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-SC IN ACCORDANCE WITH 02/02/04 COMPREHENSIVE ZONING PLAN AND THE COMP. LITE ZONING
- REGULATIONS EFFECTIVE ON COMPREHENSIVE ZONING PLAN AND THE COMP. LITE ZONING REGULATIONS EFFECTIVE ON 7/28/06, AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.
- PROPERTY OUTLINE SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED FEBRUARY
- TOPOGRAPHY SHOWN HEREON IS OBTAINED FROM AERIAL PHOTOGRAMETRY COMPILED BY POTOMAC AERIAL SURVEYS INC. JANUARY 12, 2012. 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. 47H2 AND 47GC 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.
- STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF ALTERNATIVE SURFACES, NON STRUCTURAL PRACTICES & MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. NON STRUCTURAL PRACTICES INCLUDE ROOFTOP DISCONNECTIONS. MICRO-SCALE PRACTICES INCLUDE MICRO-BIORETENTION, BIO SWALES, DRYWELLS, RAIN BARRELS AND RAIN GARDENS. ALTERNATIVE SURFACES INCLUDE PERMEABLE SURFACES. TYPICALLY ALTERNATIVE SURFACE, NON STRUCTURAL AND MICRO-SCALE FACILITIES ONLOT WILL BE PRIVATELY OWNED AND MAINTAINED (H.O.A.). MICRO-SCALE FACILITIES MANAGING ROAD RUNOFF (F14-022) SHALL BE DESIGNATED AS PUBLICLY OWNED AND JOINTLY MAINTAINED FACILITIES (H.O.A. AND HOWARD COUNTY); HOWARD COUNTY WILL MAINTAIN OUTLET STRUCTURES AND PIPES WHILE THE H.O.A.
- SHALL MAINTAIN MULCH, WEEDING, PLANTINGS, PERFORATED UNDERDRAINS, FEEDER PIPES, AND ROUTINE SOIL REPLACEMENT. 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
- ANY DAMAGE TO THE COUNTY'S RIGHTS-OF-WAY, PAVING, OR EXISTING UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. 13. SHC ELEVATIONS ARE LOCATED AT THE PROPERTY LINE/EDGE OF EASEMENT.
- 14. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING

410-795-1390

410-531-5533

1-800-257-7777

- BGE (CONSTRUCTION SERVICES) BGE (EMERGENCY)
- 1-800-252-1133 410-637-8713 410-685-0123 BUREAU OF UTILITIES 410-313-4900
- COLONIAL PIPELINE CO MISS UTILITY STATE HIGHWAY ADMINISTRATION
- **VERIZON**
- 1-800-743-0033 15. THERE ARE NO EXISTING DWELLING/STRUCTURES LOCATED ON THIS SITE 16. 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 OR REAR YARD SETBACK. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER
- THE FOLLOWING MINIMUM REQUIREMENTS: WIDTH - 12 FEET (16 FEET IF SERVING MORE THAN ONE RESIDENCE)
- SURFACE 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN.) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE, AND MINIMUM 45 FOOT
- TURNING RADIUS D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING)
- E) DRAINAGE ELEMENTS CAPABLE OF SAFELY PASSING 100 YEAR FLOOD EVENTS WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
- F) MAINTENANCE SUFFICIENT TO ENSURE ALL WEATHER USE

 18. LOTS 88-90 AND LOTS 93-94 SHALL UTILIZE THE USE-IN-COMMON ACCESS EASEMENT. THE USE-IN-COMMON MAINTENANCE AGREEMENT WERE PREVIOUSLY RECORDED AS LIG269 F.413 AND L. 16269 F.419 RESPECTIVELY.

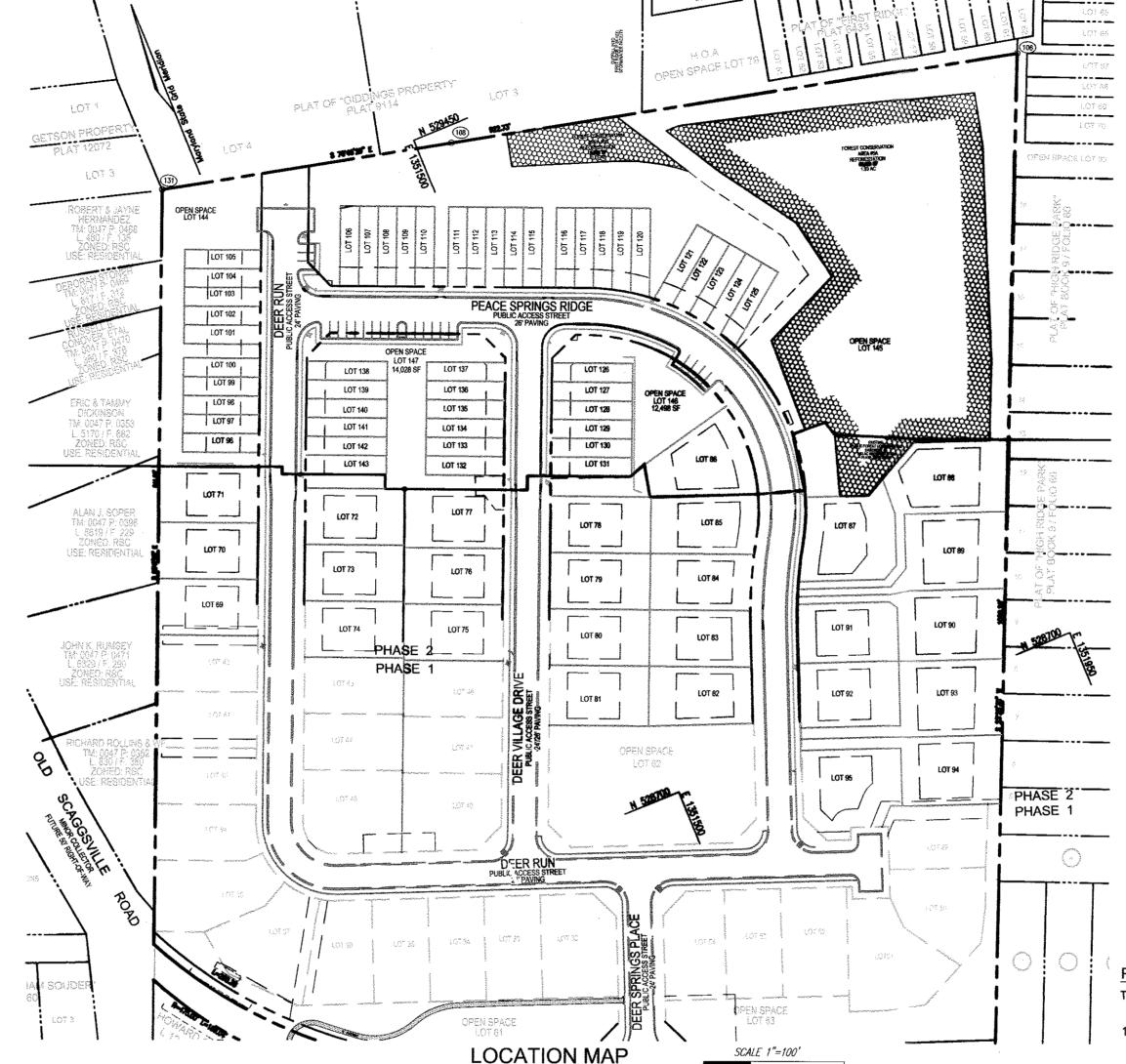
 19. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED
- WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.
- 20. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND 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
- 21. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. 22. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD
- 23. WATER FOR THIS PROJECT IS TO BE PUBLIC CONTRACT 24-4839-D AN EXTENSION OF CONTRACT NO. 1-W.
- SEWER FOR THIS PROJECT IS TO BE PUBLIC CONTRACT 24-4839-D AN EXTENSION OF CONTRACT NO. 30-S AND CONTRACT
- 24. PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS
- ALL WATER HOUSE CONNECTIONS SHALL BE OUTSIDE METER SETTING UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS.

 TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THERE ARE NO HISTORIC STRUCTURES EXISTING ON THIS SITE.
- TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL/CEMETERY LOCATIONS EXISTING ON THIS SITE. OLD SCAGGSVILLE ROAD IS CLASSIFIED AS A MINOR COLLECTOR.
- 28. A FOREST STAND DELINEATION PLAN WAS PREPARED BY MCCARTHY & ASSOCIATES, INC., APRIL 2012 AND AMENDED OCTOBER 2012. 29. - FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL A PORTION OF THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL (REFER TO F14-022). 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.
- A PORTION OF THE REQUIRED FOREST CONSERVATION IS PROVIDED ON NON-BUILDABLE BULK PARCEL "B", OPEN SPACE LOT 145 UNDER SECTION II (F-14-023) AND MEETS THE INTENT OF SECTION 16.117 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- TOTAL FOREST CONSERVATION OBLIGATION FOR THIS PROJECT WAS FULFILLED BY ONSITE RETENTION OF 5.85 AC. (NO SURFTY REQ.) REFORESTATION OF 2.20 AC. AND PURCHASE OF 1.71 ACRES OF REFORESTATION CREDIT IN THE BRIGHTON MILL PROPERTY FOREST BANK
- FINANCIAL SURETY FOR THE REQUIRED REFORESTATION WAS POSTED WITH THE DEVELOPERS AGREEMENTS UNDER F14-022
- 30. A TRAFFIC STUDY FOR THIS PROJECT PREPARED BY THE TRAFFIC GROUP, INC., DATED AUGUST 2012, WAS APPROVED 3/2013. 31. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT. NOISE WALL MITIGATION CURRENTLY EXISTS ALONG INTERSTAE 95.
- 32. A GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS CARNES ENGINEERING ASSOCIATES, INC., DATED AUGUST 2012. 33. THE OFFICIAL PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON FEBRUARY 28, 2012 AT SAINT VINCENT PALOTTI HIGH
- SCHOOL. ON APRIL 12, 2012 A SECOND, NON-OFFICIAL, MEETING WAS HELD AT THE LAUREL COMMUNITY CENTER. 34. AN ENVIRONMENTAL CONCEPT PLAN (ECP12-047) WAS APPROVED ON OCTOBER 1, 2012.
- 35. A PRELIMINARY EQUIVALENT SKETCH PLAN (SP13-007) WAS APPROVED ON JULY 3, 2013 36. THE LANDSCAPE PLAN FOR THIS SECTION WAS PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE
- AND THE LANDSCAPE MANUAL. TOTAL FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WAS POSTED UNDER F-14-023. ADDITIONAL SCREENING LANDSCAPING HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE
- AND LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$ 3,450 FOR THE 18 EVERGREEN TREES AND 5 ORNAMENTAL TREES SHALL BE POSTED WITH THE GRADING PERMIT FOR THIS SDP.
- PUBLIC STREET TREES AND PERIMETER LANDSCAPING WAS PROVIDED FOR THIS PROJECT UNDER F14-023 ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY WAS POSTED AS PART OF THE F14-023 DEVELOPER'S AGREEMENTS
- THE PROPOSED SUBDIVISION AND RELATED CONSTRUCTION WILL NOT IMPACT ENVIRONMENTAL FEATURES OR BUFFERS. 39. SOIL TYPES SHOWN HEREON ARE IN ACCORDANCE WITH THE WEB SOIL SURVEY - HOWARD COUNTY, MARYLAND.
- 40. NO FLOODPLAINS EXIST ONSITE 41. STEEP SLOPES ARE LOCATED AND SHOWN HEREON.
- 42. WETLANDS AND STREAMS SHOWN HEREON ARE BASED ON DELINEATION BY MCCARTHY & ASSOCIATES, INC., DECEMBER 2011. THE REPORT WAS AMENDED OCTOBER 2012.
- 43. THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- 44. IN ACCORDANCE WITH DESIGN MANUAL-VOLUME 3, CHAPTER 2 SECTION 2.9.B. PARKING IS REQUIRED AT TWO (2) SPACES PER UNIT OFF STREET PARKING TO INCLUDE GARAGE SPACE, DRIVEWAY AND PARKING PADS. GARAGES COUNT AS A FULL SPACE. SEE TABULATION THE HOMEOWNERS ASSOCIATION DOCUMENTS HAVE BEEN RECORDED WITH THE MARYLAND STATE DEPARTMENT OF ASSESSMENTS AND TAXATION AS RECORDING REFERENCE NUMBER D15737802 ON MARCH 13, 2015. HIGH RIDGE MEADOWS COMMUNITY ASSOCIATION HOMEOWNERS ASSOCIATION COVENANTS AND RESTRICTIONS WERE RECORDED SIMULTANEOUSLY WITH F 14-022 AS LIBER 15877 FOLIO 457, ON SEPTEMBER
- 46. THIS PROJECT IS SUBJECT TO A DESIGN MANUAL WAIVER. ON DECEMBER 4, 2012, THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION APPROVED THE REQUEST TO WAIVE THE REQUIREMENTS OF SECTION 2.5 AND APPENDIX A OF DESIGN MANUAL VOLUME III; WHICH REQUIRES AN 85TH PERCENTILE SPEED STUDY AND PUBLIC ROADWAY SECTION DESIGN. THE DIVISION APPROVED THE REQUEST 1. BASED ON CONDITIONS MADE IN THE REQUEST. 2) THE ASSUMED 85TH PERCENTILE SPEED IS IN LINE WITH THE ACTUAL STUDY MADE BY THE ENGINEER AT THE NEXT INTERSECTION 3. MINIMUM CURVE RADIUS HAS BEEN REDUCED WITHIN RESIDENTIAL AREA PROVIDING SPEED CONTROL WITHIN THIS PORTION OF THE SUBDIVISION. IT IS NOTED THAT ALL RADII WITHIN THE SUBDIVISION MEETS THE HOWARD COUNTY FIRE DEPARTMENT REQUIREMENTS. THE REQUESTED WAIVER TO DESIGN MANUAL VOLUME 4, DETAIL R1.02 HAS BEEN DEFERRED UNTIL THE SUBMISSION OF THIS FINAL PLAN.
- 47. THIS PROJECT WAS PREVIOUSLY NAMED "DEER SPRINGS" (REFER TO SP 13-007) AND HAS BEEN CHANGED TO "HIGH RIDGE MEADOWS" (F14-022 & F14-023)

SITE DEVELOPMENT PLAN HIGH RIDGE MEADOWS SECTION TWO LOTS 69-143

HOWARD COUNTY, MARYLAND

(SFD & SFA RESIDENTIAL



SCALE: 1"=100"

HIGH RIDGE MEADOWS - DENSITY TABULATION											
FINAL PLAN #	SECTION	GROSS AREA	FLOODPLAIN	STEEP SLOPES	AREA	UNITS ALLOWED	UNITS PROP.	OPEN SPACE REQ.	OPEN SPACE PROV.		
F14-022	SEC. 1	36.94 ACRES	0.00 ACRES	0.34 ACRES	36.60 ACRES	146	54 SFD	9.24 ACRES	9.92 ACRES		
F14-023	SEC. 2	12.99* ACRES	0.00 ACRES	0.00 ACRES	36.60 ACRES		27 SFD 48 SFA	0.00 ACRES	4.65 ACRES		
TOTAL	-	-	0.00 ACRES	0.34 ACRES	36.60 ACRES	146	81 SFD 48 SFA	9.24 ACRES	14.57 ACRES		

** F14-022 - NON-BUILDABLE BULK PARCEL "B" RESUBDIVIDED UNDER F14-023 INTO 27 SFD / 48 SFA

GENERAL NOTES (CON'T)

- 47. THIS PROJECT IS SUBJECT TO WP-13-080. ON MARCH 27, 2013; THE PLANNING DIRECTOR APPROVED THE REQUEST, TO WAIVE SECTION 16.116(A) FOR DISTURBANCE TO STREAM, STREAM BUFFERS, WETLANDS AND WETLAND BUFFERS ON THE NORTHEAST PORTION OF THE PROJECT FOR A STORM DRAINAGE PIPE, AND SECTION 16.1205(A)(7) TO REMOVE UP TO 3 SPECIMEN TREES THE PLANNING DIRECTOR DENIED YOUR REQUEST TO WAIVE SECTION 16.120(B)(6)(V)(C) TO ALLOW PIPESTEM LOTS ON MU]TIPLE SIDES OF A FRONTAGE LOT IN THE SAME SUBDIVISION. APPROVAL OF THE WAIVER TO SECTION 16.116(A) AND SECTION 16.1205(A)(7) IS SUBJECT TO THE FOLLOWING CONDITIONS:
 - 1. ENVIRONMENTAL DISTURBANCE MUST BE LIMITED TO THE AREAS INDICATED ON THE WAIVER PETITION PLAN EXHIBIT, ANY EXPANSION OF THE DISTURBED AREA MAY REQUIRE ADDITIONAL WAIVER APPROVAL IF DETERMINED SIGNIFICANT. 2 PRIOR TO INITIATING ANY CONSTRUCTION ACTIVITIES THAT RESULT IN THE APPROVED ENVIRONMENTAL DISTURBANCES, ALL APPROVALS FROM MDE, APPLICABLE SRC AGENCIES AND PERMISSIONS FROM ADJOINLING/AFFECTED PROPERTY OWNERS MUST BE OBTAINED AND DOCUMENTED. COPIES OF DOCUMENTATION MUST BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING PRIOR TO THE FINAL PLAN APPROVAL (OR PRIOR TO SITE DEVELOPMENT PLAN APPROVAL, AT THE DISCRETION OF DPZ).
- S. PRIOR TO REMOVAL OF THE TWO OAK SPECIMEN TREES, PLEASE REVIEW THE PROPOSED DESIGN AFTERNATIVES RECOMMENDED BY THE DIVISION OF LAND DEVELOPMENT IN THE REVISED SUBMISSION COMMENTS DATED MARCH 28, 2013. INCORPORATE DESIGN RECOMMENDATIONS OR PROVIDE AMPLE JUSTIFICATION TO THE DEPARTMENT OF PLANNING AND ZONING IF NOT FEASIBLE (LOSS OF LOT YIELD ALONE WILL NOT BE CONSIDERED AMPLE 4. REMOVAL OF EACH SPECIMEN TREE WILL REQUIRE MITIGATION WITH THE PLANTING OF TWO NEW NATIVE SHADE TREES (FOR UP TO
- 6 NEW SHADE TREES) WITH A MINIMUM 2-1/2" CALIPER TRUNK- SURETY OF THESE SHADE TREES SHALL BE INCORPORATED INTO THE LANDSCAPE SURETY WITH THE FINAL ROAD CONSTRUCTION DRAWINGS. 5. PRIOR TO REMOVING THE SILVER MAPLE SPECIMEN TREE ON THE NORTH PARCEL, THE DEVELOPER SHALL FIRST ATTEMPT DESIGN ALTERNATIVES THAT WOULD ALLOW PRESERVATION OF THE TREE. IF REMOVED, THE TWO TREES PLANTED FOR MITIGATION SHOULD BE PLACED WITHIN THE PROXIMITY OF THE REMOVED TREE OR AT LEAST ON THE PORTION OF THE PROPERTY BOUNDARY SHARED BY PARCEL 396.
- DENIAL OF THE WAIVE TO SECTION 16.120(B)(6)(V)(C) WAS BASED ON THE FOLLOWING REASONS: 1. EXTRAORDINARY CIRCUMSTANCES OR DESIGN CONSTRAINTS RESULTING IN SIGNIFICANT HARDSHIP WERE NOT INDICATED IN THE WAIVER JUSTIFICATION. 2. DESIGN ALTERNATIVES EXIST THAT WOULD PREVENT THE LOT BEING SURROUNDED ON FOUR SIDES BY PAVED DRIVE LANES. PLEASE SEE DLD COMMENTS DATED MARCH 28, 2013. 3. THE DESIGN PROPOSAL APPEARS GEARED TO ENSURING AN OPTIMAL LOT YIELD. THE DEVELOPER HAS THE OPTION OF INCORPORATING ADDITIONAL TOWNHOME LOTS TO OBTAIN DESIRED LOT YIELD IN THE PROPOSED SUBDIVISION DESIGN. 4. THE WAIVER, IF APPROVED WOULD' NULLIFY THE INTENT AND PURPOSE OF THE REGULATIONS, WHICH IS TO ACHIEVE A WELL THOUGHT-OUT DESIGN THAT PROVIDES ORDERLY SUBDIVISION LAYOUT AND AVOIDS ORIENTATION AND PRIVACY PROBLEMS FOR NEW HOUSES ON PIPESTEM AND FRONTAGE LOTS. AS PROPOSED, LOT 74 WOULD HAVE LIMITED USABILITY AND PRIVACY. DLD RECOMMENDS A SUBDIVISION REDESIGN TO REMOVE AND RELOCATE

LOTS 72, 73, AND 74 ELSEWHERE IN THE DEVELOPMENT. IN LAYING OUT THE SUBDIVISION DESIGN, THE DEVELOPER SHOULD GIVE MORE CONSIDERATION

O THE ARRANGEMENT OF LOTS SO THAT PROPOSED HOUSES WILL NOT LOOK INTO NEIGHBORING REAR YARDS OF THE FRONT LOTS. EACH NEW LOT IN

THE SUBDIVISION SHOULD INCORPORATE GOOD LOT DESIGN AND PLANNED AS TO THE SIZE, SHAPE AND ORIENTATION TO . AVOID UNDESIRABLE VIEWS

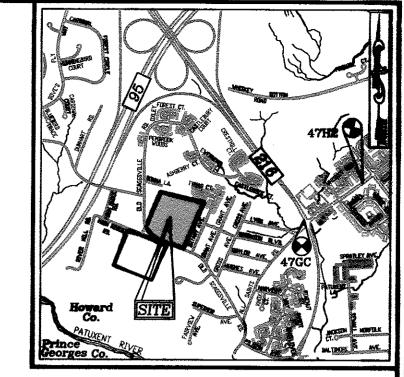
ON JUNE 3, 2013, A REQUEST FOR RECONSIDERATION WAS SUBMITTED WHICH AMENDED THE REQUESTED SPECIMEN TREES TO BE REMOVED. TO SPECIMEN TREES # 3 AND #4 PREVIOUSLY APPROVED TO BE REMOVED AND IN CONJUNCTION WITH THE REVISED LAYOUT, ARE NOW PROPOSED TO REMAIN. AS A RESULT OF THE REVISED LAYOUT, SPECIMEN TREE # 15 AND 16 (35"/ 37" TWIN TRUNK SOUTHERN RED OAK IN FAIR CONDITION) IS PROPOSED TO BE REMOVED.

FROM ADJOINING LOTS. WAIVERS SHALL NOT BE USED TO ACHIEVE MAXIMUM LOT YIELD AT THE EXPENSE OF GOOD SUBDIVISION DESIGN.

BENCHMARKS

HOWARD COUNTY BENCHMARK 47H2 (CONC. MON.) N 529706.4221 E 1355445.3364 ELEV. 256.068 LOCATION: ALL SAINTS ROAD, 240'+/- SOUTH OF NORTH LAUREL ROAD 2.89 FEET FROM STORM DRAIN INLET; 1' EAST OF CURB, 0.6 BELOW SURFACE HOWARD COUNTY BENCHMARK 47GC (CONC. MON.) N 528939.7281 E 1354223.5536 ELEV. 226.272 LOCATION: MEDIAN ISLAND 29 FEET WEST OF ALL SAINTS RD / RT 216 INTERSECTION; 1.4 FEET WEST OF SOUTHWEST INLET CORNER

SHEET INDEX						
DESCRIPTION	SHEET NO.					
COVER SHEET	1 OF 10					
LAYOUT AND LANDSCAPE PLAN	2 OF 10					
LAYOUT SHEET	3 OF 10					
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN	4 OF 10					
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN	5 OF 10					
GRADING AND SOIL EROSION & SEDIMENT CONTROL NOTES AND DETAILS	6 OF 10					
HOUSE TYPES	7 OF 10					
GENERIC HOUSE BOXES & DETAILS	8 OF 10					
STORMWATER MANAGEMENT NOTES & DETAILS	9 OF 10					
STORMWATER MANAGEMENT NOTES & DETAILS	10 OF 10					



VICINITY MAP SCALE: 1"=2,000' ADC MAP COORDINATE: 5169 C2

	MINIMUM LOT SIZE CHART											
LOT #	GROSS AREA	PIPESTEM AREA	NET AREA									
88	10,895 SF	1,546 SF	9,349 SF									
89	9,908 SF	1,096 SF	8,812 SF									
90	9,462 SF	872 SF	8,590 SF									
93	10,250 SF	1,272 SF	8,978 SF									
94	9,152 SF	1,272 SF	7,880 SF									

SITE ANALYSIS DATA

- TOTAL PROJECT AREA: AREA OF PLAN SUBMISSION
- LIMIT OF DISTURBANCE: PRESENT ZONING DESIGNATION
- PROPOSED USES FOR SITE AND STRUCTURES:
- FLOOR SPACE ON EACH LEVEL OF BUILDING PER USE:
- TOTAL NUMBER OF UNITS ALLOWED FOR PROJECT AS SHOWN ON FINAL PLAT:
- TOTAL NUMBER OF UNITS PROPOSED: ON THIS SUBMISSION:
- MAXIMUM NUMBER OF EMPLOYEES. TENANTS ON SITE PER USE:
- NUMBER OF PARKING SPACES REQUIRED BY HO.CO. ZONING REGULATIONS: K. NUMBER OF PARKING SPACES PROVIDED
- OPEN SPACE ON SITE: AREA OF RECREATION OPEN SPACE REQUIRED BY SUBDIVISION & LAND
- DEVELOPMENT REGULATIONS: BUILDING COVERAGE OF SITE: APPLICABLE DPZ FILE REFERENCES: ANY OTHER INFORMATION WHICH MAY
- Q. FLOOR AREA RATIO:

BE RELEVANT:

36.94 AC (SEC 1 & SEC 2) SECTION TWO - 13.04 AC

- R-SC
- SINGLE FAMILY DETACHED/TOWNHOMES
- REFER TO DENSITY TABULATION 75 BUILDABLE LOTS
- 2 PER SFD/SFA HOUSE
- 0.5 OVERFLOW PER SFD.
- 0.3 OVERFLOW PER SFA. **REFER TO F-14-022 F-14-023 = 14.57 AC**
- REFER TO F-14-022, & F-14-023 SFA = 60% MAX COVERAGE
- SEE TITLE BLOCK
- TAX MAP 50, GRID 1, PARCELS 363 & 542 OTH ELECTION DISTRIC

PARKING TABULATION:

ADDRESS CHART

9888 DEER RUN

9890 DEER RUN

9892 DEER RUN

9894 DEER RUN

9900 DEER RUN

9902 DEER RUN

9904 DEER RUN

9906 DEER RUN

9908 DEER RUN

9794 PEACE SPRINGS RIDGE

9792 PEACE SPRINGS RIDGE

9790 PEACE SPRINGS RIDGE

9788 PEACE SPRINGS RIDGE

9786 PEACE SPRINGS RIDGE

9782 PEACE SPRINGS RIDGE

9780 PEACE SPRINGS RIDGE

9778 PEACE SPRINGS RIDGE

9774 PEACE SPRINGS RIDGE

9770 PEACE SPRINGS RIDGE

9768 PEACE SPRINGS RIDGE

9766 PEACE SPRINGS RIDGE

9764 PEACE SPRINGS RIDGE

9762 PEACE SPRINGS RIDGE

9758 PEACE SPRINGS RIDGE

9756 PEACE SPRINGS RIDGE

9754 PEACE SPRINGS RIDGE

9752 PEACE SPRINGS RIDGE

LOT NO

113

9745 PEACE SPRINGS RIDGE 114 9776 PEACE SPRINGS RIDGE 9734 PEACE SPRINGS RIDGE 115 9774 PEACE SPRINGS RIDGE

118

119

120

122

123

STREET ADDRESS

STREET ADDRESS

9874 DEER RUN

9878 DEER RUN

9882 DEER RUN

9879 DEER RUN

9875 DEER RUN

9215 DEER VILLAGE DRIVE

9219 DEER VILLAGE DRIVE

9223 DEER VILLAGE DRIVE

9222 DEER VILLAGE DRIVE

9218 DEER VILLAGE DRIVE

9214 DEER VILLAGE DRIVE

9210 DEER VILLAGE DRIVE

9705 PEACE SPRINGS RIDGE

9715 PEACE SPRINGS RIDGE

9735 PEACE SPRINGS RIDGE

9726 PEACE SPRINGS RIDGE

9722 PEACE SPRINGS RIDGE

9718 PEACE SPRINGS RIDGE

9714 PEACE SPRINGS RIDGE

9710 PEACE SPRINGS RIDGE

9706 PEACE SPRINGS RIDGE

9702 PEACE SPRINGS RIDGE

9734 PEACE SPRINGS RIDGE 115

9730 PEACE SPRINGS RIDGE 116

9725 PEACE SPRINGS RIDGE

__9883 DEER RUN

- TOTAL NUMBER OF DWELLING UNITS PROPOSED: 75 SFA DWELLING UNITS PROPOSED: 48
- SFD DWELLING UNITS PROPOSED: 27 OFF-STREET PARKING SPACES REQUIRED: 2 SPACES PER UNIT
- = 150 SPACES
- PARKING SPACES PROVIDED: SFA = 1 GARAGE/1 DRIVEWAY
- 1 SPACE IN GARÁGE = 48 SPACES (FOR 48 UNITS) 1 SPACE ON DRIVEWAY = 48 SPACES (FOR 48 UNITS) SFD = 2 GARAGE/2 DRIVEWAY2 SPACES IN GARAGE = 54 SPACES (FOR 27 UNITS)
- 2 SPACES ON DRIVEWAY = 54 SPACES (FOR 27 UNITS) TOTAL OFF STREET PARKING SPACES PROVIDED: = 204 SPACES
- 2. OVERFLOW / GUEST PARKING SPACES 0.3 SPACES PER SFA UNIT X 48 = 10.5 SPACES PER SFD UNIT X 27 =
- TOTAL OVERFLOW PARKING SPACES PROVIDE = 77 (23 ON-STREET FOR SFA'S AND 54 * NOTE: ADDITIONAL UN-CALCULATED PARKING OVERFLOW ON-STREET PARKING WILL BE PUBLIC HOMEOWNER'S ASSOCIATION, A SPECIAL AGREEME

LOT NO

STREET ADDRESS

9750 PEACE SPRINGS RIDGE

9236 DEER VILLAGE DRIVE

9234 DEER VILLAGE DRIVE

9232 DEER VILLAGE DRIVE

9230 DEER VILLAGE DRIVE

9228 DEER VILLAGE DRIVE

9226 DEER VILLAGE DRIVE

9227 DEER VILLAGE DRIVE

9229 DEER VILLAGE DRIVE

9231 DEER VILLAGE DRIVE

9235 DEER VILLAGE DRIVE

9237 DEER VILLAGE DRIVE

9897 DEER RUN

9895 DEER RUN

9893 DEER RUN

9889 DEER RUN

9887 DEER RUN

144-147 OPEN SPACE

9233 DEER VILLAGE DRIVE

2. OVERFLOW / GUEST PARKING SPACES REQUIRED:		
0.3 SPACES PER SFA UNIT X 48 = 15 SPACES REQUIRED	***************************************	
0.5 SPACES PER SFD UNIT X 27 = 14 SPACES REQUIRED TOTAL OVERFLOW PARKING SPACES PROVIDED:		
= 77 (23 ON-STREET FOR SFA'S AND 54 IN DRIVEWAY FOR SFD'S) * NOTE: ADDITIONAL UN-CALCULATED PARKING PROVIDED ON-STREET	never an	
OVERFLOW ON-STREET PARKING WILL BE PUBLIC AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION. A SPECIAL AGREEMENT ADDRESSING CARS	4	REVISE HOUSE TYPE & GRADING, LOT 74, REVISE A
BACKING UP ON TO A PUBLIC ROAD HAS BEEN FINALIZED UNDER THE FINAL PLAN (F-14-023).		MORNING ROOM OPTION TO OXFORD III MOT
	NO.	REVISION
		SITE DEVELOPME

5TH ELECTION DISTRICT

AX MAP: 50 GRID: 1

HIGH RIDGE MEADOWS	SUBDIVISION S — SECTION)23	SECTION/ AREA
LOT/ PARCELS LOTS 69-143					P/O 363
PLAT REF # (F-14-023)	BLOCK NO	ZONE	TAX MAP	ELECT DIST	CENSUS TR
23385-23389	1	R-SC	50	6TH	606906
WATER / SEWER #	24-4839-D				

BEAZER HOMES CORPORATION COLUMBIA, MARYLAND 21046 ATTN: MR. EDWARD W. GOLD DIVISION PRESIDENT 410-381-3222

DDRESSES, LOTS 76-81 & ADD 8/23/16 DEL ON HOUSETYPES SHEET DATE

> SITE DEVELOPMENT PLAN **COVER SHEET**

HIGH RIDGE MEADOWS **SECTION TWO** LOTS 69 - 143

PZ REF'S: F-10-065, WP-10-087, ECP-12-047, P-13-080, SP 13-007, F 14-022, F 14-023, SDP 14-081 ROBERT H. VOGEL 3407 MAIN STREET OF MAR

Engineering, Inc. ENGINEERS . SURVEYORS . PLANNERS 8407 MAIN STREET TEL: 410.461.7666 ELLICOTT CITY, MD 21043 FAX: 410.461.8961 PROFESSIONAL CERTIFICATE I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND DESIGN BY: RHV / EDS THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE DRAWN BY: OF MARYLAND, LICENSE NO. 16193

ROBERT H. VOGEL, PE No.161

CHECKED BY: _____APRIL 201: SCALE: AS SHOWN W.O. NO.: 11-28

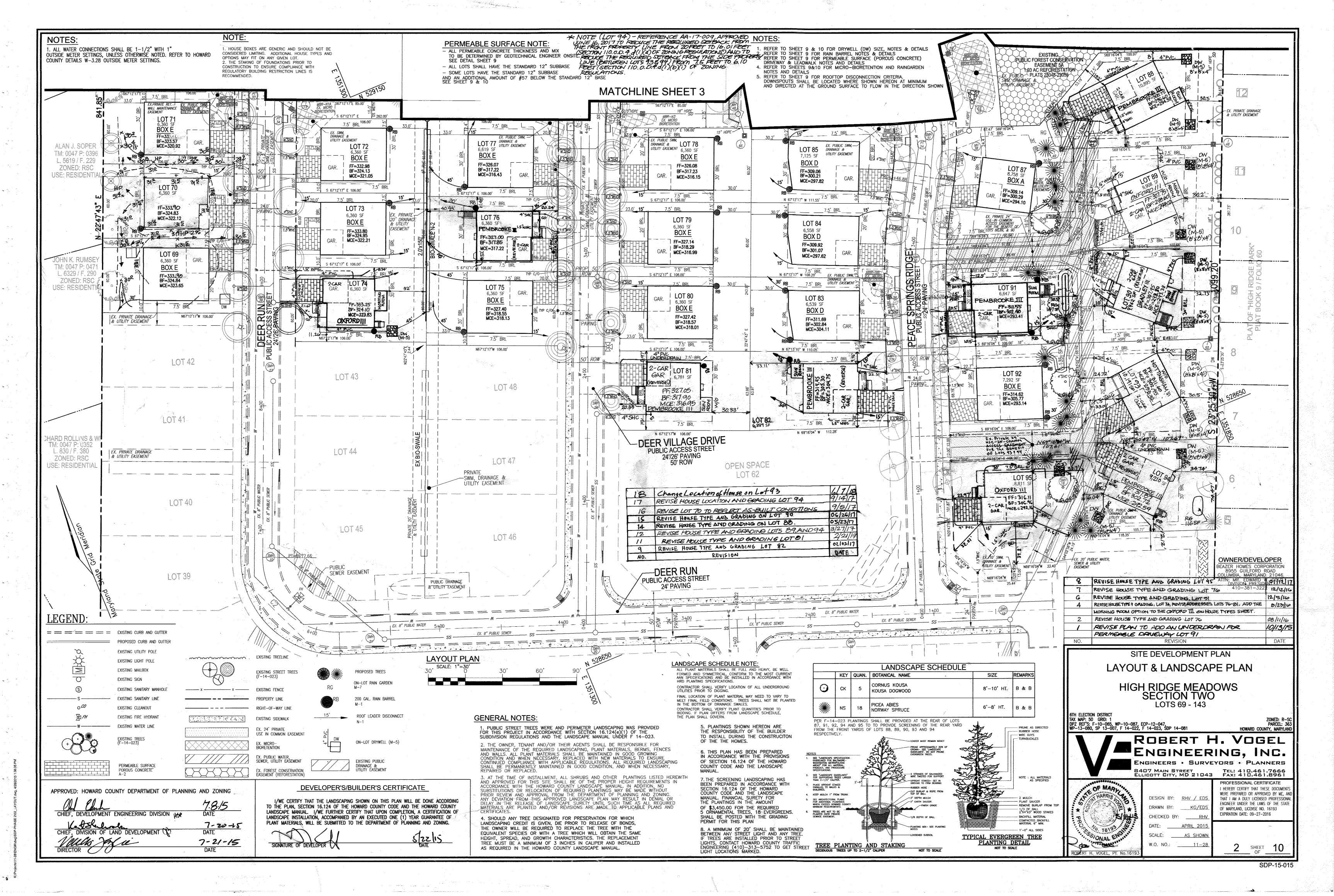
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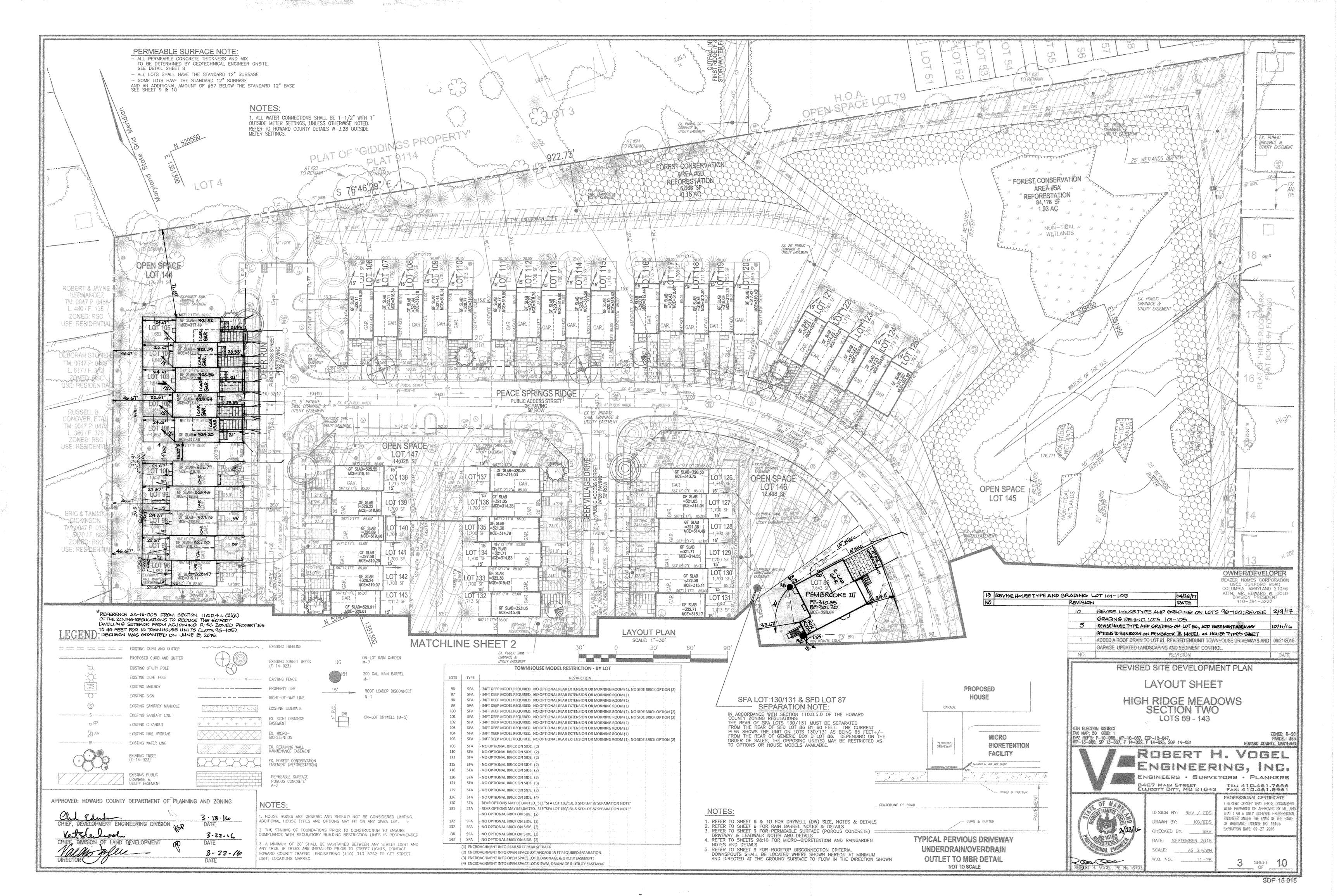
SHEET

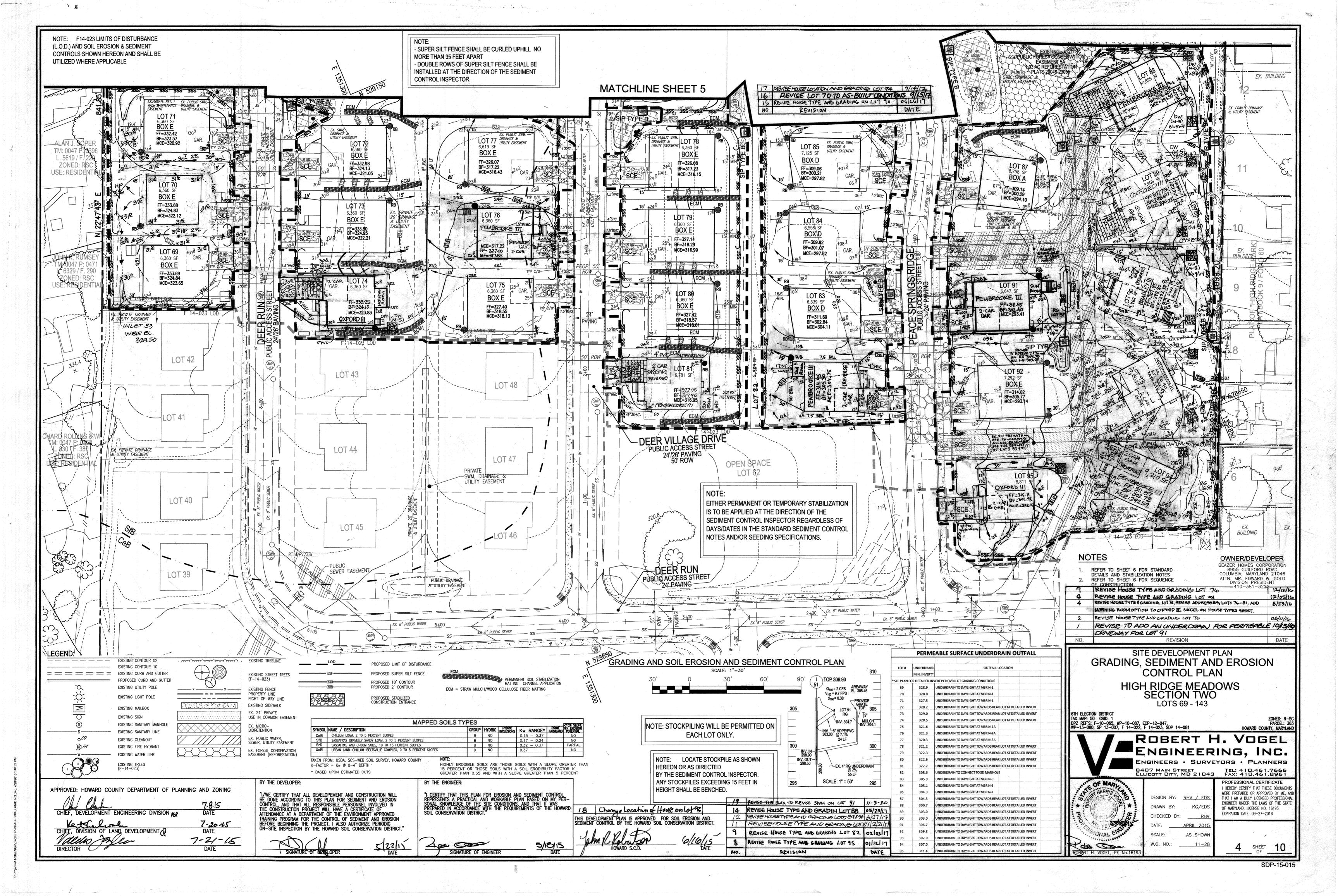
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

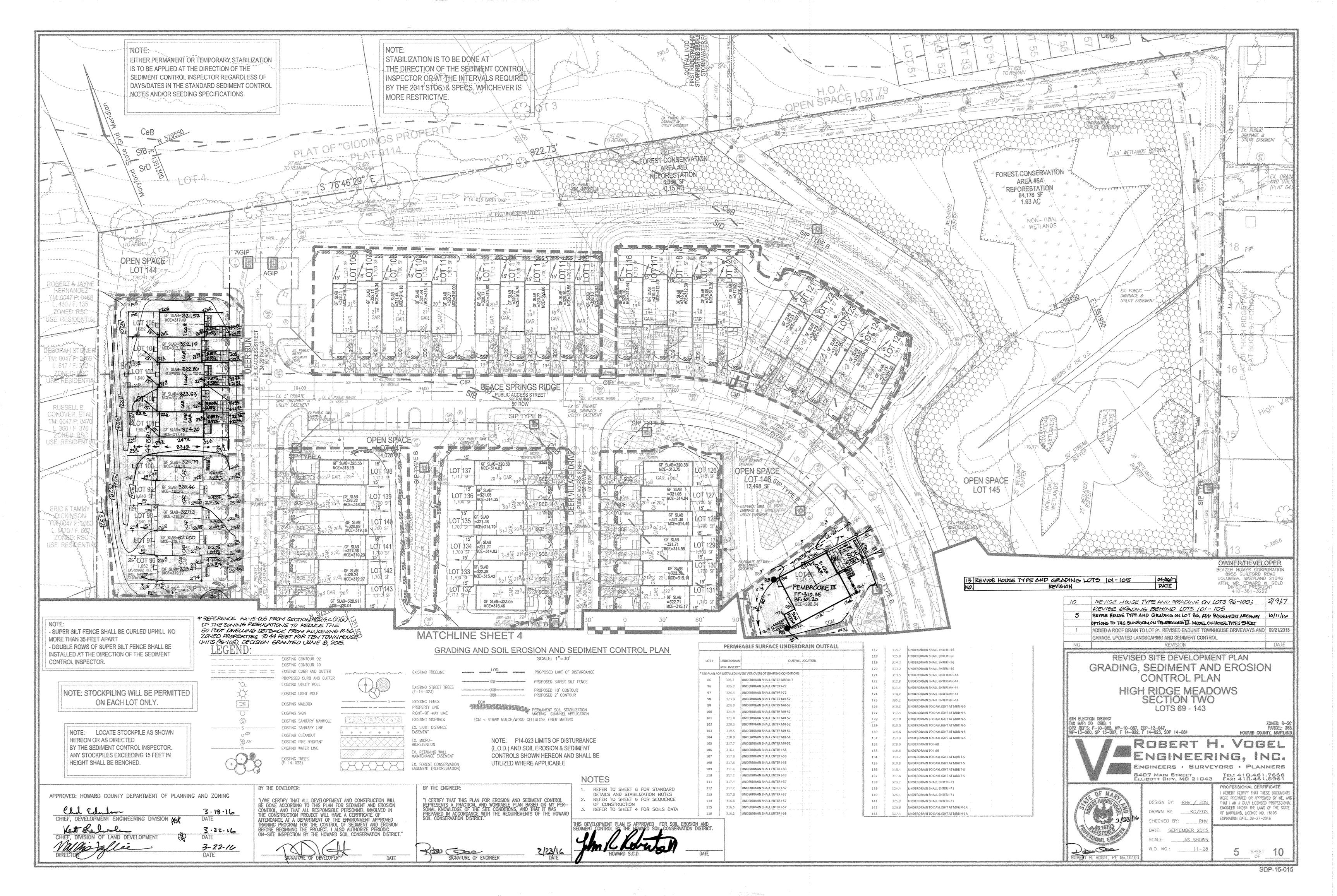
OPMENT ENGINEERING DIVISION 150 7-20-65 DIVISION OF LAND DEVELOPMENT DATE 7-21-15

HOWARD COUNTY, MARYLAND









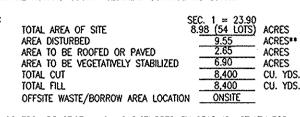
HOWARD SOIL CONSERVATION DISTRICT <u>STANDARD SEDIMENT CONTROL NOTES</u> A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIMISION PRIOR TO THE DEFINITION START OF ANY CONSTRUCTION, (313-1855).

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", 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 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 DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.



ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF TH INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, 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

TRENCHES FOR THE CONSTRUCTION OF LITHITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY,

A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 ACRES PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY. UNLESS OTHERWISE SPECIFIED A APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY

ESTIMATE ONLY; CONTRACTOR SHALL VERIFY QUANTITIES TO HIS OWN SATISFACTION. AREA INCLUDES EXISTING OLD SCAGGSVILLE ROAD RIGHT-OF-WAY

> B-4-4 STANDARDS AND SPECIFICATIONS TEMPORARY STABILIZATION

DEFINITION

CONDITIONS WHERE PRACTICE APPLIES

O USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

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

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

> 1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE 8.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE 8.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT 2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

> > TEMPORARY SEEDING SUMMARY

		ONE (FROM FIGURE E (FROM TABLE B.	- 0.0//	NE 6b	FELIZER RATE	LIME RATE
NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)	
1	COOL SEASON ANNUAL RYEGRASS OR EQUAL	40 LB / AC	MAR 1 TO MAY 15 AUG 1 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 FOXTAIL MILLET OR EQUAL	30 LB / AC	MAY 16 TO JUL 31	1/2 IN.		

BY THE DEVELOPER: "I/WE CERTIFY THAT ALL DEVELOPEMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON—SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

5/22/15 SIGNATURE OF ENGINEER

HIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND

SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION WAS CHIEF, DIVISION OF LAND DEVELOPMENT OF 7-20-15 7-21-15

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

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.

A. SEED MIXTURES

A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT HARDINESS 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. B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES. STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
C. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY. D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3-1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT

SEEDING SUMMARY A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE ENTER SELECTED MIXTURE(S) APPLICATION RATES AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED

KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT, IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUL OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT

II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT, CERTIFIED PERENNIAL RYEGRASS CULTIVARS/ CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SOHARE FEFT. CHOOSE A MINIMUM OF THREE KENTLICKY BLUEGRASS CHITTVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT. III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FUL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCU CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED. IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY

CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 11/2 TO 3 POUNDS PER 1000 SQUARE FEET. SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC

MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS

C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

 WESTEM MD: MARCH 15 TO JUNE 1. AUGUST ITO OCTOBER 1 (HARDINESS ZONES: SB. 6A - CENTRAL NO: MARCH 1 TO MAY 15 AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6R) - SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15

(HARDINESS ZONES: 7A, 7B) TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 11/4 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 FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS A. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR. B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH. PLUS OR MINUS 1/4 INCH. AT THE TIME OF CUITING, MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH, BROKEN PADS AND TOM OR UNEVEN ENDS WILL NOT BE C. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION. D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL. . SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR

SOIL SCIENTIST PRIOR TO ITS INSTALLATION. 2. SOD INSTALLATION A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD. B. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.

C. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SUPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE NDERLYING SOIL SURFACE. . WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET, COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT

3. SOD MAINTENANCE A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING. B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT. C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A

GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

PERMANENT SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): ZONE 6b SEED MIXTURE (FROM TABLE B.3): 9 (10-20-20) APPLICATION SEEDING SEEDING
RATE (LB/AC) DATES DEPTHS NO SPECIES T.F. 60 LB / AC MAR 1 TO MAY 15 45 LB/AC 90 LB/AC 90 LB/AC 2 TONS/AC 1/4-1/2 IN. (1 LB PER (2 LB PER (2 LB PER (90 LB PER K.B. 40 LB / AC AUG 15 TO OCT 15 1000 SF) 1000 SF) 1000 SF) 1000 SF)

> 8-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

<u>DEFINITION</u>
A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO

CONDITIONS WHERE PRACTICE APPLIES TOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE

ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.

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 WITICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.

CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL. AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

R-4-2 STANDARDS AND SPECIFICATIONS

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

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

A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES

BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC

AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT

HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMEN

IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH

C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING

MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIA

V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO

SUITABLE MEANS, RAKE LAWN AREAS TO SMOOTH THE SURFACE REMOVE LARGE ORIFCTS

PURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN

LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN

PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE

SOIL IN AN IRRECULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOLIR

I. 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 CONCEM HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW

B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET

C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON

D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY

E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER

THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED

OF THE SLOPE, LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE.

SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

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

REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-

A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO

B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH

TO SUPPORT PLANTS OR FLIRNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT

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.

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

B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA

GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON MY, THISTLE, OR OTHERS

BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF

CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY

VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS,

. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED

AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL

B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT

MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL

TO A MINIMUM THICKNESS OF 4 INCHES, SPREADING IS TO BE PERFORMED IN SUCH A

SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM

TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE

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

OR MORE, SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR

FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY.

APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND

RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES

COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR

ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR

FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE

SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT

TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND

TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH

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

SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

PER 1.000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

TRASH, OR OTHER MATERIALS LARGER THAN 11/2 INCHES IN DIAMETER.

AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

FORMATION OF DEPRESSIONS OR WATER POCKETS.

BE USED FOR CHEMICAL ANALYSES.

WARRANTY OF THE PRODUCER.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND

5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING

MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE

PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD

(GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD

A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. TH

RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).

IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CONDITIONS WHERE PRACTICE APPLIES

OR OTHER SUITABLE MEANS.

BE ACCEPTABLE

THE RESULTS OF A SOIL TEST.

PRODUCE VEGETATIVE GROWTH.

IL SCIENTIST AND APPROVE

6. TOPSOIL APPLICATION

I. SOIL PH BETWEEN 6.0 AND 7.0.

PERMANENT STABILIZATION

A. SOIL PREPARATION

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION 8-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING

DETAIL B-1 STABILIZED CONSTRUCTION & SCE ENTRANCE -FARTH FILE PROFILE LENGTH PLAN VIEW CONSTRUCTION SPECIFICATIONS PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN, VEHICLE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF SO FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM MOTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS. 2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE, PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN, WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT . Prepare subgrade and place nonwoven geotextile, as specified in section H-1 materials,

. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAK OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR RACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011

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

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

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

L.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 USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON AN PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.

B. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND

C. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL used. Temperatures above 75 to 80 degrees fahrenheit can weaken bacteria and make D. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO

PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS. A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

1. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE 8.1. PERMANENT SEEDING TABLE 8.3. OR SITE-SPECIFIC SEEDING SUMMARIES. II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD

SEED TO SOIL CONTACT. B. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

I. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.

II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. C. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND

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; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE, II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING. III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION. IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING I. MULCH MATERIALS (IN ORDER OF PREFERENCE) A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, LYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED. B. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE. . WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.

II. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS. III. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE 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

A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS
PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING

PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

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 WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD: I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR. II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET,
TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS
SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS V. LIGHTWEIGHT 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

DETAIL E-9-3 CURB INLET PROTECTION FT MAX. SPACING OF % TO 1% STONE 7

DETAIL E-3 SUPER SILT FENCE

CHAIN LINK FENCING --

WOVEN SLIT FILM GEOTEXTILE-

FLOW

CONSTRUCTION SPECIFICATIONS

SSF---

GALVANIZED CHAIN LINK FENCE WITH WOVEN SUIT FILM GEOTEXTILE

ELEVATION

CROSS SECTION

INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.

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

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

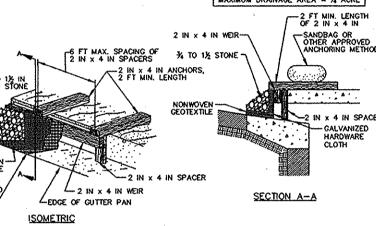
WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS

REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

2011



CONSTRUCTION SPECIFICATIONS

 USE NOMINAL 2 INCH x 4 INCH LUMBER 2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.

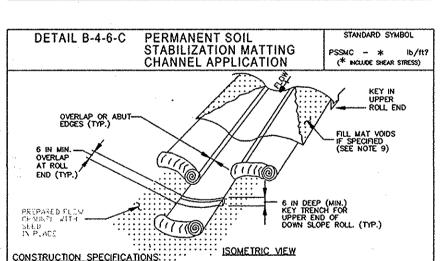
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART). ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, MTH A MINIMUM MOTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.

PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR. . PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2×4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.

INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING, COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.). AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET

10. STORM ORAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

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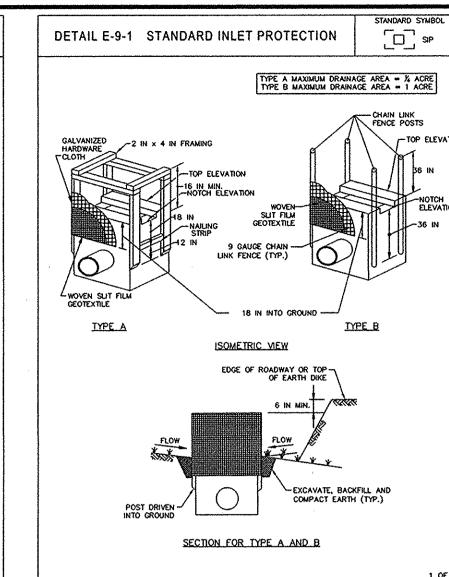


USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS. USE PERMANENT SOIL STABRUZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT, CHEIGLALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 222 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM BINCH MAIN LEQ, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD, WOOD STAVES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE ROUTON

PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER UNE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT. ESTABLISH AND MAINTAIN VECETATION SO THAT REQUIREMENTS FOR ADEQUATE VECETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VECETATIVE STABILIZATION.

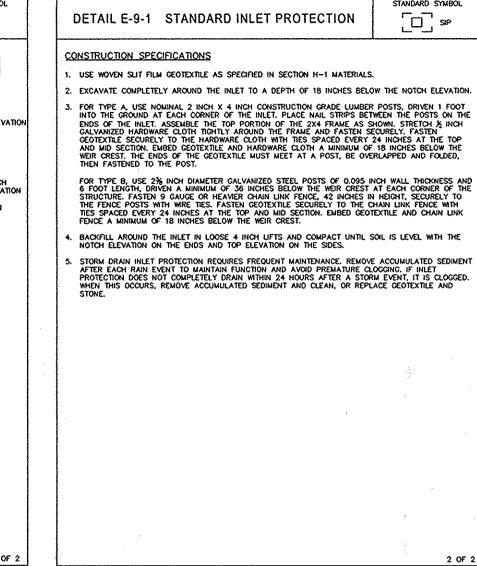
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION 2011



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

* 2011

AGIP DETAIL E-9-2 AT-GRADE INLET PROTECTION MAXIMUM DRAINAGE AREA = 1 ACRE - 1/2 TO 1/2 IN STONE NONWOVEN GEOTEXTILE -PLAN / CUT AWAY VIEW -% IN HARDWARE CLOTH CROSS SECTION CONSTRUCTION SPECIFICATION 1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. 2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE PLACE CLEAN % TO 1% INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING, IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMEN
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SEQUENCE OF CONSTRUCTION

U.S. DEPARTMENT OF AGRICULTURE TURAL RESOURCES CONSERVATION SERVICE

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

2011 MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

OBTAIN GRADING PERMIT. - 1 DAY DEVELOPER / CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO BEGINNING CONSTRUCTION. (1 DAY) NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK. (1 DAY) DRY UTILITIES (CABLE, GAS ELECTRIC) MUST BE INSTALLED AFTER ROAD CONSTRUCTION AND PRIOR TO THE INSTALLATION OF THE F 14-023 MICRO BIO RETENTION FACILITIES.

ANY F14-023 STORMWATER MANAGEMENT FACILITIES IN PLACE SHALL BE PROTECTED

FROM RECEIVING SEDIMENT LADEN WATERS FROM HOME CONSTRUCTION ACTIVITIES. STAKEOUT LIMITS OF DISTURBANCE. - 3 DAYS INSTALL STABILIZED CONSTRUCTION ENTRANCE. (1 DAY) IN ACCORDANCE WITH DETAILS HEREON, INSTALL SEDIMENT CONTROL MEASURES AS SHOWN IN PLAN VIEW (SHEETS 4 & 5), UTILIZE EXISTING CONTROLS OF F14-023 OR INSTALL AS DIRECTED BY SEDIMENT CONTROL INSPECTOR (5 DAYS) AFTER OBTAINING PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED, ROUGH GRADE INDIVIDUAL LOT FOR HOUSE CONSTRUCTION. (2 DAYS)

F14-023 WORK SHALL PLACE SITE TO GRADE WHERE HOUSE EXCAVATION STOCKPILING SHALL BE LIMITED TO INDIVIDUAL LOT. STOCKPILES SHALL BE STABILIZED AS DETAILED CONSTRUCT HOUSES. THE FIRST FLOOR ELEVATIONS CANNOT BE MORE THAN 1' HIGHER

OR 0.2' LOWER THAN THE ELEVATIONS SHOWN ON THIS PLAN. (6 MONTHS) FINE GRADE LOT AS DETAILED HEREIN AND PER SPOT ELEVATIONS AS SHOWN TO BE IN CONFORMANCE WITH STORMWATER MANAGEMENT SCHEME APPROVED FOR THE

UPON COMPLETION OF HOME CONSTRUCTION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, COMPLETE ANY REMAINING FINE GRADING, CONSTRUCT ONLOT STORMWATER MANAGEMENT FACILITIES TO INCLUDE: DRYWELLS, RAIN BARRELS, CONSTRUCT ONLOT PRIVATE MICRO-BIORETENTION FACILITIES AND/OR RAIN GARDENS, INSTALL ROOF GUTTER DOWNSPOUTS TO DIRECT ROOFTOP RUNOFF AS DIRECTED ON SHEETS 2 & 3. LOT GRADING SHALL MEET COMPLY (5% OR LESS) FOR THE DETAILED LENGTH FOR PROPER "DISCONNECTION CREDIT". (1 WEEK)

ADD TOPSOIL PER THE SPECIFICATIONS SHOWN HEREON AND INSTALL STABILIZATION MATTING (1 WEEK) ONCE FINAL GRADING IS COMPLETE INSTALL ALTERNATIVE SURFACE DRIVEWAYS IN

ACCORDANCE WITH APPENDIX B.4. SEE SHEET 9. SUBBASE SHALL BE CLEAN PRIOR TO INSTALLATION OF UNDERDRAINS AND DETAILED SURFACE. SOME DRIVEWAYS HAVE AN ADDITIONAL STONE REQUIREMENT BELOW STANDARD SUBBASE (SEE CHART ON SHEET 10 FOR LOTS AND REQUIRED STONE DEPTHS. CONTAMINATED (DIRT) SUBBASE SHALL BE REMOVED. THE BOTTOM OF EXCAVATION SHALL BE SCARIFIED TO PROMOTE INFILTRATION. CONSTRUCT ANY REMAINING SIDEWALKS.

WILL ALL ONLOT DISTURBANCES COMPLETED, STABILIZE WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH OR EQUAL. (1 DAY) AFTER PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE

ANY REMAINING E/S CONTROLS AND STABILIZE THE DISTURBED AREAS FROM THE AFOREMENTIONED DISTURBANCES WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. (1 WEEK)

NOTE: ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION

OWNER/DEVELOPER BEAZER HOMES CORPORATION 8955 GUILFORD ROAD COLUMBIA, MARYLAND 21046 ATTN: MR. EDWARD W. GOLD DIVISION PRESIDENT 410-381-3222

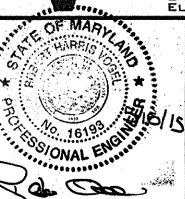
REVISION SITE DEVELOPMENT PLAN **GRADING AND SOIL EROSION** AND SEDIMENT CONTROL PLAN - DETAILS HIGH RIDGE MEADOWS

SECTION TWO

LOTS 69 - 143

TH ELECTION DISTRICT X MAP: 50 GRID: 1 Z REF'S: F-10-065, WP-10-087, ECP-12-047, P-13-080, SP 13-007, F 14-022, F 14-023, SDP 14-081

ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS . SURVEYORS . PLANNERS 8407 MAIN STREET TEL: 410.461.7666 ELLICOTT CITY, MD 21043 FAX: 410.461.8961



OBERT H. VOGEL, PE No.1619

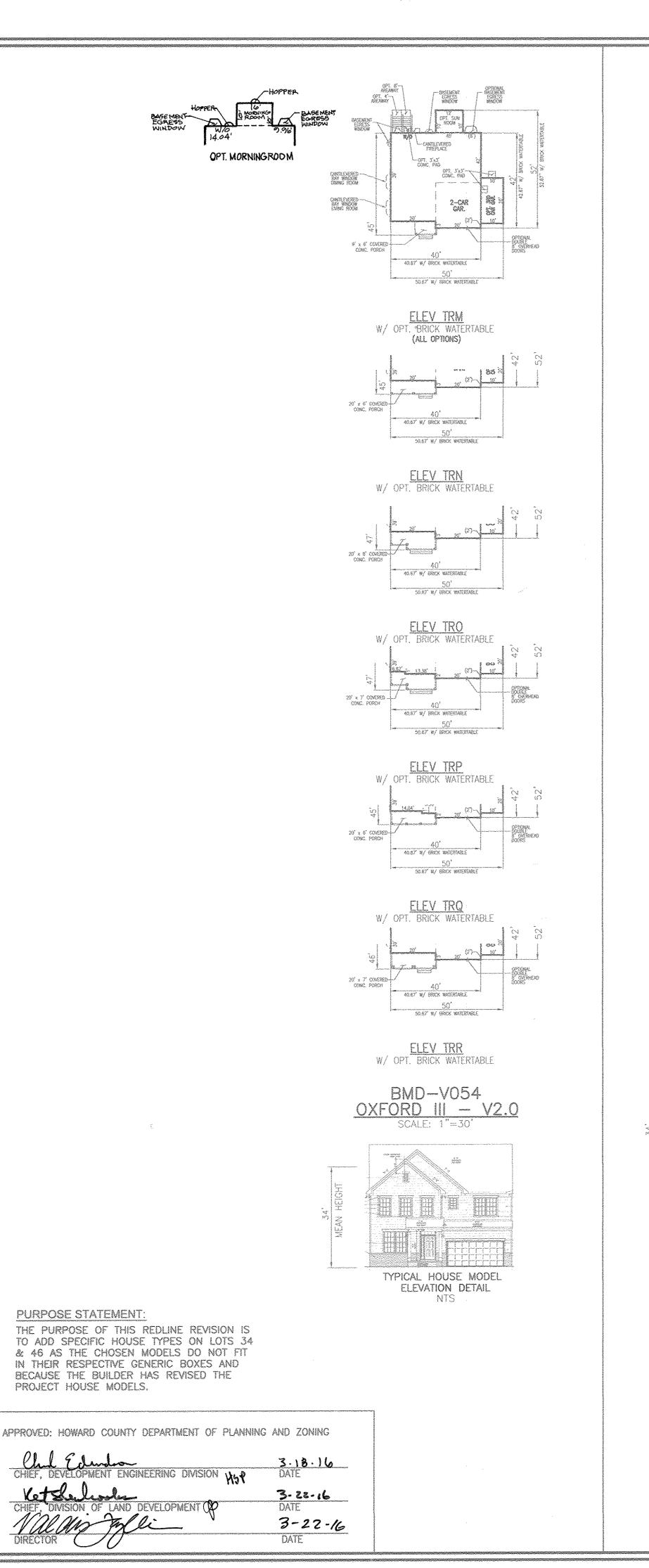
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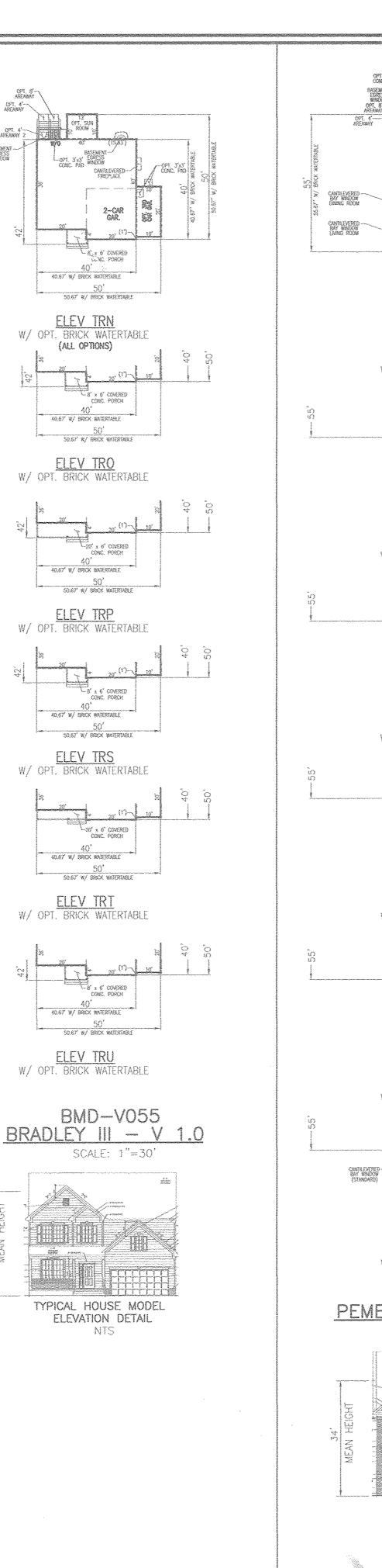
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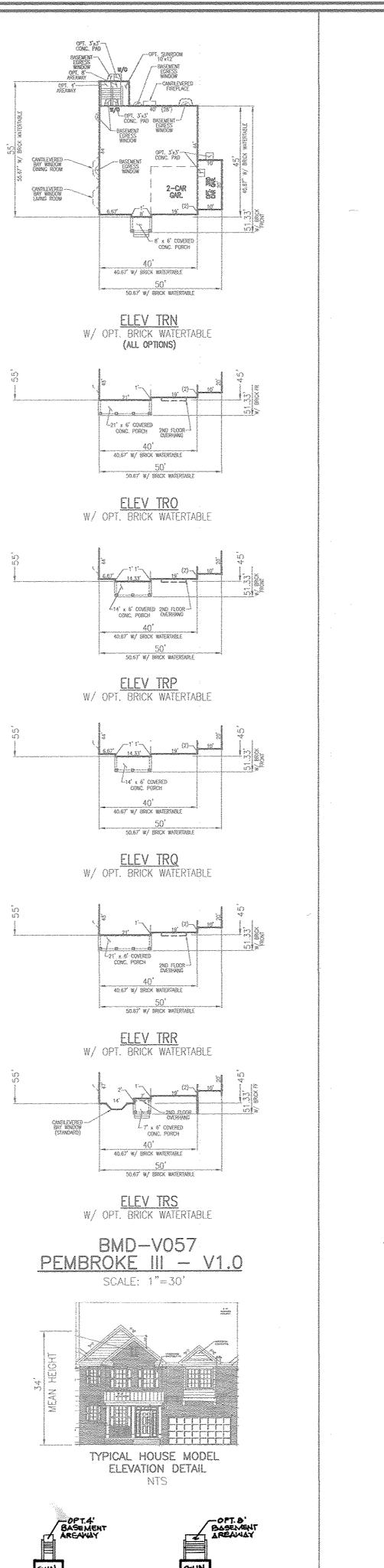
PROFESSIONAL CERTIFICATE I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2016

ZONED: R-SC PARCEL: 363

HOWARD COUNTY, MARYLAND

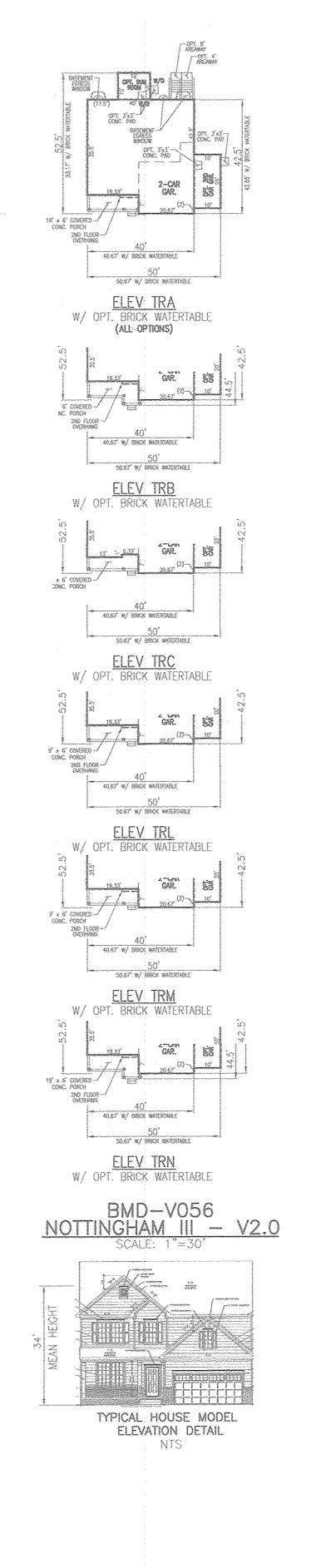


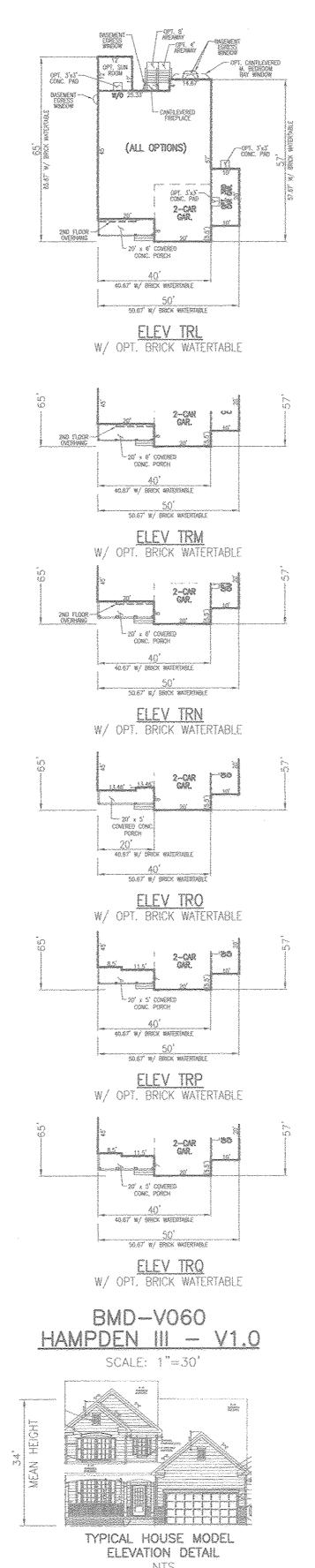


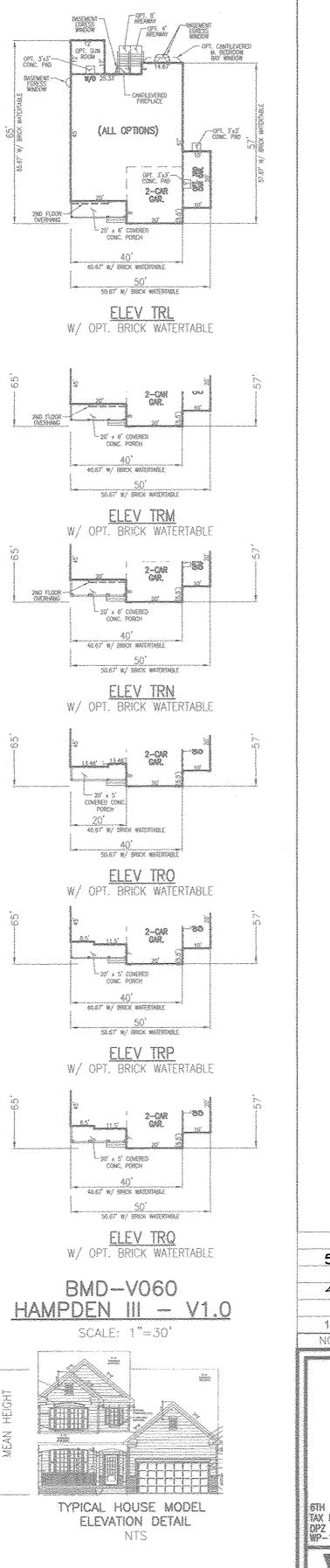


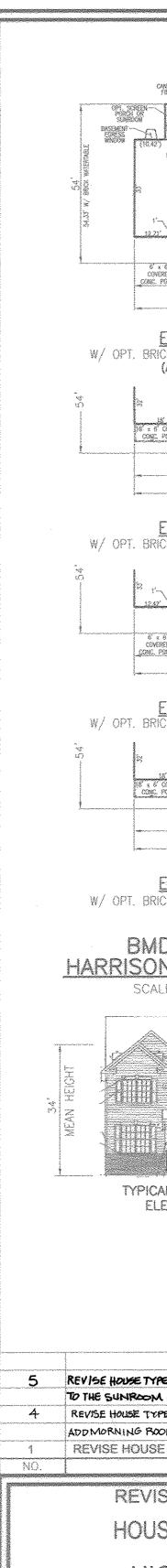
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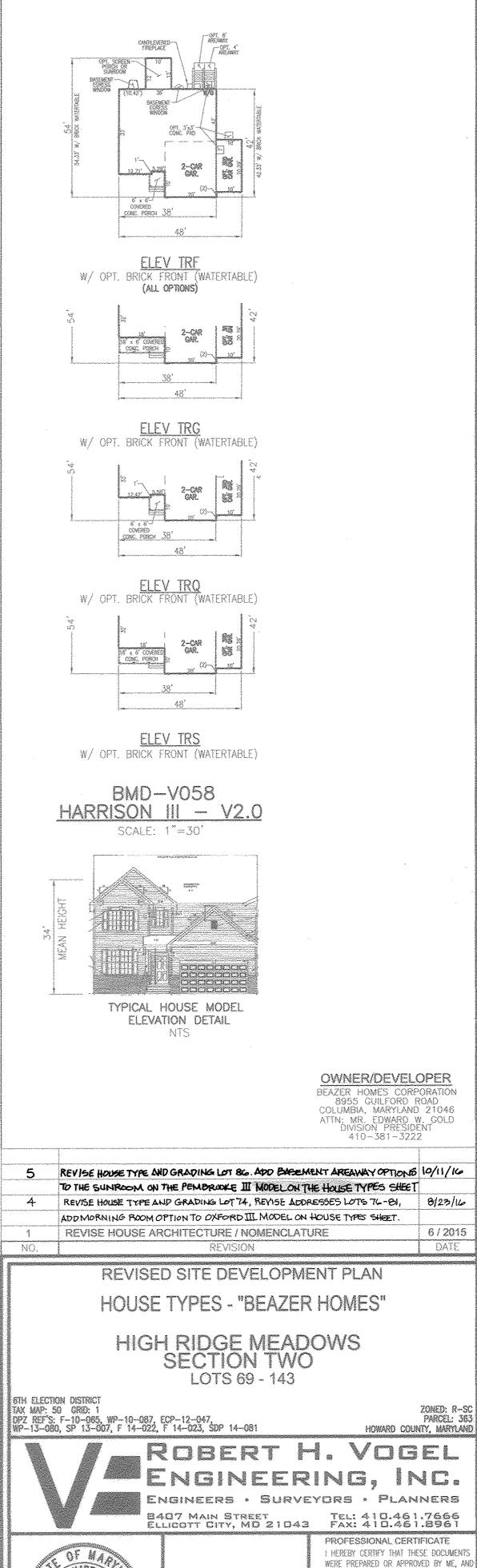
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DESIGN BY: RHY / EDS

DRAWN BY: KG/EDS

DATE: <u>SEPTEMBER 2015</u>

SCALE: AS SHOWN

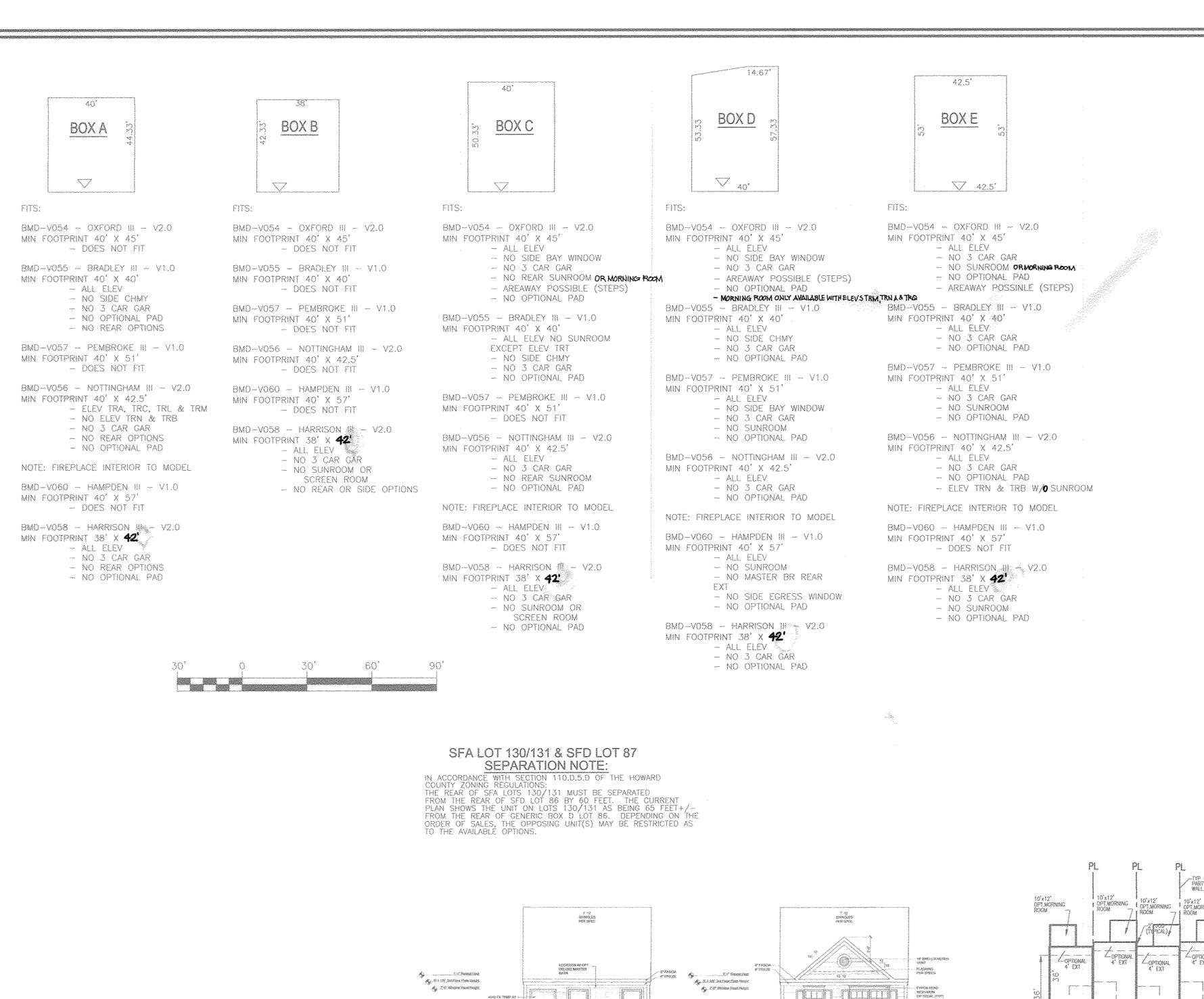
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SHEET 10

THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE

OF MARYLAND, LICENSE NO. 16193

EXPRAISON DATE: 09-27-2016



TOWNHOUSE MODEL RESTRICTION - BY LOT

36FT DEEP MODEL RECURRED. NO OPTIONAL REAR EXTENSION OR MORNING ROOM (1)

- 34FT DEEP MODEL REQUIRED. NO OPTIONAL REAR EXTENSION OR MORNING ROOM (1)

34FT DEEP WODEL REQUIRED. NO OPTIONAL REAR EXTENSION OR MORNING ROOM (1)

3/4/T DEEP MODEL REQUIRED. NO OPTIONAL REAR EXTENSION OR MORNING ROOM (1)

- 34ET DEEP MODEL REQUIRED. NO OPTIONAL REAR EXTENSION OR MORNING ROOM (1)

130 SPA REAR OPTIONS MAY BE LIMITED. SEE "SFA LOT 130/131 & SFD LOT 87 SEPARATION NOTE"

(2) ENCROACHMENT INTO OPEN SPACE LOT AND/OR 15 FT REQUIRED SEPARATION.
13) ENCROACHMENT INTO OPEN SPACE LOT & DRAINAGE & UTILITY FASEMENT

(4) ENCROACHMENT INTO OPEN SPACE LOT & SWIM, DRAINAGE & UTILITY EASEMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION HSP

SFA - REAR OPTIONS MAY BE UNSITED. SEE "SFA LOT 130/131 & SFD LOT 87 SEPARATION NOTE"

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

3.22.16

3-22-16

* HIP, GABLE OR

GAMBREL

ROOF TYPES

130 SFA NO OPTIONAL BRICK ON SIDE, (2 111 SFA NO OPTIONAL BRICK ON SIDE, (2

121 SEA - NO OPTIONAL PRICK ON SIDE, 13

137 SFA - NO OPTIONAL BRICK ON SIDE. (3)
138 SFA - NO OPTIONAL BRICK ON SIDE. (3)

140 SEA - NO OPTIONAL BRICK ON SUPE, D

SFA - NO OFFICMAL BRICK ON SIDE. (7

- NO OPTIONAL BRECK ON SIDE. (2

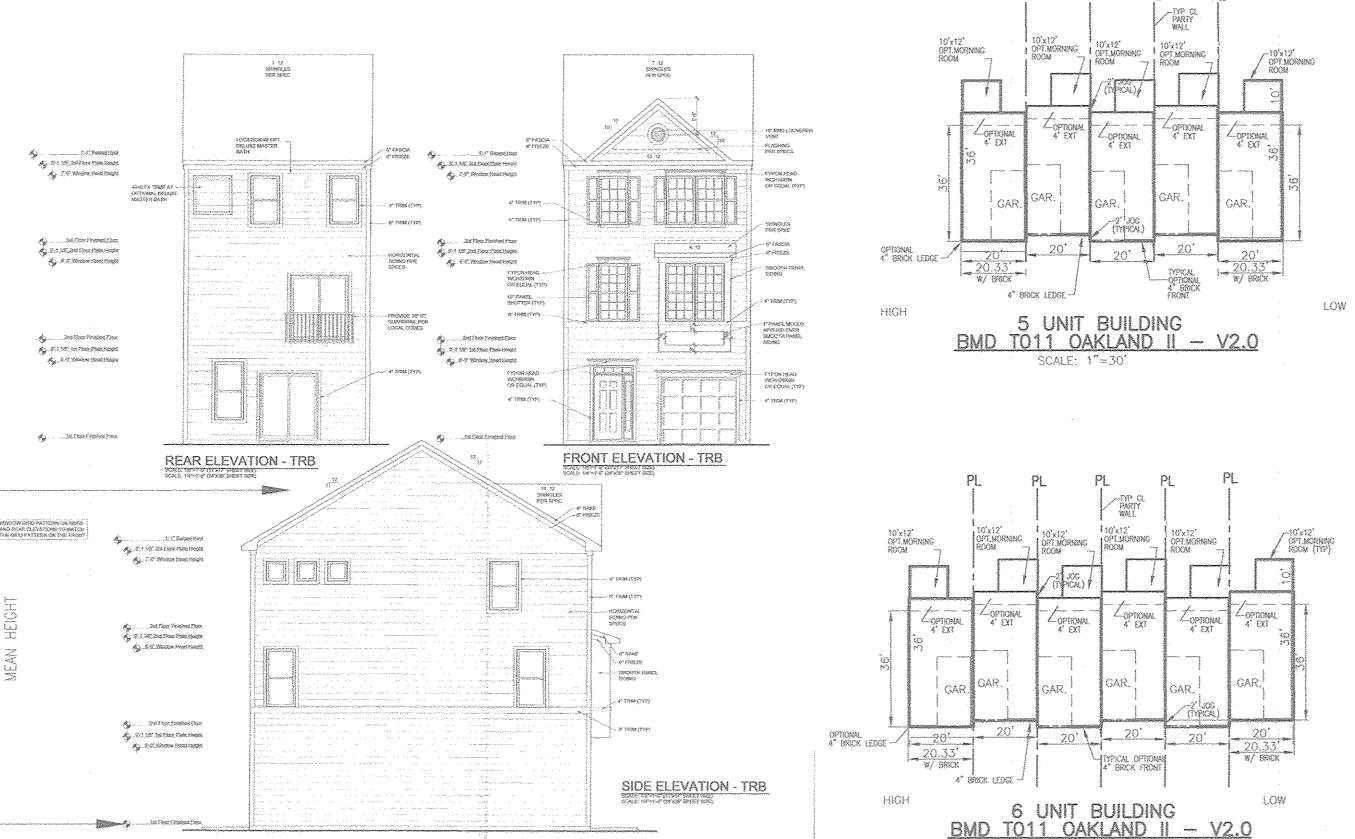
I- NO OPTIONAL SEICK ON SIDE, (2

MFT DEEP MODEL REQUIRED. NO OPTIONAL REAR EXTENSION OR MORNING ROOM (1)

- 34FT DEEP MODEL REQUIRED. NO OPTIONAL REAR EXTENSION OR MORNING ROOM (1), NO SIDE BRICK OPTION (2)

- 36T DEEP WODEL REQUIRED. NO OPTIONAL REAR EXTENSION OR MORNING ROOM (1), NO SIDE BRICK OPTION (2)

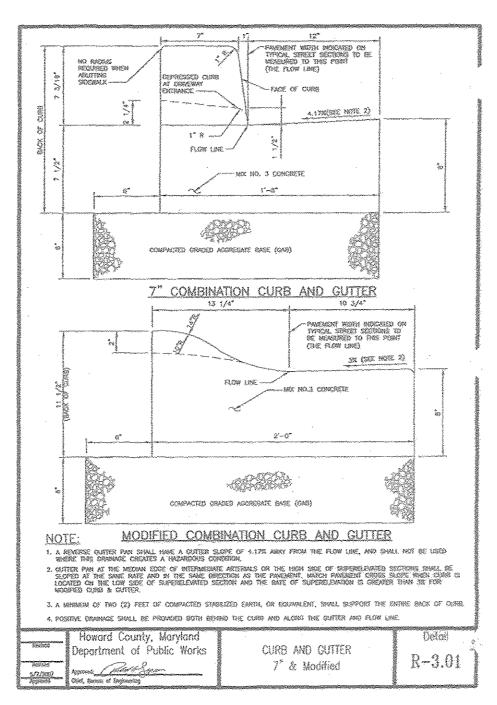
SFA 38T DEEP MODEL REQUIRED. NO OPTIONAL REAR EXTENSION OR MORNING ROOM (1), NO SIDE BRICK OPTION (2



BMD-T011 OAKLAND II - V2.0

TYPICAL ELEVATION VIEW

NOT TO SCALE



NOTES:

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Sampainteering Nove with which

2-0

MODIFIED COMBINATION CURR AND GUITER

Department of Public Works

OTE:

- 1. GENERIC HOUSE BOX MODEL FIT SHOWN HEREON
- 2. HOUSE BOXES ARE GENERIC AND SHOULD NOT BE CONSIDERED LIMITING. ADDITIONAL HOUSE TYPES AND OPTIONS MAY FIT ON ANY GIVEN LOT.
- 3. 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.
- 4. MODELS CHOSEN WHICH DO NOT FIT IN THE ABOVE GENERIC BOX, HOWEVER DO FIT ON INDIVIDUAL LOTS, SHALL UTILIZE THE HOWARD COUNTY REDLINE PROCESS.

LOT COVERAGE CHART

		·		g	
	LOT	BASE	BASE MODEL	MAX 60%	ALLOWABLE
LOT#	SIZE	MODEL	COVERAGE	COVERAGE	OPTIONS
		20 X 36	en e		
	<u>S</u> F	SF:	%	SF	
96	1652	720	43.6	991.2	271.2
	1			984.0	264.0
97	1640	720	43.9		4
98	1640	720	43.9	984.0	264.0
99	1640	720	43.9	984.0	264.0
100	1652	720	43.6	991.2	271.2
O15 96 -	100 WILL I	REQUIKE VARI I	ANCE FOR REA	R OP HONS.	
101	1652	720	43.6	991.2	271.2
102	1640	720	43.9	984.0	264.0
103	1640	720	43.9	984.0	264.0
104	1640	720	43.9	984.0	264.0
105	1652	720	43.6	991.2	271.2
OTS 101	- 105 WILL	REQUIRE VAR	IANCE FOR RE	AR OPTIONS	· Ý.
106	1713	720	42.0	1027.8	307.8
107	1700	720	42.4	1020.0	300.0
108	1700	720	42.4	1020.0	300.0
109	1700	720	42.4	1020.0	300.0
110	1713	720	42.0	1027.8	307.8
111	1713	720	42.0	1027.8	307.8
112	1700	720	42.4	1020.0	300.0
113	1700	720	42.4	1020.0	300.0
114	1700	720	42.4	1020.0	300.0
115	1713	720	42.0	1027.8	307.8
2.3.4					
116	1713	720	42.0	1027.8	307.8
117	1700	720	42.4	1020.0	300.0
118	1711	720	42.1	1026.6	306.6
119	1753	720	41.1	1051.8	331.8
120	1845	720	39.0	1107.0	387.0
121	1783	720	40.4	1069.8	349.8
122	1719	720	41.9	1031.4	311,4
123	1701	720	42.3	1020.6	300.6
124	1719	720	41.9	1031.4	311.4
125	1783	720	40.4	1069.8	349.8
126	1713	720	42.0	1027.8	307.8
127	1700	720	42.4	1020.0	300.0
128	1700	720 720	42,4	1020.0	300.0
129	1700	720	42.4	1020.0	300.0
			42.4	1020.0	300.0
130	1700	720		11.1.1.2.	
131	1713	720	42.0	1027.8	307.8
132	1713	720	42.0	1027.8	307.8
133	1700	720	42,4	1029.0	300.0
134	1700	720	42:4	1020.0	300.0
135	1700	720	42.4	1020.0	300.0
136	1700	720	42.4	1020.0	300.0
137	1713	720	42.0	1027.8	307.8
138	1713	720	42.0	1027.8	307.8
139	1700	720	42,4	1020.0	300.0
140	1700	720	42.4	1020.0	300.0
141	1700	720	42.4	1020.0	300.0
142	1700	720	42.4	1020.0	300.0
143	1713	720	42.0	1027.8	307.8
		c >>- %:		7-3-10-2-195	

** SEE SFA LOT 130/131 - SFD LOT 87 SEPARATION NOTE HEREON

OWNER/DEVELOPER

BEAZER HOMES CORPORATION

COMPACTED SUB-BASE-

7" CONSINATION CURB AND GUTTER

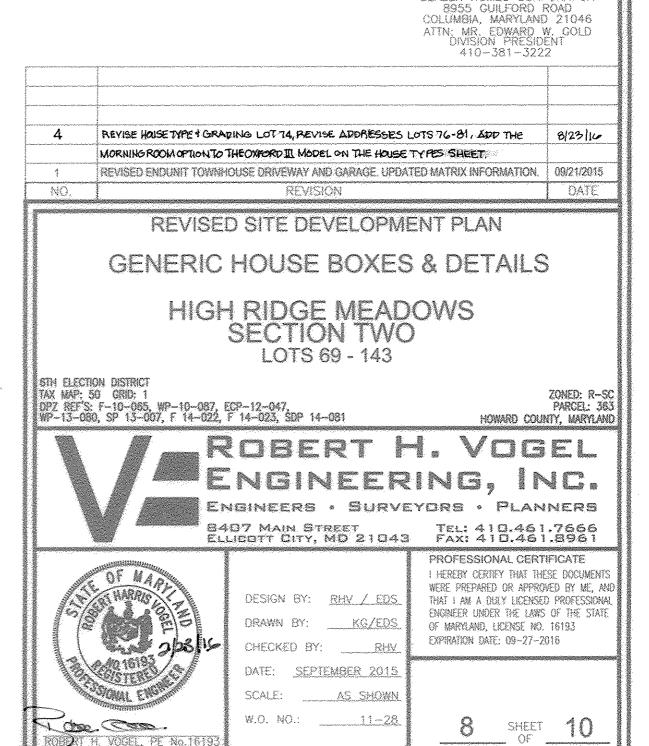
RESIDENTIAL DRIVEWAY ENTRANCE

Closed Section Roadway

without Sidewolk

-1/2" FEEDBAD DOMESE JOH F DEEMS CAN IS TO BE ROWND (TAYOU)

R-6.05



SDP-15-015

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 8.4.1.

2. FILTERING MEDIA OR PLANTING SOIL THE SOIL SHALL BE A UNIFORM MIX, 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 BERMUDA 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 CONTEN - 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 (30%), COARSE SAND (30%), AND COMPOST (40%).

* CLAY CONTENT — MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
* PH RANGE — SHOULD BE BETWEEN 5.5 — 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE 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 IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

T 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 LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW 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 ALLEWATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE 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 BIORETENION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE. WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT

EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS. 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 SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH, PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE. ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

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 DEFEATS, 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. UNDERDRAINS

UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

3. COMPACTION

* PIPE — SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OR HDPE). * PERFORATIONS — IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4x4) GALVANIZED HARDWARE CLOTH.

* GRAVEL — THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

* THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

* A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,0000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

* A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24". 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 1000 SQUARE FEET OF SURFACE AREA).

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

OPERATION AND MAINTENANCE

SCHEDULE FOR M-6, M-7 AND M-8 AREAS 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 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 WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

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." NOTE: UNDERDRAIN AND CHECK DAMS OF BIOSWALE SHALL BE PUBLICALLY MAINTAINED.

B.4.B SPECIFICATIONS FOR PERMEABLE PAVEMENTS & REINFORCED TURF

THESE SPECIFICATIONS INCLUDE INFORMATION ON ACCEPTABLE MATERIALS FOR TYPICAL APPLICATIONS AND ARE NOT EXCLUSIVE OR LIMITING. THE DESIGNER IS RESPONSIBLE FOR DEVELOPING SPECIFICATIONS FOR INDIVIDUAL PROJECTS AND SPECIFIC CONDITIONS. 1. PERVIOUS CONCRETE SPECIFICATIONS

DESIGN THICKNESS - PERVIOUS CONCRETE APPLICATIONS SHALL BE DESIGNED SO THAT THE THICKNESS OF THE CONCRETE SLAB SHALL SUPPORT THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED. APPLICATIONS MAY BE DESIGNED USING EITHER STANDARD PAVEMENT PROCEDURES (E.G., AASHTO, ACI 325.9R, ACI 330R) OR USING STRUCTURAL VALUES DERIVED FROM FLEXIBLE PAVEMENT DESIGN PROCEDURES.

MIX & INSTALLATION - TRADITIONAL PORTLAND CEMENTS (ASTM C 150, C 1157) MAY BE USED IN PERVIOUS CONCRETE APPLICATIONS. PHOSPHORUS ADMIXTURES MAY ALSO BE USED. MATERIALS SHOULD BE TESTED (E.G., TRIAL BATCHING) PRIOR TO CONSTRUCTION SO THAT CRITICAL PROPERTIES (E.G., SETTLING TIME, RATE OF STRENGTH DEVELOPMENT, POROSITY, PERMEABILITY) CAN BE DETERMINED. ACCREGATE - PERVIOUS CONCRETE CONTAINS A LIMITED FINE ACCREGATE CONTENT. COMMONLY USED GRADATIONS INCLUDE ASTM C 33 NO. 67 (3/4 IN. TO NO. 4), NO. 8 (3/8 IN. TO NO.16) AND NO. 89 (3/8 IN. TO NO.50) SIEVES. SINGLE-SIZED ACCREGATE (UP TO 1 INCH) MAY ALSO BE USED. WATER CONTENT - WATER-TO-CEMENT RATIOS BETWEEN 0.27 AND 0.30 ARE USED ROUTINELY WITH PROPER INCLUSION OF CHEMICAL ADMIXTURES. WATER QUALITY SHOULD MEET ACT 30A. AS A GENERAL RULE, POTABLE WATER SHOULD BE USED ALTHOUGH RECYCLED CONCRETE PRODUCTION WATER MEETING ASTM C 94 OR AASHTO M 157 MAY ALSO BE USED.

ADMIXTURES - CHEMICAL ADMIXTURES (E.G., RETARDERS OR HYDRATION-STABILIZERS) ARE USED TO OBTAIN SPECIAL PROPERTIES IN PERVIOUS CONCRETE. USE OF ADMIXTURES SHOULD MEET ASTM C 494 (CHEMICAL ADMIXTURES) AND ASTM C 260 (AIR ENTRAINING ADMIXTURES) AND CLOSELY FOLLOW MANUFACTURER'S RECOMMENDATIONS. BASE COURSE - THE BASE COURSE SHALL BE AASHTO NO. 3 OR 4 COURSE AGGREGATE WITH AN ASSUMED OPEN PORE SPACE OF 30% (n=0.30). 2. PERMEABLE INTERLOCKING CONCRETE PAVEMENTS (PICP)

PAVER BLOCKS - BLOCKS SHOULD BE EITHER 3? IN. OR 4 IN. THICK, AND MEET ASTM C 936 OR CSA A231.2 REQUIREMENTS. APPLICATIONS SHOULD HAVE 20% OR MORE (40% PREFERRED) OF THE SURFACE AREA OPEN. INSTALLATION SHOULD FOLLOW MANUFACTURER'S INSTRUCTIONS, EXCEPT THAT INFILL AND BASE COURSE MATERIALS AND DIMENSIONS SPECIFIED IN THIS APPENDIX SHALL BE FOLLOWED. INFILL MATERIALS AND LEVELING COURSE - OPENINGS SHALL BE FILLED WITH ASTM C-33 GRADED SAND OR SANDY LOAM. PICP BLOCKS SHALL BE PLACED ON A ONE-INCH THICK LEVELING COURSE OF ASTM C-33 SAND. BASE COURSE - THE BASE COURSE SHALL BE AASHTO NO. 3 OR 4 COURSE AGGREGATE WITH AN ASSUMED OPEN PORE SPACE OF 30% (n=0.30).

3. RFINFORCED TURF REINFORCED GRASS PAVEMENT (RGP) - WHETHER USED WITH GRASS OR GRAVEL, THE RGP THICKNESS SHALL BE AT LEAST 1-3/4" THICK WITH A LOAD CAPACITY CAPABLE OF SUPPORTING THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED.

7.20-15

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION VAC

DIVISION OF LAND DEVELOPMENTO

Valaro

DIRECTOR, PLANNING TONING

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

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil SEE O&M NOTE 5 [2' to 4' deep]	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f' _c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n∕a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand

DISCONNECTION OF ROOFTOP RUNOFF

CONSTRUCTION CRITERIA:

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

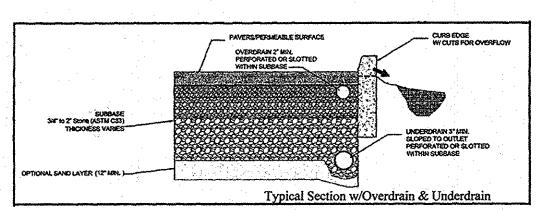
EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN VEGETATED AREAS RECEIVING DISCONNECTED RUNOFF

SITE DISTURBANCE: CONSTRUCTION VEHICLES AND EQUIPMENT SHOULD AVOID AREAS RECEIVING DISCONNECTED RUNOFF TO MINIMIZE DISTURBANCE AND COMPACTION. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTED, SCARIFYING 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.

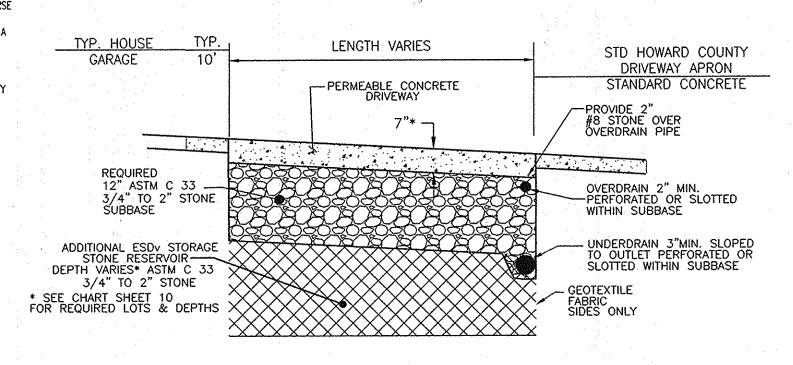
A FINAL INSPECTION SHALL BE CONDUCTED BEFORE USE AND OCCUPANCY APPROVAL TO ENSURE THAT SIZING FOR TREATMENT AREAS HAVE BEEN MET AND PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

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.



PERMEABLE SURFACE TYPICAL SECTION NOT TO SCALE



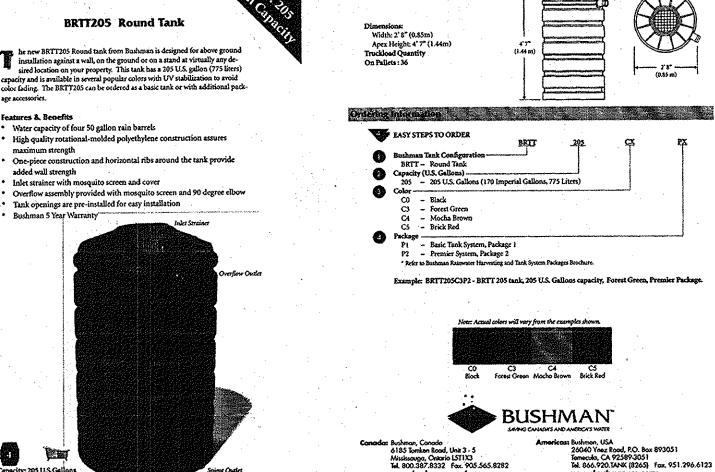
1. PAVEMENT CROSS SECTION TO BE CONFIRMED BY GEOTECHNICAL ENGINEER 2. UNDERDRAIN SHALL BE LOCATED SUCH THAT IT CAN DAYLIGHT TO THE CURB, INTO A BIO-RETENTION FACILITY OR TO THE REAR OF THE LOT

3. OVERDRAIN SHALL COMBINE WITH UNDERDRAIN OR DAYLIGHT AS DETAILED FOR UNDERDRAIN, SEE NOTE 2.
4. CLEANOUT ACCESS TO THE OVER/UNDER DRAIN SHALL BE PROVIDED

DETAIL - PERMEABLE CONCRETE DRIVEWAY - 5% OR LESS

NOT TO SCALE *ALL PERMEABLE CONCRETE THICKNESS. MIX AND SUB-BASE TO BE DETERMINED BY GEOTECHNICAL ENGINEER ONSITE.

BRTT205 Round Tank extures & Benefit Water capacity of four 50 gallon rain barrels maximum strength added wall strength Inlet strainer with mosquito screen and cover Tank openings are pre-installed for easy installation Bushman 5 Year Warranty



BUSHMAN BRTT205 (205 GALLON) RAIN HARVESTING SYSTEM OR EQUIVALENT RAIN BARREL DETAIL NOT TO SCALE

HOWARD COUNTY - OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED RAINWATER HARVESTING (M-1)

THE OWNER SHALL EMPTY BARRELS ON A MONTHLY BASIS AND CLEAN BARREL WITH A HOSE.

THE OWNER SHALL VERIFY INTEGRITY OF LEAF SCREENS, GUTTERS,

DOWNSPOUTS, SPIGOTS, AND MOSQUITO SCREENS, AND CLEAN AND

REMOVE ANY DEBRIS. THE OWNER SHALL REPLACE DAMAGED COMPONENTS AS NEEDED.

THE OWNER SHALL ALLOW THE BARREL TO DRAIN BY BOTTOM SPIGOT during the Winter Season.

TYPICAL RAIN BARREL DESIGN

= 27.41 CUFT 7.48 GAL/CUFT 500 SF X (X") = 27.41 CUFT

12 (27.41 CUFT)

THEREFORE A 205 GALLON BARREL CAPTURES PF OF 0.66" FROM A 500 SF SECTION OF PROPOSED ROOFTOP THE REMAINING PORTION OF THE 500 SF SECTION OF ROOFTOP IS P = 0.34". This can be achieved by A 40' DISCONNECTION OF ROOFTOP RUNOFF LENGTH.

5'-0" 1/2" PERFORMED PERMEABLE -EXPANSION JOINT-CONCRETE NOTE: TOP OF SIDEWALK TO BE 1/4" ABOVE THE TOP OF CURE 2% 3/4" TO 2" STONE _____ 2" PERFORATED OR SLOTTED OVERDRAIN ASTM C33 12" DEPTH CONNECT TO CURB OPENING PASS THRU STRUCTURES DETAIL - PERMEABLE CONCRETE WALK SIDEWALK TO BE SCRIBED IN 5'-0" MAXIMUM SQUARES. LEADWALKS PER BUILDER SPECIFICATION 3' TYP. EXPANSION JOINTS ACROSS THE SIDEWALK NOT TO BE MORE THAN 15' APART. SIDEWALK AND CURB.

1/2" PREFORMED EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" BELOW SURFACE OF SIDEWALK. WHEN SIDEWALK ABUTS CURB, SIDEWALK SHALL BE 1/4' ABOVE CURB WITH 1/2" PREFORMED EXPANSION JOINT BETWEEN 5. ON LONGITUDINAL SIDEWALK GRADES OF 5 OR GREATER, A CONCRETE HEADER, 6 THICK AND 6" DEEP BELOW THE NORMAL 4" SIDEWALK THICKNESS SHALL BE CONSTRUCTED FOR THE FULL WIDTH OF THE SIDEWALK AT INTERVALS OF 48 FEET. THE HEADERS SHALL BE PLACED AT THE EXPANSION JOINT LOCATIONS AND SHALL BE MONOLITHIC WITH THE SIDEWALK. \

6. SIDEWALK WIDTH ADJACENT TO CURB SHALL BE 5 MINIMUM EXCEPT SIDEWALK ADJACENT TO CURB IN CUL-DE-SAC BULBS 7. CEMENT SHALL BE PER AASHTO M85 AIR ENTRAINING - TYPE II PORTLAND TYPE, GRAY COLOR. MIX AND DELIVER CONCRETE IN ACCORDANCE WITH ASTM C94/C94M, OPT:ON C WITH THE FOLLOWING CRITERIA: TENSILE STRENGTH: 500 PSI AT 28 DAYS. COMPRESSIVE STRENGTH: 3000 PSI AT 28 DAYS UNIT WEIGHT: 130 POUNDS/CF. STOEN SHALL BE NO. 8 COARSE AGGREGATE PER

8. CONCRETE MIX SHALL BE DESIGNED BY GEO TECHNICAL CONSULTANT. BASE BELOW THE CURB SHALL CONSIST OF GRADED AGGREGATE BASE(GAB).

PERMEABLE PAVEMENTS

CONSTRUCTION CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING CONSTRUCTION OF PROJECTS WITH PERMEABLE PAVEMENT FINAL GRADING FOR INSTALLATION SHOULD NOT TAKE PLACE FROSION AND SEDIMENT CONTROL: UNTIL THE SURROUNDING SITE IS STABILIZED. IF THIS CANNOT BE ACCOMPUSHED, RUNOFF FROM DISTURBED AREAS SHALL BE DIVERTED AROUND PROPOSED PAVEMENT LOCATIONS.

SOIL COMPACTION: SUB SOILS SHALL NOT BE COMPACTED. CONSTRUCTION SHOULD BE PERFORMED WITH LIGHTWEIGHT, WIDE TRACKED EQUIPMENT TO MINIMIZE COMPACTION. EXCAVATED MATERIALS SHOULD BE PLACED IN A CONTAINED AREA.

OVERDRAIN, UNDERDRAIN, AND DISTRIBUTION PIPES SHALL BE CHECKED TO ENSURE THAT BOTH THE MATERIAL AND PERFORATIONS MEET SPECIFICATIONS (SEE APPENDIX B. 4). THE UPSTREAM ENDS OF PIPES SHOULD BE CAPPED PRIOR TO INSTALLATION, ALL UNDERDRAIN OR DISTRIBUTION PIPES USED SHOULD BE INSTALLED FLAT ALONG THE BED BOTTOM.

SUBBASE AGGREGATE SHALL BE CLEAN AND FREE OF FINES. THE SUBBASE SHALL BE PLACED IN LIFTS AND LIGHTLY ROLLED ACCORDING TO THE SPECIFICATIONS (SEE APPENDIX B.4). INSPECTION:

REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:

DURING EXCAVATION TO SUB GRADE. DURING PLACEMENT AND BACKFILL OF ANY DRAINAGE OR DISTRIBUTION SYSTEM(S).

DURING PLACEMENT OF THE CRUSHED STONE SUBBASE MATERIAL. DURING PLACEMENT OF THE SURFACE MATERIAL.

UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

MAINTENANCE CRITERIA:

THE FOLLOWING PROCEDURES SHOULD BE CONSIDERED ESSENTIAL FOR MAINTAINING PERMEABLE PAVEMENT SYSTEMS: PAVEMENTS SHOULD BE USED ONLY WHERE REGULAR MAINTENANCE CAN BE PERFORMED. MAINTENANCE AGREEMENTS SHOULD CLEARLY SPECIFY HOW TO CONDUCT ROUTINE TASKS TO ENSURE LONG-TERM

PAVEMENT SURFACES SHOULD BE SWEPT AND VACUUMED TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY, SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING SYSTEMS AND COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING.

DRAINAGE PIPES, INLETS, STONE EDGE DRAINS, AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE SHOULD BE CLEANED OUT AT REGULAR INTERVALS.

TRUCKS AND OTHER HEAVY VEHICLES CAN GRIND DIRT AND GRIT INTO THE POROUS SURFACES, LEADING TO CLOGGING AND PREMATURE FAILURE. THESE VEHICLES SHOULD BE PREVENTED FROM TRACKING AND SPILLING MATERIAL ONTO THE PAVEMENT:

DEICERS SHOULD BE USED IN MODERATION, WHEN USED, DEICERS SHOULD BE NON-TOXIC AND ORGANIC AND CAN BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT. SNOW PLOWING SHOULD BE DONE CAREFULLY WITH BLADES SET ONE-INCH HIGHER THAN NORMAL. PLOWED SNOW PILES AND SNOW MELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT.

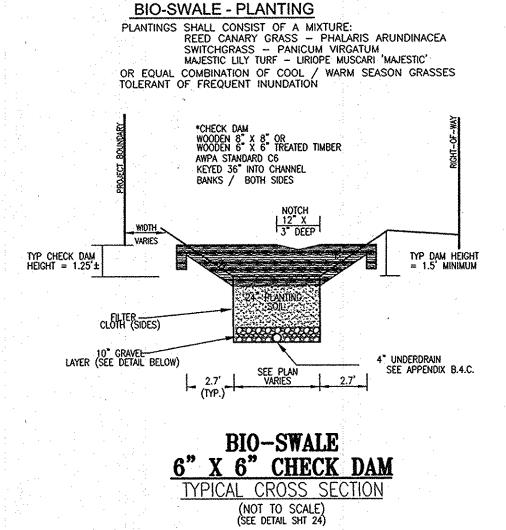
HOWARD COUNTY - OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)

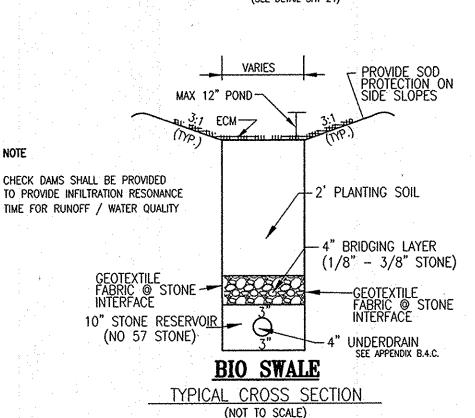
THE OWNER SHALL PERIODICALLY SWEEP (OR VACUUM POROUS CONCRETE PAVEMENT) THE PAVEMENT SURFACES TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING.

THE OWNER SHALL PERIODICALLY CLEAN DRAINAGE PIPES, INLETS, STONE EDGE DRAINS AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE

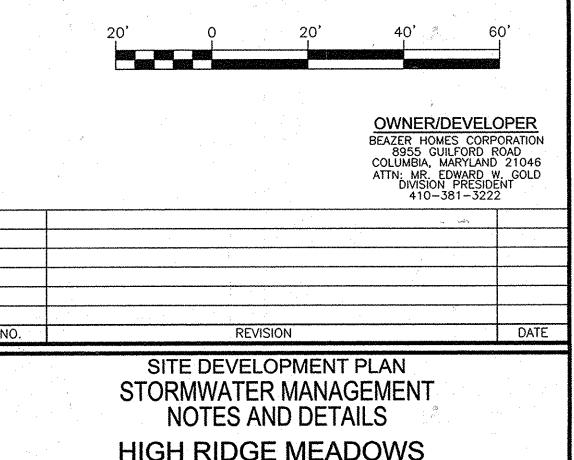
THE OWNER SHALL USE DEICERS IN MODERATION, DEICERS SHOULD BE NON-TOXIC AND BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT.

THE OWNER SHALL ENSURE SNOW PLOWING IS PERFORMED CAREFULLY WITH BLADES SET ONE-INCH ABOVE THE SURFACE. PLOWED SNOW PILES AND SNOW MELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT.





NOTE: FINAL ELEVATIONS ARE TO BE PROVIDED AT SITE PLAN.



HIGH RIDGE MEADOWS SECTION TWO LOTS 69 - 143

AX MAP: 50 GRID: 1 DPZ REF'S: F-10-065, WP-10-087, ECP-12-047, VP-13-080, SP 13-007, F 14-022, F 14-023, SDP 14-081 HOWARD COUNTY, MARYLAND ROBERT H. VOGEL Engineering, Inc. ENGINEERS . SURVEYORS . PLANNERS 8407 MAIN STREET TEL: 410.461.7666 ELLICOTT CITY, MD 21043 FAX: 410.461.8961 PROFESSIONAL CERTIFICATE

OF MARL

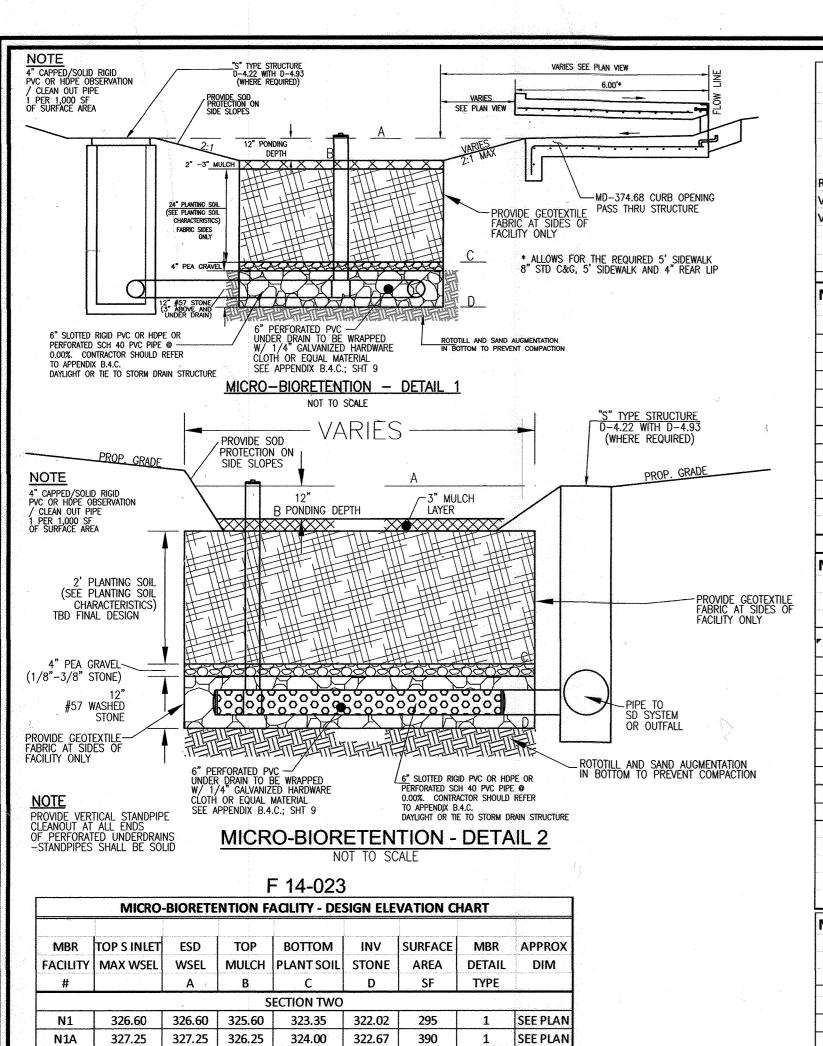
ROBERT H. VOGEL, PE No.161

6TH ELECTION DISTRICT

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND DESIGN BY: RHV / EDS THAT I AM A DULY LICENSED PROFESSIONAL DRAWN BY: KG/EDS CHECKED BY: DATE: APRIL 2015 AS SHOWN W.O. NO.:

FNGINFFR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2016 <u>11-28</u>

SHEET



321.70 321.70 320.70 318.45 317.12 210 1 SEE PLAN 318.40 318.40 317.40 315.15 313.82 1100 2 SEE PLAN

320.70 320.70 319.70 317.45 316.12 410 1 SEE PLAN

305.90 | 305.90 | 304.90 | 302.65 | 301.32 | 333 | 1 | SEE PLAN

304.20 304.20 303.20 300.95 299.62 1000 1 SEE PLAN

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 SEE PLAN

REFER TO SHEET F14-023 FOR PLANTING NOTES, DETAIL AND SCHEDULES

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION NSP

CHIEF, DIVISION OF LAND DEVELOPMENTO

7-21-15

7-20-15

Market Visit Control of the Principle of	- Andrew Control of the Control of t	<u> </u>		75	<u>en of</u> N	11403 -	JECT		-y - Ee	DV CU	ITIFU	<u>TATIONS</u>
	Site Compu	itations:	Rv =	0.288	7							
Makana Tanana 1000 sa Pantanahan Indonesia			A =	36.9	4 Acres	ESDv =	61940	cuft			ļ	
			Pe =	1.	6 inches		ļ.,					
Rv=0.05+(0.000VI							- }		<u> </u>	<u>.</u>	
	0.003X1 0" rainfall			(1.0 x Rv x	A)/12		į				<u></u>	
and the same of the same of	r rainfall=2.6	3"		(2.6 x Rv x			-				1	
	oz is encine				1		4.61	LACHBAR	IAADED\/	INADEDV	CDEEN	DEMARKS
DA #	% IMPERV	Rv	DA (SF)	DA (AC)	VOLUME	MAXIMUM VOLUME	1.6" VOLUME	VOLUME PROVIDED*	IMPERV (SF)	IMPERV (AC)	GREEN AREA	REMARKS
			(3)	(AG	VOLOIVIL	VOLONIC	VOLOIVIL	TROVIDED	(31)	(AC)	ANLA	
NORTH	AREA#1	- Pe = 1	.6" Provid	ed							}	* Accounts for 75% Ponding Volume, See Computation
2	19.67	0.2270	22215	0.51	420	1093	673	717	4370	0.10	0.41	NON-STRUCTURAL, MICROSCALE & BIO SWALE
 2A	51.12	0.5101	14079	0.32	598	1556	958	1063	7197	0.17	0.16	NON-STRUCTURAL, ALT SURFACE, & MICRO-BIO RETENT
3	70.75	0.6868	10900	0.25	624	1622	998	998	7712	0.18	0.07	NON-STRUCTURAL, ALT SURFACE, & MICRO-BIO RETENT
4	34.97	0.3647	40520	0.93	1232	3202	1971	2197	14170	0.33	0.60	NON-STRUCTURAL, ALT SURFACE, MICRO SCALE, & MIC
5	75.31	0.7278	9800	0.22	594	1545	951	966	7380	0.17	0.06	ALT SURFACE, & MICRO-BIO RETENTION
6	45.87	0.4629	11800	0.27	455	1183	728	800	5413	0.12	0.15	NON-STRUCTURAL, ALT SURFACE & MICRO-BIO RETENT
7	35.10	0.3659	35870	0.82	1094	2844	1750	1838	12592	0.29	0.53	NON-STR. & MICRO-SCALE PRAC., ALT SURFACE & MICRO-BIO RI
8	62.07	0.6086	29600	0.68	1501	3903	2402	2466	18372	0.42	0.26	NON-STR, ALT SURFACE, & MICRO-BIO RETENTION
T4	51.86	0.5168	22000	0.51	947	2463	1516	1550	11410	0.26	0.24	NON-STRUCTURAL & MICRO-BIO RETENTION
T5	68.39	0.6655	14300	0.33	793	2062	1269	1358	9780	0.22	0.10	NON-STRUCTURAL, ALT SURFACE, & MICRO-BIO RETENT
THE REPORT OF THE PERSON OF TH	46.6	0.4695	211084	4.85	8259	21474	13215	13953	98396	2.26	2.59	
	1.0,0				1 0233		20220		5000			
NORTH	AREA#1	- MIN P	e = 1.00"	Provided	(Underdr	ain / Outf	all Flows	Toward S	ubarea 12	2)	a contraction of the contraction	* Accounts for 75% Ponding Volume, See Computation
							and the second s				1	
DA	% IMPERV	Rv	DA	DA	MINIMUM	MAXIMUM	1.6"	VOLUME	IMPERV	IMPERV	GREEN	REMARKS
#			(SF)	(AC)	VOLUME	VOLUME	VOLUME	PROVIDED*	(SF)	(AC)	AREA	
1	47.71	0.4794	14510	0.33	580	1507	927	591	6923	0.16	0.17	NON-STRUCTURAL, MICRO SCALE, ALT SURFACE & MICR
1A	59.80	0.5882	7062	0.16	346	900	554	601	4223	0.10	0.07	NON-STRUCTURAL, ALT SURFACE, & MICRO-BIO RETENT
T 2	77.77	0.7499	16330	0.37	1021	2653	1633	1211	12700	0.29	0.08	NON-STRUCTURL, ALT SURFACE
Т3	66.80	0.6512	10000	0.23	543	1411	868	566	6680	0.15	0.08	ALT SURFACE, & MICRO-BIO RETENTION
T 6	72.41	0.7017	7575	0.17	443	1152	709	739	5485	0.13	0.05	ALT SURFACE
Т7	72.57	0.7031	7660	0.18	449	1167	718	739	5559	0.13	0.05	ALT SURFACE
T8	80.25	0.7723	4360	0.10	281	730	449	506	3499	0.08	0.02	ALT SURFACE
Т9	93.31	0.8898	3230	0.07	240	623	383	337	3014	0.07	0.00	ALT SURFACE
12	21.99	0.2479	51230	1.18	1058	2752	1694	4007	11267	0.26	0.92	Pe = 1.6" provided
	11.0					 			BIO-SWAL	F FACILITY S	IZED EOR	NON-STRUCTURAL & BIO SWALE DIFFERENCE IN THE
		e to come the second common street and the	The second secon			to to the second or the second					of a transmission of the good field better the con-	DUAL DRAINAGE AREAS AND
					**************************************		ethere i an qui et tra i trada, e est e fui de describit que e			1.6", SEE CC		
								*				
·	48.7	0.4880	121957	2.80	4959	12894	7935	9297	59350	1.36	1.44	
NORTH	AREA#1	- REQUI	IRED Pe = :	1.6" Prov	ided (Und	lerdrains	/ Outfall	Flows Free	ely)	4,000		* Accounts for 75% Ponding Volume, See Computations
and the second s											1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
DA	% IMPERV	Rv	DA	DA		MAXIMUM		VOLUME	IMPERV	IMPERV	GREEN	REMARKS
#			(SF)	(AC)	VOLUME	VOLUME	VOLUME	PROVIDED*	(SF)	(AC)	AREA	
T1	28.28	0.3045	14850	0.34	377	980	603	750	4200	0.10	0.24	NON-STRUCTURAL & BIO SWALE
68	28.88	0.3099	5665	0.13	146	380	234	241	1636	0.04	0.09	NON-STR, MICROSCALE PRACTICES
71	26.60	0.2894	6150	0.14	148	386	237	238	1636	0.04	0.10	NON-STR, MICROSCALE PRACTICES
72	32.00	0.3380	5425	0.12	153	397	244	250	1736	0.04	0.08	NON-STR, MICROSCALE PRACTICES
75	28.57	0.3071	3150	0.07	81	210	129	131	900	0.02	0.05	NON-STR, MICROSCALE PRACTICES
88	26.84	0.2916	12000	0.28	292	758	467	487 1448	3221 9940	0.07 0.23	0.20	NON-STR, MICROSCALE PRACTICES NON-STR, ALT SURFACE, MICROSCALE PRACTICES
10	26.65	0.2898	37300	0.86	901	2342	1441	1448	9940	0.23	0.03	NON-SIN, ALI SUNFACE, MICROSCALE PRACTICES
	27.5	0.2977	84540	1,94	2097	5453	3356	3545	23269	0.53	1.41	
	- In the state of	چىنگى ئەسىسىد - ئىسىسىد										
NORTH	TOTALS			and the second point of th								
	and the second s	a apariguses autorization operation per periodication in an array aparitament of spaces arrangements are a paritament array and service					and an assessment of the second of the secon	WALLET-	184050.	I INADEC.	Corre	
ment in the second second most endinesses	% IMPERV	Rv	DA (SF)	DA (AC)	VOLUME	MAXIMUM VOLUME	1.6" VOLUME	VOLUME PROVIDED	IMPERV (SF)	IMPERV (AC)	GREEN AREA	
	43.3	0.4401	(SF) //17591	(AC)	15316	39822	24506	26795	181015	(AC)	5.43	

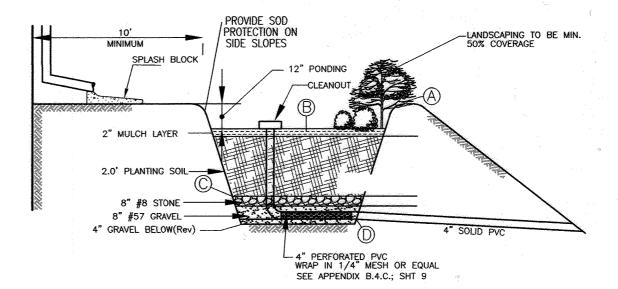
43.3 0.4401 417581 9.59 15316 39822 24506 **26795** 181015 4.16 5.43

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			POROUS CONCTERE		ti a anno anno anno anno anno anno anno a	and the second s	RAINGARDEN	the contract of the contract o	#OF
	DRYWELLS	SIZE	DRIVEWAY	STONE DEPTH	LEADWALK	RAINGARDEN		RAIN BARREL*	DISCONNECTION
<u> </u>	M-			A-2	and the second s	M-		M-1	N-1
69	1	8X8X4	YES	NO	NO-	NO.		NO	1
70	1	6X6X4	VEC.		VEC	<u> </u>			
70	NO.		YES	NO	YES	NO NO		1	2
71	NC NC		YES	NO	YES	NO.		1	1
72 73	NO NO		YES YES	NO	YES YES	NO NO		1 1	NO 3
74	1	8X8X4	YES	NO NO	165	NO NO		1	2
75	1 NO		YES	1FT		NO NO		1	3
76	NO.		YES	1FT		NO NO		1	3
77	NO		YES	1FT		NO		1	2
78	NO		YES	NO		NO		1	1
79	NC NC		YES	NO		NO		1	1
80	NO		YES	NO		NO		1	1
81	NO		YES	NO		NO		1	NO
82	NO)	YES	1FT	7	NO)	1	4
83	NO)	YES	1FT		NO)	2	3
84	NO)	YES	NO		NO)	1	2
85	NO)	YES	NO		N()	2	2
86	NO)	YES	NO		N()	2	2
87	NC)	YES	NO		1	150	1,	2
88	2	8X8X4	YES	NO	: :	N()	NO	NO
89	2	8X8X4	YES	NO		N()	NO	1
90	2	8X8X4	YES	NO		NO)	NO	2
91	NC NC)	YES	NO		1	125	2	2
92	NO.		YES	NO		1	135	2	2
93	2	8X8X4	YES	NO		NO.		NO	1
94	2	8X8X4	YES	NO		1 1	115	1	NO
95		8.5X8.5X4	 	NO		N(NO	2
96	NO		YES	1.2 FT	YES	NO		NO	2
97	NC	·	YES	1.2 FT	YES	NO		NO	2
98	NC NC		yES YES	1.2 FT	YES	N(**************************************	NO	2
99	NC NC		YES	1.2 FT	YES	NO.		NO NO	2
100	NC NC		YES	1.2 FT	YES	NO NO		NO NO	2
101	NO NO		YES YES	1.2 FT	YES YES	NO NO		NO NO	2
103	NO NO		YES	1.2 FT 1.2 FT	YES	NO NO		NO NO	2
103	NC NC		YES	1.2 FT	YES	NO NO		NO NO	
105	NC NC		YES	1.2 FT	YES	NO NO		NO	2
106	NC NC	·	YES	2.1 FT	YES	NC NC		NO NO	1
107	NC NC		YES	2.1 FT	YES	NC NC		NO	1
108	NC		YES	2.1 FT	YES	NC NC		NO	1
109	NC NC		YES	2.1 FT	YES	NO		NO	1
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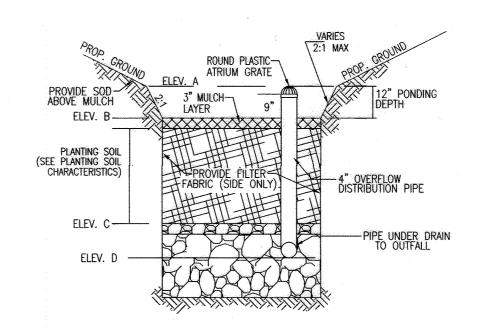
LOT#	# OF DRY			ERNATIVE SURF	ACE POROUS CONCTERE	MICROS # OF	SCALE RAINGARDEN	MICROSCALE # OF	NON-STRUCTURAL #OF																				
	and the second second second second second	IZE	DRIVEWAY	STONE DEPTH	LEADWALK	RAINGARDEN		RAIN BARREL*	DISCONNECTIONS *																				
	M-5	+	÷	A-2	20/10///	M-		M-1	N-1																				
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111	l no	ľ	YES	1.75 FT	YES	NO	· · · · · · · · · · · · · · · · · · ·	NO	1																				
112	NO		YES	1.75 FT	YES	NO		NO	1																				
113	NO		YES	1.75 FT	YES	NO)	NO	1																				
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116	NO		YES	1.75 FT	YES	NO)	NO	1																				
117	NO		YES	1.75 FT	YES	NO) ~	NO	1																				
118	NO.	. 1	YES	1.75 FT	YES	NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO	1
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141	NO		YES	NO	YES	NO)	NO	2																				
142	NO		YES	NO	YES	NO		NO	2																				
143	NO		YES	NO	YES	NO)	NO	2																				
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STORMWATER PRACTICE BY LOT

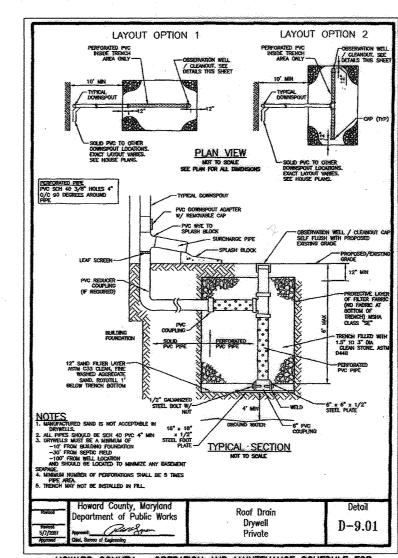
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TYPICAL RAIN GARDEN CROSS SECTION



TYPICAL DETAIL
LOT 91 RAIN GARDEN (OVERFLOW)



HOWARD COUNTY - OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRYWELL (M-5)

A. THE OWNER SHALL INSPECT & CLEAN ANNUALLY, INCLUDING

PIPES GUTTERS DOWNSPOUTS AND FILTERS.

B. PONDING STANDING WATER OR ALGAL GROWTH ON THE TOP OF A DRYWELL MAY INDICATE FAILURE DUE TO SEDIMENTATION IN THE GRAVEL MEDIA. IF WATER PONDS FOR MORE THAN 48 HOURS AFTER A MAJOR STORM OR MORE THAN SIX INCHES OF SEDIMENT HAS ACCUMULATED, THE GRAVEL MEDIA SHOULD BE EXCAVATED AND REPLACED.

F 14-023

	ON	I-LOT DRYV	VELL - DE	SIGN ELE	VATION C	HART	e helektira jakajan jaranga at jar
SWM	DW	NUMBER	PROP	TOP	INV	SURFACE	STONE
DA	LOT	OF DW'S	GRADE	STONE	STONE	SIZE	DEPTH
	#	To a first of the second	OVER			FTXFT	FT
LOT 63	69 F	1 1	331.00	330.00	326.00	6.0X6.0	4
14-022	69 R	1	333.00	332.00	328.00	6.0X6.0	4
LOT 68	74 F	1	329.50	328.50	324.50	8.0X8.0	4
14-022	Andrew State of the State of th						
10	88 R	1	293.00	292.00	287.00	8.0X8.0	5
	88 R	1	295.00	294.00	289.00	8.0X8.0	5
	89 R	1	295.00	294.00	289.00	8.0X8.0	5
	89 R	1	298.00	297.00	292.00	8.0X8.0	5
	90 R	1	298.50	297.50	292.50	8.0X8.0	5
	90 R	1	302.50	301.50	296.50	8.0X8.0	5
	93 R	1	302.00	301.00	296.00	8.0X8.0	5
	93 R	1	304.00	303.00	298.00	8.0X8.0	5
G3	94 F	1	304.50	303.50	300.50	8.0X8.0	3
	94 R	1	308.20	307.20	304.20	8.0X8.0	3
"75"	95 R	1	309.00	308.00	304.00	8.5X8.5	4
•	95 R	1	309.90	308.90	304.90	8.0X8.0	4

R= REAR OF LOT F= FRONT OF LOT

ELEVATION CHART MAY CHANGE DUE TO ACTUAL HOUSE SITE

RG SURFACE REQUIRED PROPOSED
FACILITY AREA PLANTINGS PLANTINGS

#

SOUTH AREA

87 150 3 3 LINDERA BENZOIN - SPICEBUSH
3 VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY

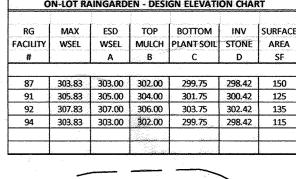
91 125 2 2 LINDERA BENZOIN - SPICEBUSH
2 VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY

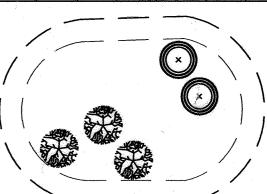
92 135 2 2 LINDERA BENZOIN - SPICEBUSH
2 VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY

94 115 2 2 LINDERA BENZOIN - SPICEBUSH
2 VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY

94 115 2 2 LINDERA BENZOIN - SPICEBUSH
2 VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY

1. RG # REFERS TO PROPOSED LOT NUMBER FOR LOCATION
2. TYP. 100 SF X 75% X .0229 STEMS PER SQUARE FOOT = 2 PLANTS





TYPICAL PLANTING DETAIL FOR RAINGARDENS

	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARI
0	9	VIBURNUM TRILOBUM AMERICAN HIGHBUSH CRANBERRY	5 GALLON	CONT
3	9	SPICEBUSH LINDERA BENZOIN	3 GALLON	CONT

TYP. 100 SF X 75% X .0229 STEMS PER SQUARE FOOT = 2 PLANTS FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH

OPERATION AND MAINTENANCE SCHEDULE FOR RAIN GARDEN AREAS

- 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.
- 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
- 4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

OWNER/DEVELOPER

BEAZER HOMES CORPORATION
8955 GUILFORD ROAD
COLUMBIA, MARYLAND 21046
ATTN: MR. EDWARD W. GOLD
DIVISION PRESIDENT

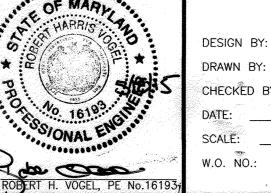
	OLEF DEV	ELOPMENT PL	
NO.	R	EVISION	D,
19	REVISE THE PLAN TO REVISE SU	VM ON LOT 91	11-
			L.X.

STORMWATER MANAGEMENT NOTES & DETAILS HIGH RIDGE MEADOWS SECTION TWO LOTS 69 - 143

6TH ELECTION DISTRICT
TAX MAP: 50 GRID: 1
DPZ REF'S: F-10-065, WP-10-087, ECP-12-047,
WP-13-080, SP 13-007, F 14-022, F 14-023, SDP 14-081

ROBER
ENGINE
ENGINEERS • S
8407 MAIN STREET

ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS · SURVEYORS · PLANNERS B407 Main Street ELLIGOTT CITY, MD 21043 FAX: 410.461.7666 FAX: 410.461.8961



PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS
WERE PREPARED OR APPROVED BY ME, AN
THAT I AM A DULY LICENSED PROFESSIONA
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 09-27-2016

SCALE: AS SHOWN

11-28

10 SHEET 10

HOWARD COUNTY, MARYLAND

DP-15-015