

GENERAL NOTES

- 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 START OF WORK.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE SUBJECT PROPERTY IS ZONED "R-ED" IN ACCORDANCE WITH THE COMPREHENSIVE ZONING PLAN, EFFECTIVE OCTOBER 6, 2013. PROPERTY OUTLINE SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED APRIL 2004.
- THE TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL TOPOGRAPHIC SURVEY PREPARED BY POTOMAC AERIAL SURVEYS, DATED JANUARY 2004.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 38AA AND 38BA WERE USED FOR THIS PROJECT.
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION, OR BUILDING AND GRADING PERMITS.
- PREVIOUS STORMWATER MANAGEMENT FOR CYPRESS SPRINGS IS PROVIDED UNDER F-10-028, A MICROPOOL POND (P-1) (SWM POND 1) AND A POCKET POND (P-5) (SWM POND 2) TO PROVIDE THE REQUIRED SWM AND CPM, AND A BIORETENTION FACILITY (F-8) TO PROVIDE WQV AND REV. SWM# 1 AND 2 ARE TO BE PRIVATELY OWNED BY THE H.O.A. AND JOINTLY MAINTAINED BY THE H.O.A AND HOWARD COUNTY. BIO-RETENTION FACILITY 3 IS TO BE PRIVATELY OWNED AND MAINTAINED BY THE H.O.A.
- THIS RESUBMISSION SHALL UTILIZE ENVIRONMENTAL SITE DESIGN IN ACCORDANCE WITH THE APPROVED SIMPLIFIED ENVIRONMENTAL CONCEPT PLAN SUBMISSION.
- THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS AND AVAILABLE RECORD DRAWINGS, APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.
- ANY DAMAGE TO THE COUNTY'S RIGHTS-OF-WAY, PAVING, OR EXISTING UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- SHC ELEVATIONS ARE LOCATED AT THE PROPERTY LINE/EDGE OF EASEMENT.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING:
 - AT&T 1-800-252-1133
 - BOE (CONSTRUCTION SERVICES) 410-657-8713
 - BOE (EMERGENCY) 410-685-0123
 - BUREAU OF UTILITIES 410-313-4900
 - COLONIAL PIPELINE CO 410-795-1300
 - MISS UTILITY 1-800-257-7777
 - STATE HIGHWAY ADMINISTRATION 410-531-5533
 - VERIZON 1-800-743-0033
- THERE ARE NO EXISTING DWELLING/STRUCTURES LOCATED ON THIS SITE.
 - IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS, OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT FRONT OR REAR YARD SETBACK.
 - SECTION 128A.1.J OF THE ZONING REGULATIONS (CB-2-2012) WHICH ALLOWS SUNROOMS AND ROOM EXTENSIONS TO EXTEND NOT MORE THAN 10 FEET INTO THE REAR SETBACK ALONG NOT MORE THAN 50% OF THE REAR FACE OF A DWELLING ON A LOT WHICH ADJOINS OPEN SPACE ALONG A MAJORITY OF THE REAR LOT LINE FOR R-ED LOTS RECORDED AFTER THE EFFECTIVE DATE OF CB-2-2012 (MAY 13, 2012).
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - A) WIDTH - 12 FEET (16 FEET IF SERVING MORE THAN ONE RESIDENCE)
 - B) SURFACE - 6" OF COMPACTED CRUSHER RUN BASE WITH/AR AND CHIP COATING (1-1/2" MIN.)
 - C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE, AND MINIMUM 45 FOOT TURNING RADIUS
 - D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H2S LOADING)
 - E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD EVENTS WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 - F) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
- A USE-IN-COMMON MAINTENANCE AGREEMENT FOR LOT 48 AND OPEN SPACE LOTS 17 AND 50 WAS PREVIOUSLY RECORDED AS 15-916 F 249. IN THE LAND RECORDS OF HOWARD COUNTY, MD. HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS SHALL NOT BE RESPONSIBLE FOR MAINTENANCE OF THE UIC ACCESS EASEMENT OR SHARED DRIVEWAY.
 - ROAD FRONTAGE TO OPEN SPACE LOTS 17 AND 50 ADJOINS OPEN SPACE LOTS OWNED BY HOWARD COUNTY, MD.
 - NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.
 - FLAG OR PIPESTEM ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE FLAG OR PIPE STEM DRIVEWAY.
 - TRASH & RECYCLING COLLECTION WILL BE AT THE COUNTY ROADWAYS WITHIN FIVE FEET (5') OF THE COUNTY ROADWAY.
 - THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
 - WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE.
 - WATER AND SEWER FOR THIS PROJECT WILL BE PUBLIC.
 - EXISTING SERVICE CONNECTIONS TO LOT 33 (47) SHALL BE UTILIZED IN ADDITION TO NEW CONNECTIONS.
 - WATER SERVICE CONNECTION FOR LOTS 48 & 49 SHALL BE PRIVATE CONNECTION FROM CONTRACT 14-4648-D.
 - SEWER SERVICE CONNECTION FOR LOTS 48 & 49 SHALL BE PRIVATE CONNECTION FROM CONTRACT 14-4648-D.
 - PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
 - ALL WATER SERVICE CONNECTIONS SHALL BE OUTSIDE METER SETTING UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS.
 - THIS PROPERTY IS LOCATED WITHIN THE LAWYERS HILL NATIONAL HISTORIC DISTRICT.
 - THE EXISTING STRUCTURE LOCATED ON LOT 47 WAS LISTED ON THE HISTORIC SITES INVENTORY AS HO-449, THE OLD GRACE CHURCH RECTORY WHICH WAS TO REMAIN ON THE PROPERTY AND TO BE LOCATED ON LOT 47 WAS DESTROYED BY FIRE.
 - TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO CEMETERY OR BURIAL SITES LOCATED ON SUBJECT PROPERTY.
 - LAWYERS HILL ROAD IS A SCENIC ROAD, AREAS ADJACENT TO AND PARALLEL TO LAWYERS HILL ROAD WILL REMAIN UNDEVELOPED AND MOSTLY WOODED, THUS MAINTAINING THE EXISTING CHARACTERISTICS OF THE SCENIC ROAD.
 - CYPRESS SPRINGS ROAD IS CLASSIFIED AS A PUBLIC ACCESS STREET.
 - INGRESS AND EGRESS IS RESTRICTED ALONG WASHINGTON BOULEVARD (U.S. ROUTE 1).
 - A FOREST STAND DELINEATION PLAN WAS PREPARED BY JOHN CANOLES, ECO-SCIENCE PROFESSIONALS, DATED SEPTEMBER 2004.
 - THE FOREST CONSERVATION REQUIREMENTS, PER SECTION 16.102 OF THE HOWARD COUNTY CODE, THE FOREST CONSERVATION MANUAL AND FOREST CONSERVATION ACT, FOR THE ENTIRE SUBDIVISION (SP-05-06, F-10-028 AND SDP-09-061) HAVE BEEN FULFILLED THROUGHOUT THE RETENTION OF 10.88 ACRES LOCATED OPEN SPACE LOTS 16 AND 17 WHICH IS SUFFICIENT TO MEET THE REQUIRED BREAKDOWN POINT OF 9 ACRES OF RETENTION REQUIRED UNDER F-10-028.
 - FOREST CONSERVATION EASEMENT NUMBERS 2-A AND 4-A CONSISTING OF 0.29 ACRES OF PLANTINGS ON OPEN SPACE LOT 50 OF BREAKDOWN POINT OF 9 ACRES OF RETENTION REQUIRED UNDER F-10-028.
 - FINANCE SURETY FOR THE REFORESTATION EASEMENT AREAS 2-A AND 4-A CONSISTING OF 0.25 ACRES OF PLANTINGS ON OPEN SPACE LOT 50 = \$ 5,420 (0.25 AC @ \$0.50/SF) SHALL BE POSTED WITH AN AMENDED DEVELOPERS AGREEMENT FOR SDP-09-061FC.
 - FOREST CONSERVATION EASEMENT AREAS 2-A AND 4-A LOCATED ON OPEN SPACE LOT 50 PROVIDES EXCESS FOREST CONSERVATION EASEMENT TO BE UTILIZED FOR FUTURE DEVELOPMENT. REFER TO SDP-09-061FC.
 - A TRAFFIC STUDY IS NOT REQUIRED FOR THIS SITE.
 - A NOISE STUDY HAS BEEN PREPARED BY ROBERT H. VOGEL, DATED SEPTEMBER 2004, THE NOISE CONTOUR IS BASED ON THE PROJECTED 2020 TRAFFIC STUDY. THE 65dBA NOISE CONTOUR LINE SHOWN HEREON IS AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992. NOISE STUDY REPORT FOR RELOCATION OF LOT 47, APRIL 2014, THE 65 dBA NOISE CONTOUR LINE DRAWN ON THIS SUBDIVISION PLAN IS AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992 AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65 dBA NOISE EXPOSURE. THE 65 dBA NOISE LINE WILL BE ADJUSTED BY ALIQUOT DISTANCE TO BUILDINGS AND RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
 - IN ACCORDANCE WITH SECTION 16.8A.9.a.3.c OF THE ZONING REGULATIONS, NOISE WALLS ARE EXEMPT FROM SETBACK REQUIREMENTS. THE NOISE WALL LOCATED ON LOT 49 SHALL BE CONSTRUCTED UNDER THIS SITE DEVELOPMENT PLAN.
 - MAINTENANCE AND UPKEEP OF THE NOISE WALL/FENCE LOCATED ON LOT 49 SHALL BE THE RESPONSIBILITY OF THE LOT OWNER.
 - A GEOTECHNICAL REPORT IS NOT REQUIRED FOR THIS PROJECT.
 - THE OFFICIAL PRE-SUBMISSION MEETING WAS HELD FOR THIS PROJECT ON SEPTEMBER 19, 2013 AT ELKRODGE BRANCH LIBRARY.
 - A SIMPLIFIED ENVIRONMENTAL CONCEPT PLAN WAS APPROVED ON FEBRUARY 4, 2014.
 - SP 05-006 WAS APPROVED BY THE PLANNING BOARD UNDER CASE PB 274 ON MAY 11, 2006. THIS FINAL PLAN F 14-127 WAS APPROVED BY THE PLANNING BOARD UNDER CASE 405 ON JUNE 4, 2015.
 - PERIMETER, SWM LANSCAPE AND STREET TREES IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL SHALL BE INSTALLED IN ACCORDANCE WITH THE ROAD CONSTRUCTION DRAWINGS FOR F-10-028.
 - SURETY IN THE AMOUNT OF \$150,000 WAS PREVIOUSLY POSTED FOR THE 5 SHURDS USED TO SCREEN THE CONCRETE TRASH PAD AT THE INTERSECTION OF CYPRESS SPRINGS ROAD AND USE-IN-COMMON DRIVEWAY FOR LOTS 44-49 UNDER SDP-13-042.
 - THE PROPOSED SUBDIVISION AND RELATED CONSTRUCTION WILL NOT IMPACT ENVIRONMENTAL FEATURES OR BUFFERS.
 - SOIL TYPES SHOWN IN ACCORDANCE WITH THE WEB SOIL SURVEY - HOWARD COUNTY, MARYLAND.
 - AN "OBVIOUSLY NOT CRITICAL" FLOODPLAIN STUDY WAS PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC. DATED JANUARY 2005.
 - NO STEEP SLOPES EXIST ON LOTS 48 AND 49.
 - STREAMS AND WETLANDS SHOWN HEREON WERE DELINEATED BY JOHN CANOLES, ECO-SCIENCE PROFESSIONALS, INC., DATED SEPTEMBER 2004. A 25' WETLAND BUFFER HAS BEEN ESTABLISHED, PER SECTION 16.116(a)(1) OF THE SUBDIVISION REGULATIONS. REFER TO F-10-028 AND SDP-09-061. NO STREAMS AND/OR WETLANDS EXIST ON LOTS 48-50.
 - IN ACCORDANCE WITH SECTION 13.3.2.b OF THE ZONING REGULATIONS 2.5 PARKING SPACES PER RESIDENCE IS REQUIRED.
 - TWO SPACES ARE PROVIDED IN EACH GARAGE AND 2 SPACES PER DRIVEWAY.
 - REFERENCE: DESIGN MANUAL WAGER TO VOLUME IV, DETAIL R-1.02, TO ALLOW A 40' RIGHT-OF-WAY INSTEAD OF THE REQUIRED 50' RIGHT-OF-WAY WAS APPROVED BY DEVELOPMENT ENGINEERING DIVISION ON JANUARY 4, 2010.
 - THIS PROJECT IS SUBJECT TO WP-13-167, ON MAY 28, 2013. THE PLANNING DIRECTOR APPROVED THE REQUEST, TO WAIVE:
 - A) FROM SECTION 16.120(b)(5)(i) TO ALLOW THE 65 dBA NOISE LINE TO BE LOCATED ALONG THE SOUTHWESTERN PORTION OF LOT 47 WITHOUT NOISE MITIGATION, SUBJECT TO THE FOLLOWING CONDITIONS:
 - LOT 47 SHALL NOT BE FURTHER SUBDIVIDED AT ANY TIME IN THE FUTURE WITHOUT MEETING REQUIRED NOISE MITIGATION AS APPLICABLE.
 - THE PROPOSED HOUSE LOCATED ON LOT 47 SHALL BE CONSTRUCTED AS SHOWN ON SDP-13-042 AND CANNOT BE RELOCATED WITHIN THE 65 dBA UNMITIGATED NOISE LINE.
 - FROM SECTION 16.120(b)(5)(ii) TO ALLOW THE PLACEMENT OF A NOISE WALL/FENCE ALONG THE EASTERN SIDE AND SOUTHERN REAR PROPERTY LINES OF LOT 46 AS SHOWN ON SDP-13-042 RATHER THAN ON AN OPEN SPACE LOT AND TO ALLOW THE RECORDED OF F-13-037 WITHOUT THE SHOWING OF A NOISE WALL/FENCE MAINTENANCE EASEMENT ON LOT 46, SUBJECT TO THE FOLLOWING CONDITIONS:
 - THE NOISE WALL ON LOT 46 SHALL BE CONSTRUCTED TO ACCEPTABLE DED DESIGN MANUAL STANDARDS AND A RED-LINE REVISION TO THE APPROVED ROAD CONSTRUCTION DRAWINGS FOR F-10-028/CYPRESS SPRINGS SHALL BE REQUIRED PRIOR TO RECORDED.
 - FROM SECTION 16.144(c) TO ALLOW A 180 DAY EXTENSION OF TIME FROM JUNE 2, 2013 BY WHICH TO SUBMIT THE FINAL PLAN ORIGINALS FOR SIGNATURE PROCESSING AND RECORDED. NEW DEADLINE NOVEMBER 29, 2013.
 - THIS PROJECT IS SUBJECT TO WP-14-055. ON DECEMBER 17, 2013, THE PLANNING DIRECTOR APPROVED THE REQUEST, TO WAIVE: SECTION 16.144(d) THAT REQUIRES THE SUBMISSION OF A PRELIMINARY EQUIVALENT SKETCH PLAN TO ADD ONE ADDITIONAL LOT BEYOND THE INITIAL 43 SINGLE FAMILY LOTS APPROVED BY THE PLANNING BOARD ON 5-11-2006 (PB CASE 374) APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
 - 1. THE DEVELOPER SHALL SUBMIT A PLANNING BOARD APPLICATION FOR PLANNING BOARD APPROVAL TO RESUBDIVIDE LOT 47 INTO TWO LOTS (LOTS 48 AND 49) AS SHOWN ON A FINAL PLAN.
 - 2. IN ACCORDANCE WITH CONDITIONS OF WP13-167, LOT 47 SHALL NOT BE SUBDIVIDED WITHOUT MEETING REQUIRED NOISE MITIGATION.
 - 3. COMMENTS FROM THE DEVELOPMENT ENGINEERING DIVISION REGARDING THE CONSTRUCTION OF A 16' WIDE USE-IN-COMMON DRIVEWAY AND PROVIDING A TURN ARROUND AREA AT THE END OF THE USE-IN-COMMON DRIVEWAY FOR LOTS 44-49.
 - LOTS IN THIS SUBDIVISION ARE SUBJECT TO THE MINIMUM FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY THE PERMIT APPLICANT.

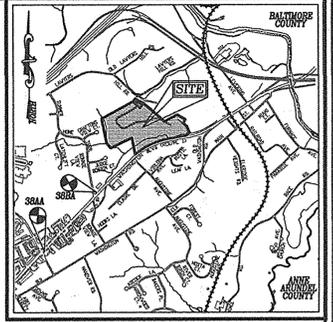
SITE DEVELOPMENT PLAN

CYPRESS SPRINGS - PHASE 3

LOTS 48 AND 49

BENCHMARKS			
NO.	NORTHING	EASTING	ELEVATION
38AA	561,158.819	1,389,726.332	220.05'
38BA	562,553.315	1,390,967.862	166.18'

- 38AA - CONCRETE MONUMENT LOCATED NORTH OF THE INTERSECTION OF MONTGOMERY RD. AND U.S. ROUTE 1, 3.2' FROM THE NORTH BOUND LINE OF U.S. ROUTE 1.
- 38BA - CONCRETE MONUMENT LOCATED 0.3 MILES NORTH OF THE INTERSECTION OF MONTGOMERY RD. AND U.S. ROUTE 1, 9.5' FROM THE SOUTH BOUND LINE OF U.S. ROUTE 1.

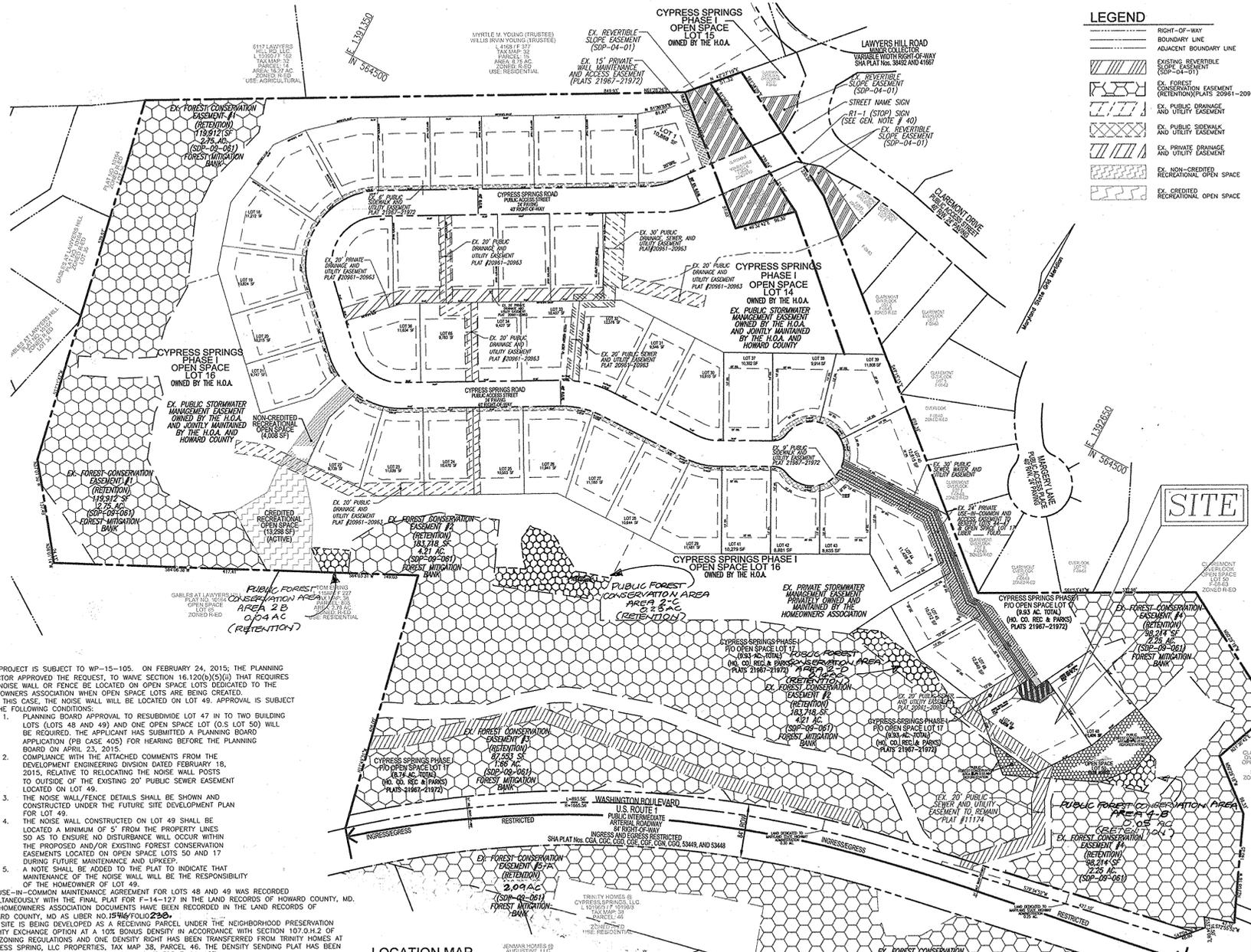


LEGEND

- RIGHT-OF-WAY
- BOUNDARY LINE
- ADJACENT BOUNDARY LINE
- EXISTING REVERSIBLE SLOPE EASEMENT
- EX. FOREST CONSERVATION EASEMENT (RETENTION) (PLATS 20961-20963)
- EX. PUBLIC BRIDGE AND UTILITY EASEMENT
- EX. PUBLIC SIDEWALK AND UTILITY EASEMENT
- EX. PRIVATE BRIDGE AND UTILITY EASEMENT
- EX. NON-CREATED RECREATIONAL OPEN SPACE
- EX. CREATED RECREATIONAL OPEN SPACE

SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET	1
LAYOUT AND FOREST CONSERVATION PLAN	2
SOILS MAP, GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN	3
GRADING AND SOIL EROSION & SEDIMENT CONTROL - NOTES & DETAILS	4
STORMWATER MANAGEMENT - NOTES & DETAILS	5
STORMWATER MANAGEMENT DRAINAGE AREA MAP AND AASCD/MMA NOTES & DETAILS	6



LOCATION MAP
SCALE: 1"=100'

SITE ANALYSIS DATA

A. TOTAL PROJECT AREA:	38,685 S.F. OR 0.89 AC.
B. AREA OF PLAN SUBMISSION:	38,685 S.F. OR 0.89 AC.
C. LIMIT OF DISTURBANCE:	22,506 S.F. OR 0.52 AC.
D. PRESENT ZONING DESIGNATION:	R-ED
E. PROPOSED USES FOR SITE AND STRUCTURES:	SINGLE FAMILY DETACHED
F. FLOOR SPACE ON EACH LEVEL:	N/A
G. BUILDING PER USE:	N/A
H. TOTAL NUMBER OF UNITS ALLOWED FOR PROJECT AS SHOWN ON FINAL PLAN:	2 BUILDABLE LOTS TOTAL
I. TOTAL NUMBER OF UNITS PROPOSED ON SUBMISSION:	2
J. MAXIMUM NUMBER OF EMPLOYEES:	N/A
K. TENANTS ON SITE PER USE:	N/A
L. NUMBER OF PARKING SPACES REQUIRED BY H.O.C.O. ZONING REGULATIONS:	2.5 PER SFD HOUSE
M. NUMBER OF PARKING SPACES PROVIDED ON SITE:	4 PER SFD HOUSE (2 GARAGE, 2 DRIVEWAY)
N. OPEN SPACE ON SITE:	0.26 AC.
O. AREA OF RECREATION OPEN SPACE REQUIRED BY SUBDIVISION & LAND DEVELOPMENT REGULATIONS:	N/A
P. BUILDING COVERAGE OF SITE:	N/A
Q. APPLICABLE DTZ FILE REFERENCES:	SEE TITLEBLOCK
R. FLOOR AREA RATIO:	N/A

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/ AREA	LOTS
CYPRESS SPRINGS	3	48 & 49
PHASE 3 - F-14-127		
PLAT REF. BLOCK NO	ZONE	TAX MAP
28748	3	38
28749		
	ELECT. DIST.	CENSUS TR.
	1ST	601201

ADDRESS CHART

LOT NO.	STREET ADDRESS
48	6020 CYPRESS SPRINGS ROAD
49	6016 CYPRESS SPRINGS ROAD
50	OPEN SPACE

OWNER / DEVELOPER /
MATTHEW PFAU
3675 PARK AVENUE, SUITE 301
ELICOTT CITY, MARYLAND 21043
(410) 480-0023

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Chubb 2-24-16
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kate Schuchman 5-14-16
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William J. ... 5-19-16
DIRECTOR DATE

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
COVER SHEET
CYPRESS SPRINGS - PHASE 3
LOTS 48 AND 49

1ST ELECTION DISTRICT DPZ REFERENCES: SP-05-06, PB CASE 374, WP-05-38, SDP-09-061, F-10-028, F-12-081, F-13-037, WP-11-202, WP-10-175, WP-13-167, PB CASE 405, WP-15-105, F-14-127

TAX MAP 38 - BLOCK 3
PARCEL 42
HOWARD COUNTY, MARYLAND
ZONED: R-ED

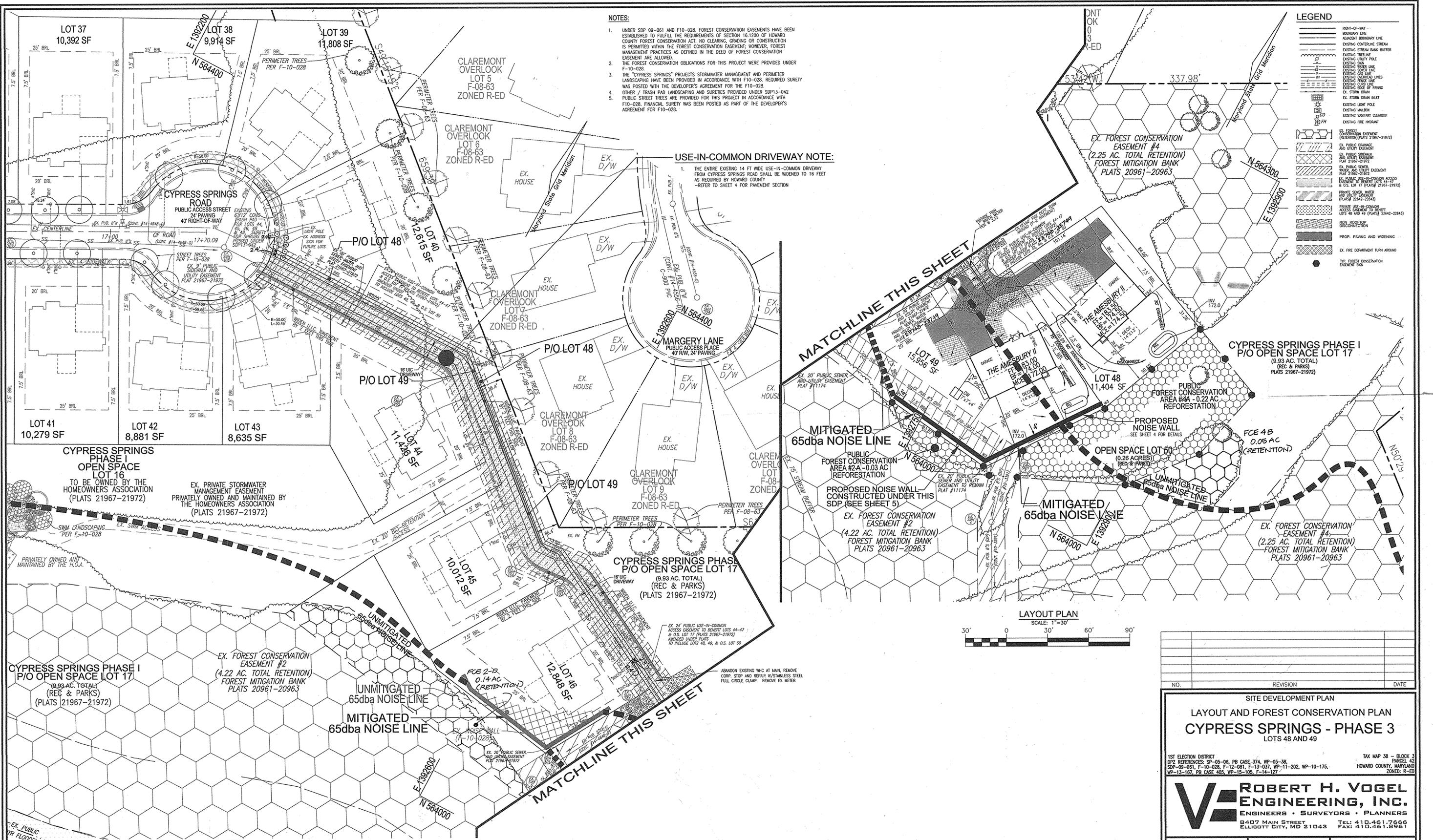
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.481.7666
FAX: 410.481.6991



PROFESSIONAL CERTIFICATE
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. 16193 EXPIRATION DATE: 09-27-2016

DESIGN BY: EDS.
DRAWN BY: RVE.
CHECKED BY: RHV.
DATE: DECEMBER, 2015.
SCALE: AS SHOWN.
W.O. NO.: 04-30

1 SHEET OF 6



NOTES:

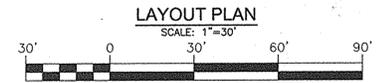
- UNDER SDP 09-061 AND F10-028, FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- THE FOREST CONSERVATION OBLIGATIONS FOR THIS PROJECT WERE PROVIDED UNDER F-10-028.
- THE "CYPRESS SPRINGS" PROJECTS STORMWATER MANAGEMENT AND PERIMETER LANDSCAPING HAVE BEEN PROVIDED IN ACCORDANCE WITH F10-028. REQUIRED SURETY WAS POSTED WITH THE DEVELOPER'S AGREEMENT FOR THE F10-028.
- OTHER / TRASH PAD LANDSCAPING AND SURETIES PROVIDED UNDER SDP13-042.
- PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH F10-028. FINANCIAL SURETY WAS POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR F10-028.

USE-IN-COMMON DRIVEWAY NOTE:

- THE ENTIRE EXISTING 14 FT WIDE USE-IN-COMMON DRIVEWAY FROM CYPRESS SPRINGS ROAD SHALL BE WIDENED TO 16 FEET AS REQUIRED BY HOWARD COUNTY - REFER TO SHEET 4 FOR PAVEMENT SECTION

LEGEND

[Symbol]	RIGHT-OF-WAY BOUNDARY LINE
[Symbol]	ADJACENT BOUNDARY LINE
[Symbol]	EXISTING CENTERLINE STREAM
[Symbol]	EXISTING STREAM BANK BUFFER
[Symbol]	EXISTING TREELINE
[Symbol]	EXISTING UTILITY PILE
[Symbol]	EXISTING SEWER LINE
[Symbol]	EXISTING GAS LINE
[Symbol]	EXISTING OVERHEAD LINES
[Symbol]	EXISTING FENCE LINE
[Symbol]	EXISTING CURB LINE
[Symbol]	EXISTING EDGE OF PAVING
[Symbol]	EX. STORM DRAIN
[Symbol]	EX. STORM DRAIN INLET
[Symbol]	EXISTING LIGHT POLE
[Symbol]	EXISTING MAILBOX
[Symbol]	EXISTING SANITARY CLEANOUT
[Symbol]	EXISTING FIRE HYDRANT
[Symbol]	EX. FOREST CONSERVATION EASEMENT (RETENTION PLATS 21967-21972)
[Symbol]	EX. PUBLIC STORMWATER AND UTILITY EASEMENT PLAT 21967-21972
[Symbol]	EX. PUBLIC STORMWATER AND UTILITY EASEMENT (PLATS 20961-20963)
[Symbol]	EX. PUBLIC USE-IN-COMMON ACCESS EASEMENT TO BENEFIT LOTS 48 AND 49 (PLATS 21967-21972)
[Symbol]	PROPOSED USE-IN-COMMON ACCESS EASEMENT TO BENEFIT LOTS 48 AND 49 (PLATS 21967-21972)
[Symbol]	PROPOSED USE-IN-COMMON ACCESS EASEMENT TO BENEFIT LOTS 48 AND 49 (PLATS 20961-20963)
[Symbol]	NON-ROOFTOP DISCONNECTION
[Symbol]	PROP. PAVING AND WIDENING
[Symbol]	EX. FIRE DEPARTMENT TURN AROUND
[Symbol]	TIP. FOREST CONSERVATION EASEMENT SIGN



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Clark
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 2-7-16

Kat Shuman
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 5-19-16

William J. ...
DIRECTOR
DATE: 5-19-16

NOTES:

- FOR THE NEW WATER CONNECTIONS TO LOTS 48 AND 49, UTILIZE A TWIN 1" STANDARD METER SETTING DETAIL PER W 3.32, WHERE SHOWN HEREON.
- FOR THE EXISTING CONNECTION TO LOT 47, REMOVE THE CORPORATION STOP AND REPAIR WITH STAINLESS STEEL FULL CIRCLE CLAMP.
- UTILIZE EXISTING SEWER HOUSE CONNECTION SHOWN FOR LOT 47 FOR LOT 48 (CONTRACT 14-4648-D) AND THE EXISTING CONNECTION FROM EXISTING MANHOLE 5 (CONTRACT 10-3991) FOR LOT 49

OWNER / DEVELOPER /
MATTHEW PFALZ
3675 PARK AVENUE, SUITE 301
ELLCOTT CITY, MARYLAND 21043
(410) 480-0023

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
LAYOUT AND FOREST CONSERVATION PLAN
CYPRESS SPRINGS - PHASE 3
LOTS 48 AND 49

1ST ELECTION DISTRICT
DPZ REFERENCES: SP-05-06, PB CASE 374, WP-05-38,
SDP-09-061, F-10-028, F-12-081, F-13-037, WP-11-202, WP-10-175,
WP-13-167, PB CASE 405, WP-15-105, F-14-127

TAX MAP 38 - BLOCK 3
PARCEL 42
HOWARD COUNTY, MARYLAND
ZONED: R-ED

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.5961

PROFESSIONAL CERTIFICATE
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. 16193
EXPIRATION DATE: 09-27-2016

DESIGN BY: EDS.
DRAWN BY: RVE.
CHECKED BY: RHV.
DATE: DECEMBER, 2015.
SCALE: AS SHOWN.
W.O. NO.: 04-30.

2 SHEET OF 6

HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

- A. SEED MIXTURES**
- GENERAL USE
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE 8.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE 8.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORLINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD GUIDE, RECOMMENDATIONS FOR SOIL RESTORATION AND PLANTING.
 - FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES AND SEEDING DATES FOR ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
 - TEMPORARY STABILIZATION SHALL BE ESTABLISHED WITHIN THE PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-3), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-5).
 - TEMPORARY STABILIZATION WITH MULCH CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROST-FREE.
 - TEMPORARY SEEDING (SEC. B-4-3) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION AND PERMANENT VEGETATION. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSON FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CD.

SITE ANALYSIS

TOTAL AREA OF SITE:	0.88 ACRES
AREA TO BE RESTORED OR PLANTED:	0.88 ACRES
AREA TO BE VEGETATED/STABILIZED:	0.72 ACRES
TOTAL CUT:	500 CU. YDS.
TOTAL FILL:	500 CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION:	**

- ESTIMATE ONLY: CONTRACTOR SHALL VERIFY QUANTITIES TO HIS OWN SATISFACTION. TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVE AT THE PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CD. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY, AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
 - INSPECTION DATE
 - INSPECTION TIME (MORNING, PRE-STORM EVENT, DURING RAIN EVENT)
 - NAME AND TITLE OF INSPECTOR
 - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
 - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
 - EVIDENCE OF SEDIMENT DISCHARGES
 - IDENTIFICATION OF PLAN DEFICIENCIES
 - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
 - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
 - PHOTOGRAPHS
 - MONITORING/SAMPLING
 - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
 - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMITS FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NFES, MDE).
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY. WHENEVER TRENCHES ARE DEEPER THAN 18 INCHES, THE CONTRACTOR SHALL MAINTAIN ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FULLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.
- SOIL TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

- NOTES:**
- SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT VERSION OF MARLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" WHICH CERTIFIED TURFGRASS MIXTURE IS THE BEST GUARANTEE OF CULTIVAR PURITY.
 - BRIEF DESCRIPTION OF PROGRAM OF THE MARLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.
- C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES**
- WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 10 TO OCTOBER 1 (HARDNESS ZONES: 5B, 6A)
 - CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONE: 6B)
 - EASTERN MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONES: 7A, 7B)
- TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES. LEVEL AND BAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1/4 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
 - IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FULLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.
 - SOIL TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

- GENERAL SPECIFICATIONS**
- CLASS OF TURFGRASS SOIL MUST BE MARLAND STATE CERTIFIED. SOIL LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
 - SOIL MUST BE MACHINED OUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/8 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TOW OR UNFURN EXCESS WILL NOT BE ACCEPTABLE.
 - STANDARD SIZE SECTIONS OF SOIL MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER INCH OF THE SECTION.
 - SOIL MUST NOT BE HARVESTED OR TRANSPORTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
 - SOIL MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOIL NOT TRANSPORTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

- SOIL INSTALLATION
 - DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DIRTY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOIL.
 - LAY THE FIRST ROW OF SOIL IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOIL IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED IN ORDER TO PREVENT VOIDING WHICH WOULD CAUSE AIR ROLLING OF THE ROOTS.
 - WHenever possible, lay soil with the LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERED JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOIL TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOIL CONTACT EXISTS BETWEEN SOIL ROOTS AND THE UNDERLYING SOIL SURFACE.
 - WATER THE SOIL IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOIL AND SOIL SURFACE BELOW THE SOIL ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOIL WITH EIGHT HOURS.
- SOIL MAINTENANCE
 - IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOIL DURING THE HEAT OF THE DAY TO PREVENT WILTING.
 - AFTER THE FIRST WEEK, SOIL WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
 - DO NOT MOW UNTIL THE SOIL IS FIRMLY ROOTED, NO MORE THAN 1/2 OF THE GRASS HEIGHT BEING CUT BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT AT AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

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	COOL SEASON TALL FESCUE OR EQUAL	17.60 LB / AC	MAR 1 TO MAY 15	1/4"-1/2 IN.	45 LB/AC (1 LB PER 1000 SF)	90 LB/AC (2 LB PER 1000 SF)	2 TONS/AC (90 LB PER 1000 SF)	
	KENTUCKY BLUEGRASS	K.B. 40 LB / AC	AUG. 15 TO SEPT. 15					

R-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.

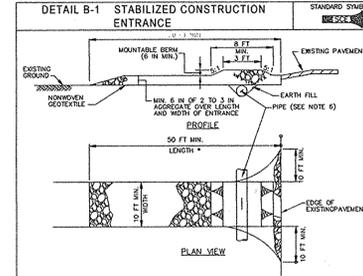
CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

- A. SOIL PREPARATION**
- TEMPORARY STABILIZATION
 - SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOW, OR IMPACTERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR GRAGGED SMOOTH BUT LEFT IN THE RECOMMENDED CONDITION. SLOPES 2:1 OR FLATTER ARE TO BE TRACKED WITH TRACKS RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
 - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLAN.
 - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - PERMANENT STABILIZATION
 - A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
 - SOIL PH BETWEEN 6.0 AND 7.0.
 - SUABLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
 - SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE COARSED 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.
 - SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
 - SOIL CONDITIONS SUPTAIN PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
 - APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
 - ORDER AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
 - APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

- B. TOPSOILING**
- 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 SUIT TO PLANTS, AND/OR UNACCEPTABLE SOIL COMPOSITION.
 - 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 FROM AN EXISTING SITE CAN BE FOUND IN A REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY US-DNR.
 - TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FLUSHING CONTINUOUS SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TO PLANT GROWTH. THE SOIL IS SO ADIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
 - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
 - TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
 - 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.
 - IF THE APPROPRIATE AUTHORITY, TOPSOIL MUST NOT BE A MIXTURE OF CONTINUOUS TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 6 PERCENT BY WEIGHT OF CEMENTS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROCKS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/8 INCHES IN DIAMETER.
 - TOPSOIL MUST BE FREE OF NOXIOUS FUNGI OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEED, PISON WY, THISTLE, OR OTHERS AS SPECIFIED.
 - TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
 - TOPSOIL APPLICATION
 - EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
 - UNFORMALLY DISTRIBUTED 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 SOILING AND SEALING 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.
 - TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MOIST 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)**
- 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 ANALYSIS.
 - FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
 - LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR QUINN LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
 - 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.
 - WHERE THE SUBSOIL IS EITHER HEAVY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/AC (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.



CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES SHALL BE PROHIBITED FROM OVER THE ENTRANCE FOR A PERIOD OF 48 HOURS. THE ENTRANCE SHALL BE 10 FEET WIDE AND 10 FEET HIGH. FLARE SIDE TO 10 FEET MINIMUM AT THE EXISTING ROAD TO PROTECT THE ENTRANCE.
- PIPE ALL SURFACE WATER FLOWING TO OR OVER THE ENTRANCE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE ENTRANCE WITH A MOUNTABLE BERM WITH 2 1/2 INCHES AND A MINIMUM OF 12 INCHES OF FINE SAND. PROTECT PIPE AS NEARLY AS POSSIBLE WITH A MOUNTABLE BERM WITH 2 1/2 INCHES AND A MINIMUM OF 12 INCHES OF FINE SAND. PROTECT PIPE AS NEARLY AS POSSIBLE WITH A MOUNTABLE BERM WITH 2 1/2 INCHES AND A MINIMUM OF 12 INCHES OF FINE SAND.
- PREPARE SUBGRADE AND PLACE UNWORNEN GEOTEXTILE, AS SPECIFIED IN SECTION 1-1 MATERIALS. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT REINFORCED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SLOPE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZE TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAR PASSAGE THROUGH THE ENTRANCE. MAINTAIN ENTRANCE IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DRIPPED, OR BLOWN TO MAINTAIN CLEAR PASSAGE THROUGH THE ENTRANCE. ANY UNACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

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.

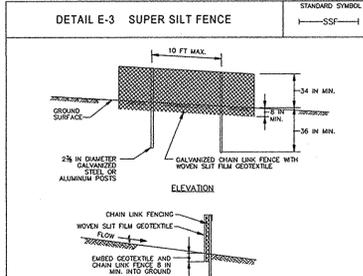
CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

- A. SEEDING**
- SEEDING SPECIFICATIONS
 - ALL SEED MUST MEET THE REQUIREMENTS OF THE MARLAND STATE SEED LAW. ALL SEED MUST BE TESTED TO BE TESTED 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 8.4 REGARDING THE QUALITY OF SEED. SEEDS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
 - MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING METHOD MUST BE APPLIED WHEN THE GROUND THAW.
 - INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA 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 70 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
 - SOIL 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 MAX) TO PERMIT DISPERSION OF PHYTO-TOXIC MATERIALS.
 - APPLICATION
 - DRY SEEDING: THIS INCLUDES THE USE OF CONVENTIONAL DRIP OR BROADCAST SPREADERS.
 - HYDROSEEDING: SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE 8.1. PERMANENT SEEDING TABLE 8.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
 - APPLY SEED IN TWO DIRECTIONS TO EACH OTHER. APPLY MULCH THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDING AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
 - DRILL OR BROADCAST SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDERS MUST BE FIRM AFTER PLANTING.
 - APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY MULCH THE SEEDING RATE IN EACH DIRECTION.
 - HYDROSEEDING: SEED MUST BE UNIFORM WITH HYDROSEEDING (SLURRY INCLUDES SEED AND FERTILIZER). 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; PHOSPHORUS, 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.
 - 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 HYDROSEED LIME WHEN HYDROSEEDING.
 - MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
 - WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

- B. MULCHING**
- MULCH MATERIALS (IN ORDER OF PREFERENCE)
 - A STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY GROWN IN CONJUNCTION WITH SEEDS AS SPECIFIED IN THE MARLAND SEED LAW AND NOT MUSTY, MOLLY, COKED, DECAYED, OR EXCESSIVELY WET. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
 - WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE.
 - WCFM IS TO BE DRY GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMITY SPREAD SLURRY.
 - WCFM INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 - WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL SHALL FORM A FLUENT-GROUND COVER ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE SEEDS.
 - WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
 - WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS; DIAMETER APPROXIMATELY 1 MILLIMETER; PH RANGE OF 4.0 TO 6.5; ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

- APPLICATION
 - APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
 - APPLY STRAW MULCH AT A SEEDING RATE OF 1/2 TON PER ACRE AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED, WHEN USING MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2 1/2 TONS PER ACRE.
 - WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- ANCHORING
 - PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE):
 - MULCH ANCHORING TOOL: IS A TRACTOR-DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
 - SYNTHETIC BINDERS SUCH AS ACRYLIC POLYMER (ACRYL DEX-70) PETROSET, TERMA-TAX II, TERPA-TACK OR OTHER APPROVED EQUIVALENT MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLY TO WET MULCH TO WEAKEN THE BOND WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
 - CONTRIBUTED PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.



CONSTRUCTION SPECIFICATIONS

- INSTALL 2 1/2 INCH DIA. GALVANIZED CHAIN LINK FENCE WITH 2x4 INCH WOODEN SILT FENCE POSTS AT LEAST 10 FEET APART. THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTER B OR GAUSE OR HEAVY GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MINIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUNG RINGS.
- FASTEN WOODEN SILT FENCE GEOTEXTILE AS PRESCRIBED IN SECTION 1-1 MATERIALS, SECURELY TO THE UNDERSIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMERGE GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES. FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSTREAM AT 45 DEGREE TO THE HATCH. EXIST ADJUSTMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTOR/AGENCY/AGENCY AUTHORITY SHOWING THAT GEOTEXTILE MEETS THE REQUIREMENTS IN SECTION 1-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN OR WHEN SEDIMENT REACHES THE TOP OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDEFINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

B-4-4 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION
AN HOUR OR MORE 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 CHANNELS TO DRAINAGE PATTERNS.

CONDITIONS WHERE PRACTICE APPLIES
STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

CRITERIA

- THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
- THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-4 LAND GRADING.
- RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
- CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE DIVERTED BY A DRAINAGE DITCH SUCH AS AN EARTH DITCH, TEMPORARY SWALE, OR DIMENSIONED FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
- WHERE RUNOFF CONCENTRATES ALONG THE TIE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
- STOCKPILES MUST BE LOCATED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCORPORATION, STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
- IF THE STOCKPILE IS STABILIZED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

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

PURPOSE
TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

- SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE 8.1 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE 8.3), AND ENTER THEM BY PREFERENCE, DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD. SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE 8.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
- FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES OF THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
- WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH WITH STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3A.1 AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

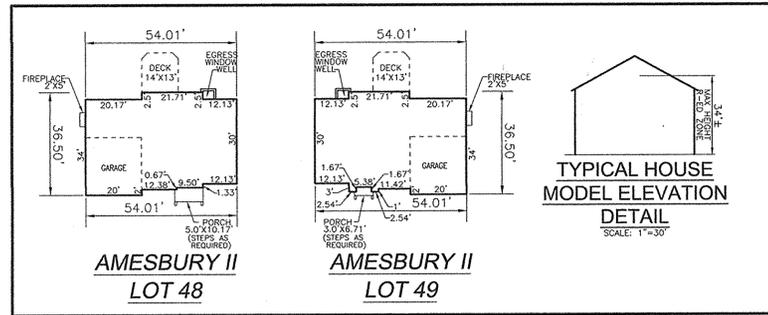
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)			LIME RATE
					N	P ₂ O ₅	K ₂ O	
1	COOL SEASON ANNUAL PERENNIAL OR EQUAL	40 LB / AC	MAY 15 TO OCT 15	1/2 IN.	436 LB/AC (10 LB PER 1000 SF)	2 TONS/AC (90 LB PER 1000 SF)		
2	WARM SEASON ANNUAL PERENNIAL OR EQUAL	30 LB / AC	MAY 16 TO JUL 31	1/2 IN.				

TEMPORARY 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	COOL SEASON ANNUAL PERENNIAL OR EQUAL	40 LB / AC	MAY 15 TO OCT 15	1/2 IN.	436 LB/AC (10 LB PER 1000 SF)	2 TONS/AC (90 LB PER 1000 SF)		
2	WARM SEASON ANNUAL PERENNIAL OR EQUAL	30 LB / AC	MAY 16 TO JUL 31	1/2 IN.				

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT - 1 DAY
- DEVELOPER / CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE EN



N-1. DISCONNECTION OF ROOFTOP RUNOFF

CONSTRUCTION CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING THE CONSTRUCTION OF PROJECTS WITH PLANNED ROOFTOP DISCONNECTIONS:

— EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN VEGETATED AREAS RECEIVING DISCONNECTED RUNOFF

— SITE DISTURBANCE: CONSTRUCTION VEHICLES AND EQUIPMENT SHOULD AVOID AREAS RECEIVING DISCONNECTED RUNOFF TO MINIMIZE DISTURBANCE AND COMPACTION. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTION, SCARPING THE SURFACE OR ROTOTILLING THE SOIL TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO ENSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR TIGHT, CLAYEY SOILS.

INSPECTION:

A FINAL INSPECTION SHALL BE CONDUCTED BEFORE USE AND OCCUPANCY APPROVAL TO ENSURE THAT SIZING FOR TREATMENT AREAS HAVE BEEN MET AND PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

MAINTENANCE CRITERIA:

MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION (E.G., BY PLANTING TREES OR SHRUBS ALONG THE PERIMETER). IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

1. MATERIAL SPECIFICATIONS

THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1. THE SOIL SHALL BE A UNIFORM MUD, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERBERIS GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOxious WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05. THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

- SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION)
- ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (50%), COARSE SAND (20%), AND COMPOST (40%).
- CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 2%.
- PH RANGE - SHOULD BE BETWEEN 5.5 TO 6.5. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH.

THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

3. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADERS, THE CONTRACTOR SHOULD USE WIDE TRACK OR WHEEL TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TUBE TIRE TIRES. USE OF EQUIPMENT WITH WOODEN TRACKS OR WOODEN TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL FLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO RESTRUCTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT. ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY POONED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12\"/>

4. PLANT MATERIAL
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDINGS TO A UNIFORM THICKNESS OF 2\"/>

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS, DEFOLIANTS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAIN
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

- PIPE - SHOULD BE 4\"/>
- PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8\"/>
- COVER - THE GRAVEL LAYER AND UNDERDRAIN SHOULD BE AT LEAST 3\"/>
- SLOPE - THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
- RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
- A 4\"/>

THIS MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1,000 SQUARE FEET OF SURFACE AREA).

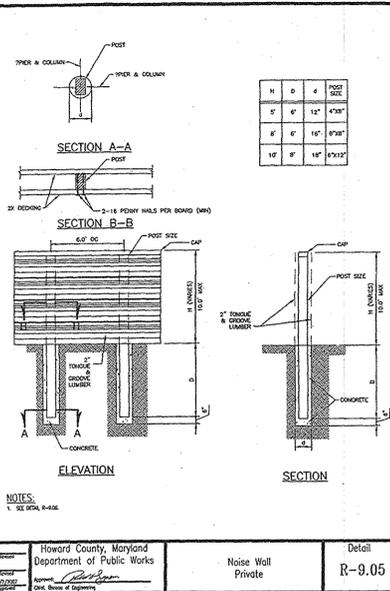
7. MISCELLANEOUS
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Table B.4.1 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil (2\"/>			

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 TO 4 IN. TO 4.75	4.75 TO 6.0	6.0 TO 7.5	7.5 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 TO 25.0
P-1	PARKWAY, RESIDENTIAL, AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0
P-2	PARKWAY, RESIDENTIAL, AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	2.0	2.0	1.5	1.5	1.5	1.5	1.5	1.5
P-3	PARKWAY, RESIDENTIAL, AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
P-4	PARKWAY, RESIDENTIAL, AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0

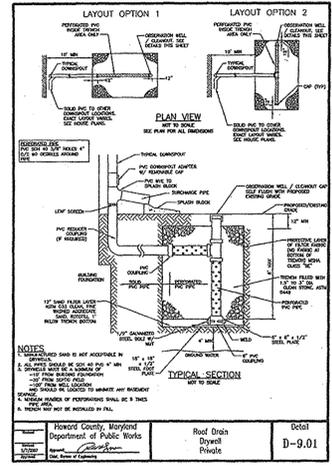


NOTES:

1. WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN
2. WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN
3. WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN
4. WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN
5. WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN
6. WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN
7. WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN
8. WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN
9. WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN
10. WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN

STREET NAME	POINT	NORTHING	EASTING	GROUND	WALL	WALL HEIGHT
LOT 48	W1	N 564030	E 1392725	175	181	6 FEET TALL
LOT 48	W2	N 564020	E 1392805	171	177	6 FEET TALL
LOT 48/49	W3	N 564097	E 1392861	177	183	6 FEET TALL

TYPICAL NOISE WALL DETAILS OR EQUAL
NOISE WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN

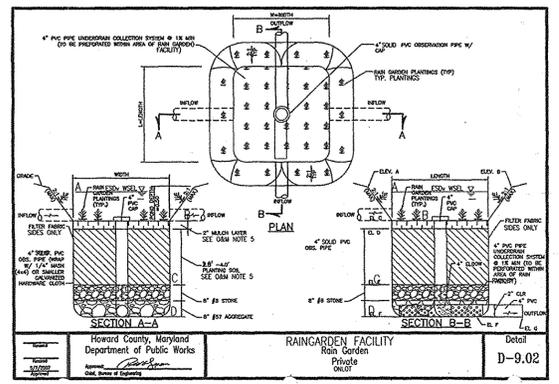


QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
2	ILEX GLABRA	3 GALLON	CONT
4	SPICEBUSH	3 GALLON	CONT

OPERATION AND MAINTENANCE SCHEDULE FOR (M-T) RAIN GARDEN AREAS

1. 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 OTHER REPAIRS TO THE RAIN GARDEN SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
2. 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 DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.
5. FILTER MATERIAL MUST BE REPLACED WHEN WATER REMAINS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 24 HOURS FOLLOWING A 1- OR 2-YEAR STORM EVENT OR MORE THAN 48 HOURS FOLLOWING A 10-YEAR STORM EVENT.

OWNER / DEVELOPER /
MATTHEW PFAU
3675 PARK AVENUE, SUITE 301
ELLCOTT CITY, MARYLAND 21043
(410) 480-0023



FACILITY #	A	B	C	D	SURFACE AREA	APPROX. DIMENSIONS
LOT 48	175.80	174.80	172.55	171.22	150 SF	SEE PLAN
LOT 49	175.80	174.80	172.55	171.22	143 SF	SEE PLAN

FACILITY #	SURFACE AREA	REQUIRED PLANTINGS	PLANTINGS
LOT 48	150 SF	3	VIORNIUM TRIBOLIUM AMERICAN HIGBUSH CRANBERRY ILEX GLABRA INBERBERRY SPICEBUSH LINDERA BENZONIN
LOT 49	143 SF	3	VIORNIUM TRIBOLIUM AMERICAN HIGBUSH CRANBERRY ILEX GLABRA INBERBERRY SPICEBUSH LINDERA BENZONIN

SITE DEVELOPMENT PLAN - NOTES & DETAILS
STORMWATER MANAGEMENT AND MISCELLANEOUS SITE DETAILS
CYPRESS SPRINGS - PHASE 3
LOTS 48 AND 49

1ST ELECTION DISTRICT DPZ REFERENCES: SP-05-06, PB CASE 374, WP-05-08, DPZ-09-061, F-10-026, F-12-081, F-13-037, F-11-202, WP-10-175, WP-13-187, PB CASE 405, WP-15-105, F-14-177

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET, ELLCOTT CITY, MD 21043
TEL: 410.461.2666
FAX: 410.461.5951

DESIGN BY:	EDS.	PROFESSIONAL CERTIFICATE
DRAWN BY:	RVE	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. 16193
CHECKED BY:	RHV	EXPIRATION DATE: 09-27-2016
DATE:	DECEMBER, 2015	
SCALE:	AS SHOWN	
W.O. NO.:	04-30	

