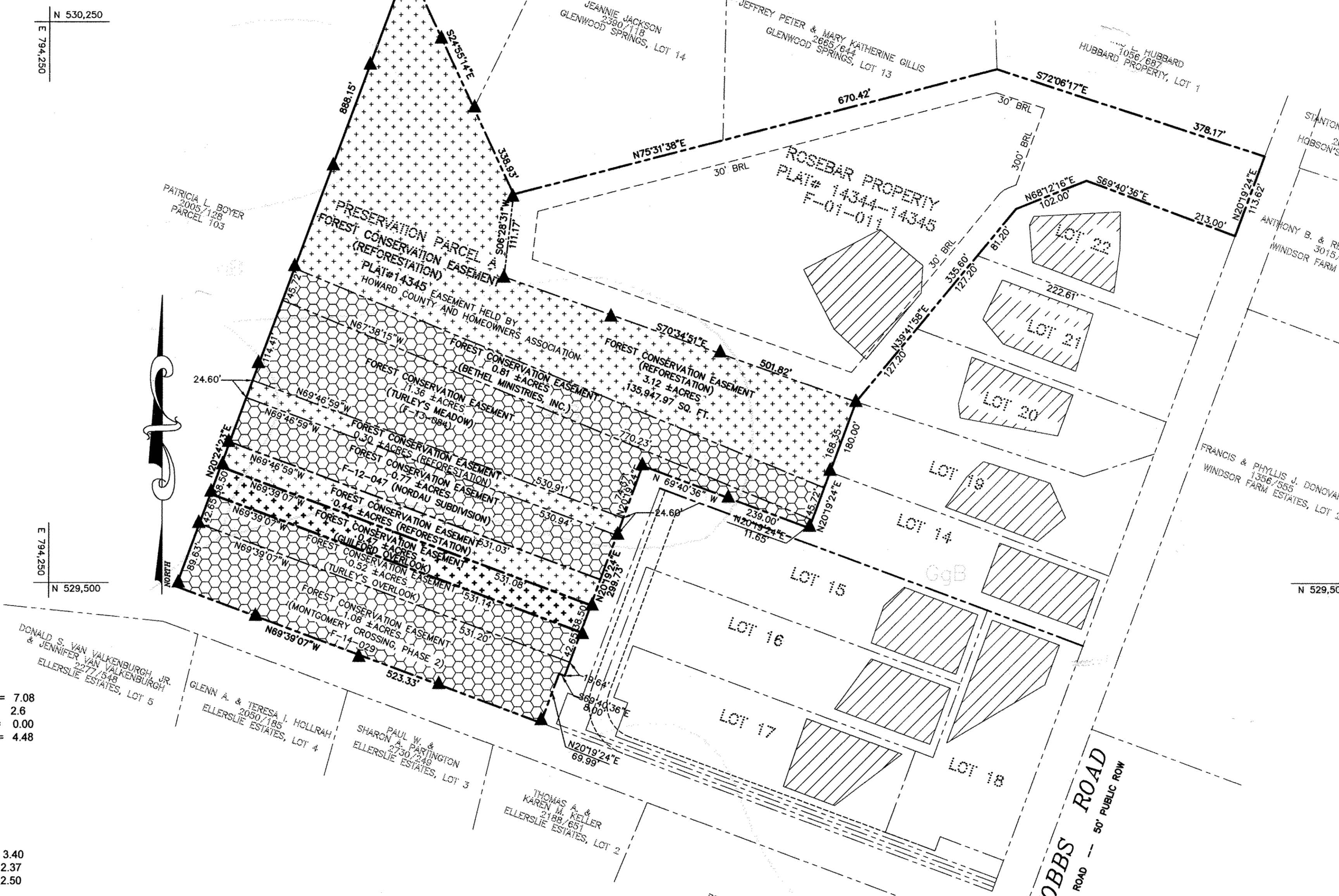
VICINITY MAP
SCALE = 1" = 2000'
ADC MAP 17 B-4

PROJECT BACKGROUND:

TAX MAP : 47, PARCEL : 499, GRID: 6.
ELECTION DISTRICT : SIXTH
ZONING: R-12
DEED REFERENCE : 1147/407
ADDRESS: 8692 PINE TREE RD, JESSUP, MD 20794
DPZ FILE REFERENCE: SP-10-002, WP-10-105



SIGNAGE DETAILS
NOT TO SCALE



REFORESTATION PLANT LIST

ALTERNATIVE 1	QTY. SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN.O.C.	SIZE & SPACING	REMARKS
24	Acer rubrum	VT	D-W	FAC	15'	CONT/B & B	1" CALIPER
10	Lindera benzoin	T	M	FAC-W	15'	CONT/B & B	3'-5' HEIGHT
20	Quercus Rubra	I	M-W	FAC	15'	CONT/B & B	1" CALIPER
10	Liriodendron tulipifera	MT	D-M	FAC	15'	CONT/B & B	1" CALIPER
20	Nyssa sylvatica	T	M-W	FAC	15'	CONT/B & B	1" CALIPER
20	Prunus sargentii	I	M	FACU	15'	CONT/B & B	1" CALIPER
TOTAL 94 TREES, 10 BUSHES							
ALTERNATIVE 2	QTY. SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN.O.C.	SIZE & SPACING	REMARKS
50	Acer rubrum	VT	D-W	FAC	11'	SEEDLING/WHIP	WITH TREE SHELTER
10	Lindera benzoin	T	M	FAC-W	11'	SEEDLING/WHIP	WITH TREE SHELTER
50	Quercus Rubra	I	M-W	FAC	11'	SEEDLING/WHIP	WITH TREE SHELTER
20	Liriodendron tulipifera	MT	D-M	FAC	11'	SEEDLING/WHIP	WITH TREE SHELTER
25	Nyssa sylvatica	T	M-W	FAC	11'	SEEDLING/WHIP	WITH TREE SHELTER
20	Prunus sargentii	I	M	FACU	11'	SEEDLING/WHIP	WITH TREE SHELTER
TOTAL 165 WHIPS WITH TREE SHELTERS, 20 BUSHES							

FOREST CONSERVATION WORKSHEET

NET TRACT AREA:

A. Total tract area..... = 7.08

B. Area within 100 year floodplain & overhead transmission line = 2.6

C. Area to remain in agricultural production..... = 0.00

D. Net tract area..... = 4.48

LAND USE CATEGORY:

Input the number "1" under the appropriate land use zoning, and limit to only one entry.

ARA MDR IDA HDR MPD CIA
0 0 0 1 0 0

E. Afforestation Threshold..... 15% x D = 0.67

F. Conservation Threshold..... 20% x D = 0.90

EXISTING FOREST COVER:

G. Existing forest cover (excluding floodplain)..... = 3.40

H. Area of forest above afforestation threshold..... = 2.37

I. Area of forest above conservation threshold..... = 2.50

BREAK EVEN POINT:

J. Forest retention above threshold with no mitigation..... = 1.40

K. Clearing permitted without mitigation..... = 2.00

PROPOSED FOREST CLEARING:

L. Total area of forest to be cleared..... = 2.38

M. Total area of forest to be retained..... = 1.02

PLANTING REQUIREMENTS:

N. Reforestation for clearing above conservation threshold..... = 0.60

P. Reforestation for clearing below conservation threshold..... = 0.00

Q. Credit for retention above conservation threshold..... = 0.12

R. Total reforestation required..... = 0.47

S. Total afforestation required..... = 0.00

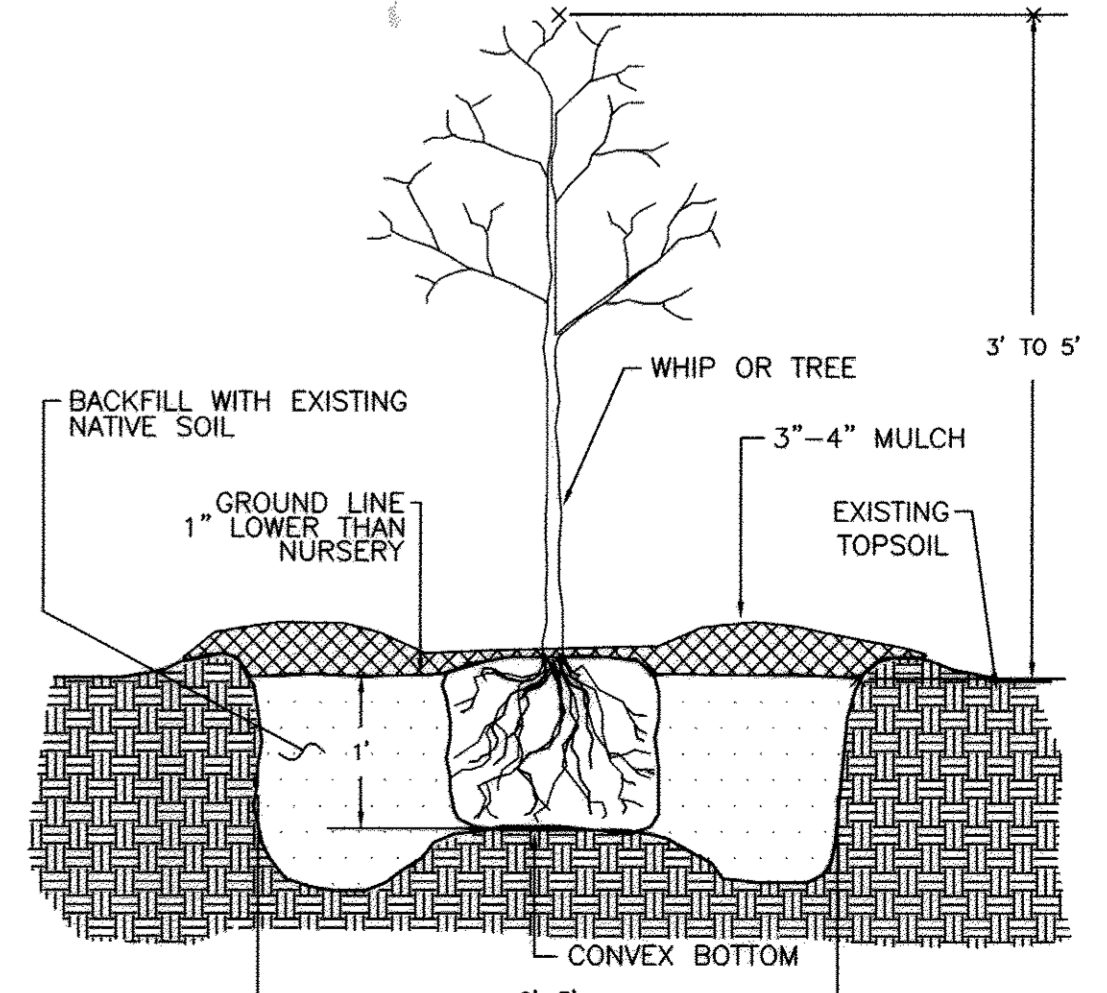
T. Total reforestation and afforestation required..... = 0.47

LEGEND

- EXISTING SEPTIC EASEMENT
- FOREST CONSERVATION EASEMENT (REFORESTATION) THAT SATISFY OTHER SUBDIVISION FOREST CONSERVATION OBLIGATION.
- EXISTING FOREST CONSERVATION EASEMENT (REFORESTATION) F-01-11 AVAILABLE.
- PROPOSED FOREST CONSERVATION EASEMENT FOR GUILFORD OVERLOOK
- DENOTES FOREST CONSERVATION SIGNAGE

FOREST CONSERVATION IN ACCORDANCE WITH SECTION 16.1202 OF THE FOREST CONSERVATION MANUAL SHALL BE PROVIDED BY PLACEMENT OF 0.47 ACRES OF REQUIRED REFORESTATION FOR THE GUILFORD OVERLOOK PROPERTY INTO AN OFF-SITE EASEMENT ON PROPERTY IDENTIFIED AS THE ROSEBAR PROPERTY, PRESERVATION PARCEL A, LOCATED ON TAX MAP NO. 14 AND IDENTIFIED AS PARCEL 221, SITUATED ON THE WEST SIDE OF HOBBES ROAD. THE ROSEBAR FOREST CONSERVATION EASEMENT HAS BEEN SHOWN ON SHEET 18 OF SDP-97-115, NEW COLONY VILLAGE. DPZ HAS DETERMINED THAT A RED-LINE REVISION SHALL BE MADE TO SDP-97-115 TO SHOW 0.47 ACRES OF REFORESTATION DEDUCTED FROM THE TOTAL FC EASEMENT LOCATED ON ROSEBAR, SURETY FOR THE OFF-SITE FOREST CONSERVATION EASEMENT ON THE ROSEBAR PROPERTY HAS BEEN PREVIOUSLY POSTED BY THE OWNER OF THE EASEMENT HOLDER.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21043 Expiration Date: 12-21-18



TREE PLANTING DETAIL
CONTAINER GROWN

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 9-9-14 DATE
 [Signature] 9-17-14 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17842, EXP DATE 09/03/16
 [Signature] 8/18/19 DATE
 R. JACOB HIKMAT P.E.

MD, DNR QUALIFIED PROFESSIONAL
 [Signature] MASHID TRINGA

NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET

AS-BUILT

PROJECT	DATE	BY	APPROVAL
08-002	JUL 2014	MMK	RJH
ILLUSTRATION	DATE	BY	APPROVAL
MMK	MMK	MMK	RJH
SCALE	1" = 100'		

DESCRIPTION	DATE	REVISIONS

GUILFORD OVERLOOK
 FOREST CONSERVATION EASEMENT GRANTED FROM ROSEBAR PROPERTY, PRESERVATION PARCEL "A"
 TAX MAP 14, PARCEL 221, BLOCK 23
 SIXTH ELECTION DISTRICT
 OFFSITE FOREST CONSERVATION PLAN
 HOWARD COUNTY, MARYLAND

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 7850-B Grace Drive, Columbia, Maryland 21044
 (410) 997-0296 Batt. (410) 997-0298 Fax.