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
- 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 PRÉPARED 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.
- SHC ELEVATIONS ARE LOCATED AT THE PROPERTY LINE/EDGE OF EASEMENT. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING
 - 1-800-252-1133 BGE (CONSTRUCTION SERVICES) 410-637-8713
 - BGE (EMERGENCY) 410-685-0123 BUREAU OF UTILITIES 410-313-4900 COLONIAL PIPELINE CO
- 410-795-1390 1-800-257-7777 MISS UTILITY STATE HIGHWAY ADMINISTRATION 410-531-5533 VERIZON 1-800-743-0033 THERE ARE NO EXISTING DWELLING/STRUCTURES LOCATED ON THIS SITE.
- IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS, OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR
- ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT 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)
- B) SURFACE 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN.) C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE, AND MINIMUM 45 FOOT
- D) STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING)
- 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
- LOTS 26 31 AND OPEN SPACE LOT 57 & 68 SHALL UTILIZE THE USE-IN-COMMON ACCESS EASEMENT. A USE-IN-COMMON MAINTENANCE AGREEMENT WAS PREVIOUSLY RECORDED AS L 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. 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
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD
- WATER FOR THIS PROJECT IS TO BE PUBLIC CONTRACT 24-4778-D AN EXTENSION OF CONTRACT NO. 1-W. SEWER FOR THIS PROJECT IS TO BE PUBLIC CONTRACT 24-4778-D AN EXTENSION OF CONTRACT NO. 30-S AND CONTRACT
- NO. 30-3253. 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.
- 27. OLD SCAGGSVILLE ROAD IS CLASSIFIED AS A MINOR COLLECTOR.
- A FOREST STAND DELINEATION PLAN WAS PREPARED BY MCCARTHY & ASSOCIATES, INC., APRIL 2012 AND AMENDED OCTOBER 2012. - 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
- 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 SURETY 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.
- A GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS CARNES ENGINEERING ASSOCIATES, INC., DATED AUGUST 2012 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.
- AN ENVIRONMENTAL CONCEPT PLAN (ECP12-047) WAS APPROVED ON OCTOBER 1, 2012.
- A PRELIMINARY EQUIVALENT SKETCH PLAN (SP13-007) WAS APPROVED ON JULY 3, 2013. 36. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE
- MANUAL, TOTAL FINANCIAL SURETY FOR THE REQUIRED STREET SIDE LANDSCAPING IN THE AMOUNT OF \$ 9,300 FOR THE 18 SHADE TREES AND 26 EVERGREEN TREES SHALL BE POSTED WITH THE GRADING PERMIT FOR SDP-14-081. SEE SHEETS 2.3.5.6 AND 7 37. PUBLIC STREET TREES AND PREIMETER LANDSCAPING WAS PROVIDED FOR THIS PROJECT UNDER F-14-022 ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY WAS POSTED AS PART OF THE
- F-14-022 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. WETLANDS AND STREAMS SHOWN HEREON ARE BASED ON DELINEATION BY MCCARTHY & ASSOCIATES, INC., DECEMBER 2011. THE REPORT WAS

- THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- 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 DIS737802 ON MARCH 13, 2014. HIGH RIDGE MEADOWS COMMUNITY ASSOCIATION

HOMEOWNERS ASSOCIATION COVENANTS AND RESTRICTIONS WERE RECORDED SIMULTANEOUSLY WITH F 14-022 AS LIBER 15877 FOLIO 457,

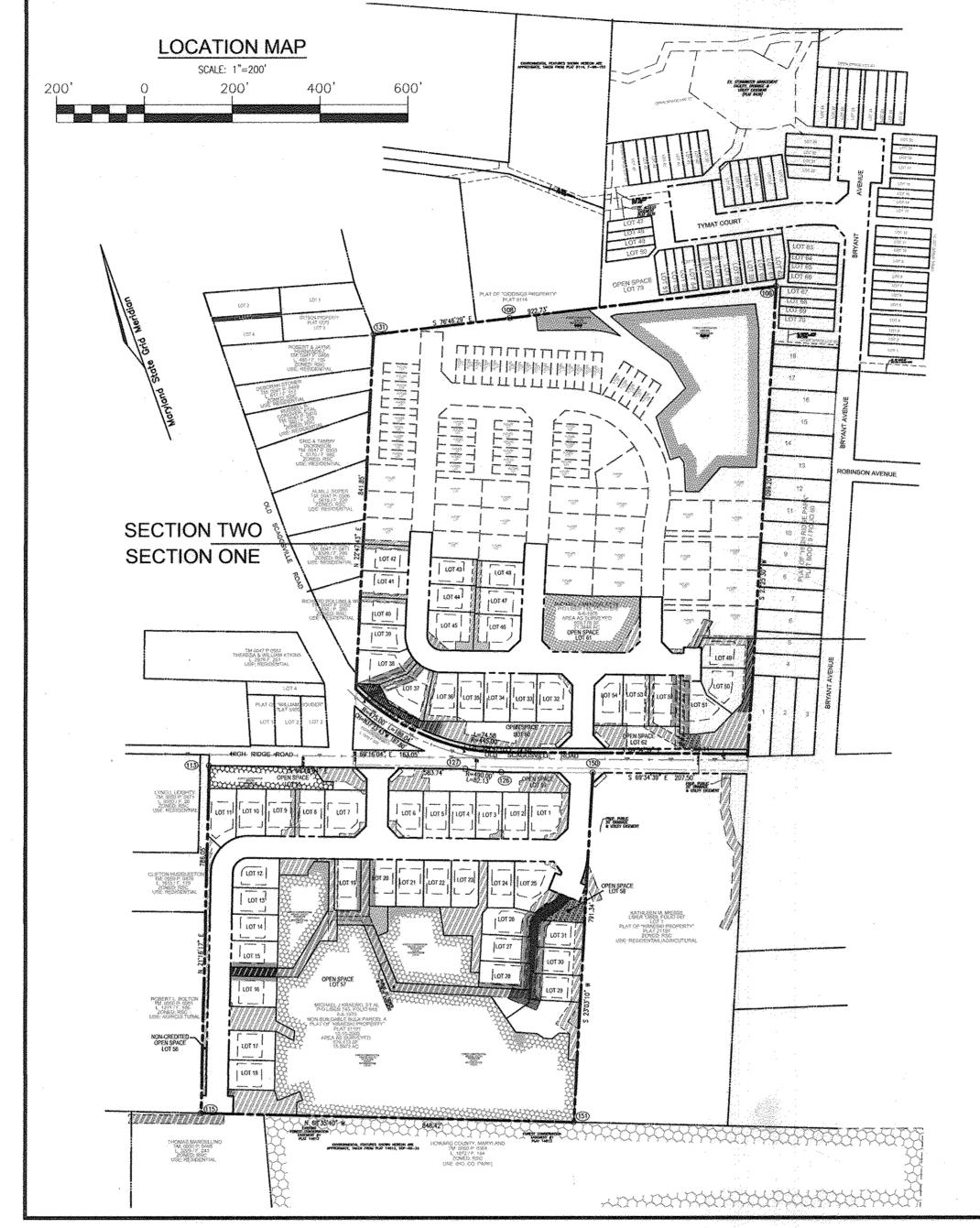
- THIS PROJECT IS SUBJECT TO A DESIGN MANUAL WAIVER. ON DECEMBER 4, 2012, THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION APPROVED THE REQUEST TO WAIVE THE REQUIREMENTS OF SECTION 2.5 AND APPENDIX A OF DESIGN MANUAL VOLUME III; WHICH REQUIRES AN 85TH PERCENTILE SPEED STUDY AND PUBLIC ROADWAY SECTION 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. 7. ALL TRASH AND RECYCLING WILL BE COLLECTED WITHIN 5' OF THE COUNTY ROADWAYS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 3-19-15

MIN	IIMUM LOT	SIZE CHART	MIN LOT SIZE 6,000 SF
LOT #	GROSS AREA	PIPESTEM AREA	NET AREA
26	7,018 SF	245 SF	6,773 SF
27	7,207 SF	436 SF	6,771 SF
28	7,615 SF	638 SF	6,977 SF
29	7,480 SF	706 SF	6,774 SF
30	7,065 SF	496 SF	6,569 SF
31	6,600 SF	277 SF	6,323 SF
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SITE DEVELOPMENT PLAN HIGH RIDGE MEADOWS - SECTION ONE

OLD SCAGGSVILLE RÓAD HOWARD COUNTY, MARYLAND



GENERAL NOTES (CON'T)

- 48. 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). 3. 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
- 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 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

JUSTIFICATION TO THE DEPARTMENT OF PLANNING AND ZONING IF NOT FEASIBLE (LOSS OF LOT YIELD ALONE WILL NOT BE CONSIDERED AMPLE

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: . EXTRAORDINARY CIRCUMSTANCES OR DESIGN CONSTRAINTS RESULTING IN SIGNIFICANT HARDSHIP WERE NOT INDICATED IN THE WAIVER JUSTIFICATION. DESIGN ALTERNATIVES EXIST THAT WOULD PREVENT THE LOT BEING SURROUNDED ON FOUR SIDES BY PAVED DRIVE LANES. PLEASE SEE DLD . 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 TO 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 FROM ADJOINING LOTS. WAIVERS SHALL NOT BE USED TO ACHIEVE MAXIMUM LOT YIELD AT THE EXPENSE OF GOOD SUBDIVISION DESIGN.
- 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.

DESCRIPTION	SHEET NO
COVER SHEET	1 OF 18
SITE LAYOUT & LANDSCAPE PLAN	2 OF 18
SITE LAYOUT & LANDSCAPE PLAN	3 OF 18
SITE LAYOUT	4 OF 18
SITE LAYOUT & LANDSCAPE PLAN	5 OF 18
SITE LAYOUT & LANDSCAPE PLAN	6 OF 18
SITE LAYOUT & LANDSCAPE PLAN	7 OF 18
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN	8 OF 18
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN	9 OF 18
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN	10 OF 18
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN	11 OF 18
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN	12 OF 18
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN	13 OF 18
GRADING AND SOIL EROSION & SEDIMENT CONTROL NOTES AND DETAILS	14 OF 18
HOUSE TYPES - "BEAZER HOMES"	15 OF 18
GENERIC HOUSE BOXES - "BEAZER HOMES" & DETAILS	16 OF 18
STORMWATER MANAGEMENT NOTES & DETAILS	17 OF 18
STORMWATER MANAGEMENT NOTES & DETAILS	18 OF 18

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	SHEET NO.
	1 OF 18
	2 OF 18
	3 OF 18
	4 OF 18
	5 OF 18
	6 OF 18
	7 OF 18
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	A TONICO CONTRACTOR OF THE PARTY OF THE PART	47H2	
SITE		ATGC	
	TE	CE SECOND	STEP FIREFER

VICINITY MAP SCALE: 1"=2,000 ADC MAP COORDINATE: 5169 B2, 5169 C2

ENCHMARKS

VARD COUNTY BENCHMARK 47H2 (CONC. MON.) 529706.4221 E 1355445.3364 ELEV. 256.068 ATION: ALL SAINTS ROAD, 240'+/- SOUTH OF NORTH LAUREL ROAD 2.89 FEET FROM STORM DRAIN INLET; 1' EAST OF CURB, 0.6 BELOW SURFACE VARD 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

HIGH RIDGE MEADOWS - DENSITY TABULATION											
FINAL PLAN #	SECTION	GROSS AREA	FLOODPLAIN	STEEP SLOPES	NET AREA	UNITS ALLOWED	UNITS PROP.	OPEN SPACE REG	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		emi	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

PARKING TABULATION:

PARKING SPACES PROVIDED:

ON-STREET PARKING REQUIRED:

= 162 SPACES OFF-STREET

= 54 SPACES (DRIVEWAYS)

9209 CLARKE SPRINGS RID

9205 CLARKE SPRINGS RID

9201 CLARKE SPRINGS RIG

9830 DEER RUN

9834 DEFR RUN

9838 DEER RUN

9842 DEER RUN

9850 DEER RUN

9854 DEER RUN

9858 DEER RUN

9870 DEER RUN

9857 DEER RUN

48 9211 DEER VILLAGE DRIVE

9806 DEER RUN

9810 DEER RUN

9203 DEFR VILLAGE DRIVE

9207 DEER VILLAGE DRIVE

ADDRESS CHART

42

LOT NO STREET ADDRESS LOT NO STREET ADDRESS

9902 TWIN FAWN TRAIL

9906 TWIN FAWN TRAIL

9910 TWIN FAWN TRAIL

9914 TWIN FAWN TRAIL

9918 TWN FAWN TRAIL

9922 TWIN FAWN TRAIL

9928 TWIN FAWN TRAIL

9932 TWIN FAWN TRAIL

9940 TWIN FAWN TRAIL

9944 TWIN FAWN TRAIL

9945 TWIN FAWN TRAIL

9949 TWIN FAWN TRAIL

9953 TWIN FAWN TRAIL

9961 TWN FAWN TRAIL

9967 TWIN FAWN TRAIL

9971 TWIN FAWN TRAIL

9927 TWIN FAWN TRAIL

9923 TWIN FAWN TRAIL

9919 TWN FAWN TRAIL

9915 TWIN FAWN TRAIL

9911 TWIN FAWN TRAIL

9907 TWIN FAWN TRAIL

25 9903 TWIN FAWN TRAIL 53 9818 DEER RUN
26 9202 CLARKE SPRINGS RIDGE 54 9822 DEER RUN
27 9206 CLARKE SPRINGS RIDGE 55-68 OPEN SPACE

28 9210 CLARKE SPRINGS RIDGE 0.9. 60 9203 DEERSPRINGS PLACE

= 108 SPACES

TOTAL NUMBER OF DWELLING UNITS PROPOSED: 54

SFD = 1 GARAGE/1 DRIVEWAY

OVERFLOW / GUEST PARKING SPACES REQUIRED:

* NOTE: ADDITIONAL UN-CALCULATED PARKING PROVIDED ON-STREET

TOTAL OFF STREET PARKING SPACES PROVIDED:

TOTAL OVERFLOW PARKING SPACES PROVIDED:

OFF-STREET PARKING SPACES REQUIRED: 2 SPACES PER UNIT

1 SPACE IN GARAGE = 54 SPACES (FOR 54 UNITS)

0.5 SPACES PER SFD UNIT X 54 = 27 SPACES REQUIRED

2 SPACES ON DRIVEWAY = 108 SPACES (FOR 54 UNITS)

PULTE HOMES

-COLUMBIA: MARYLAND

-(410) -720 -5071

OWNER/DEVELOPER

BUILDER-LOTS 1654

BEAZER HOMES

8965 GUILFORD ROAD - SUITE 290

COLUMBIA, MARYLAND

(410) 720-5071

MARYLAND DIVISION

GUILFORD ROAD

SITE ANALYSIS DATA

- TOTAL PROJECT AREA: AREA OF PLAN SUBMISSION LIMIT OF DISTURBANCE: PRESENT ZONING DESIGNATION:
- STRUCTURES: FLOOR SPACE ON EACH LEVEL OF BUILDING PER USE:
- H. TOTAL NUMBER OF UNITS PROPOSED: ON THIS SUBMISSION
- TENANTS ON SITE PER USE:
- K. NUMBER OF PARKING SPACES PROVIDED ON SITE:
- REQUIRED BY SUBDIVISION & LAND DEVELOPMENT REGULATIONS: BUILDING COVERAGE OF SITE:
- Q. FLOOR AREA RATIO:

9.55 AC

R-SC

- PROPOSED USES FOR SITE AND
- G. TOTAL NUMBER OF UNITS ALLOWED FOR PROJECT AS SHOWN ON FINAL PLAT:
- MAXIMUM NUMBER OF EMPLOYEES
- NUMBER OF PARKING SPACES REQUIRED BY HO.CO. ZONING REGULATIONS:
- L. OPEN SPACE ON SITE: M. AREA OF RECREATION OPEN SPACE
- APPLICABLE DPZ FILE REFERENCES: ANY OTHER INFORMATION WHICH MAY BE RELEVANT:
- R. DPZ FILE REFERENCES:

REFER TO DENSITY TABULATION

54 BUILDABLE LOTS

SECTION ONE - 23.90 AC

SINGLE FAMILY DETACHED

- 2 PER SFD HOUSE
- SEE PARKING TABULATION / F14-022 - 2 PER SFD HOUSE REFER TO F14-022 F14-023 = 14.57 AC
- SEE TITLE BLOCK
- TAX MAP 50, GRID 1, PARCELS 363 & 542
- 6TH ELECTION DISTRICT
- F-10-065, WP-10-087, ECP-12-047, WP-13-080, SP 13-007, F14-022

PERMIT INFORMATION CHART

SECTION/ AREA HIGH RIDGE MEADOWS - SECTION ONE - F 14-022 LOT/ PARCELS P/O 363 & 542 LOTS 1-54 PLAT REF # BLOCK NO ZONE TAX MAP ELECT DIST CENSUS TR WATER / SEWER # 24-4778-D

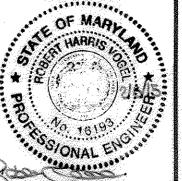
REMOVE PULTE HOMES GENERIC BOX & INFORMATION; 2/1/1" REPLACE WITH BEAZER HOMES GENERIC BOX

SITE DEVELOPMENT PLAN **COVER SHEET**

HIGH RIDGE MEADOWS - SECTION ONE

ADD ADDRESS FOR OPEN SPACE LOT GO

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



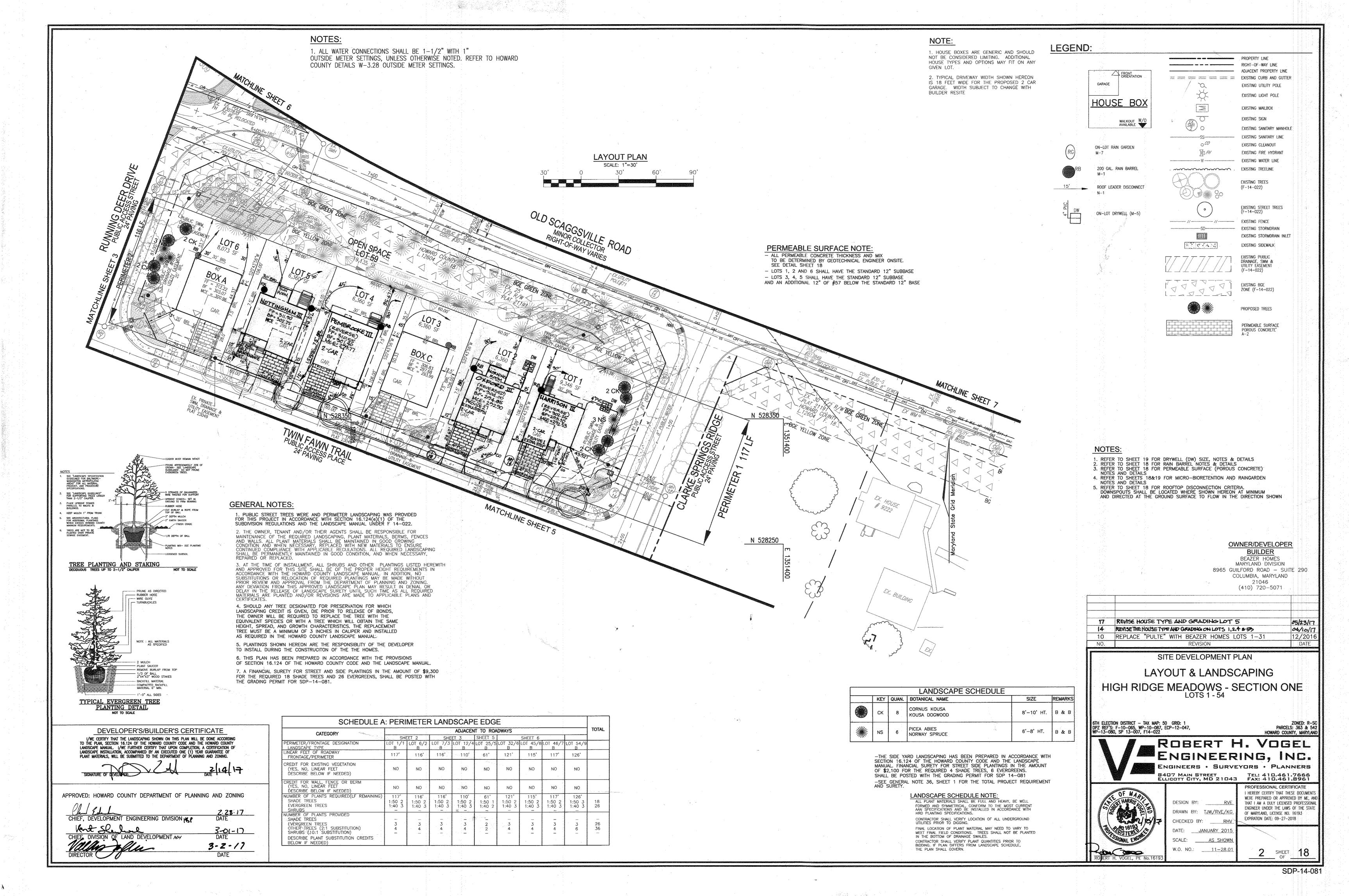
DESIGN BY: CHECKED BY: JANUARY 2015 SCALE:

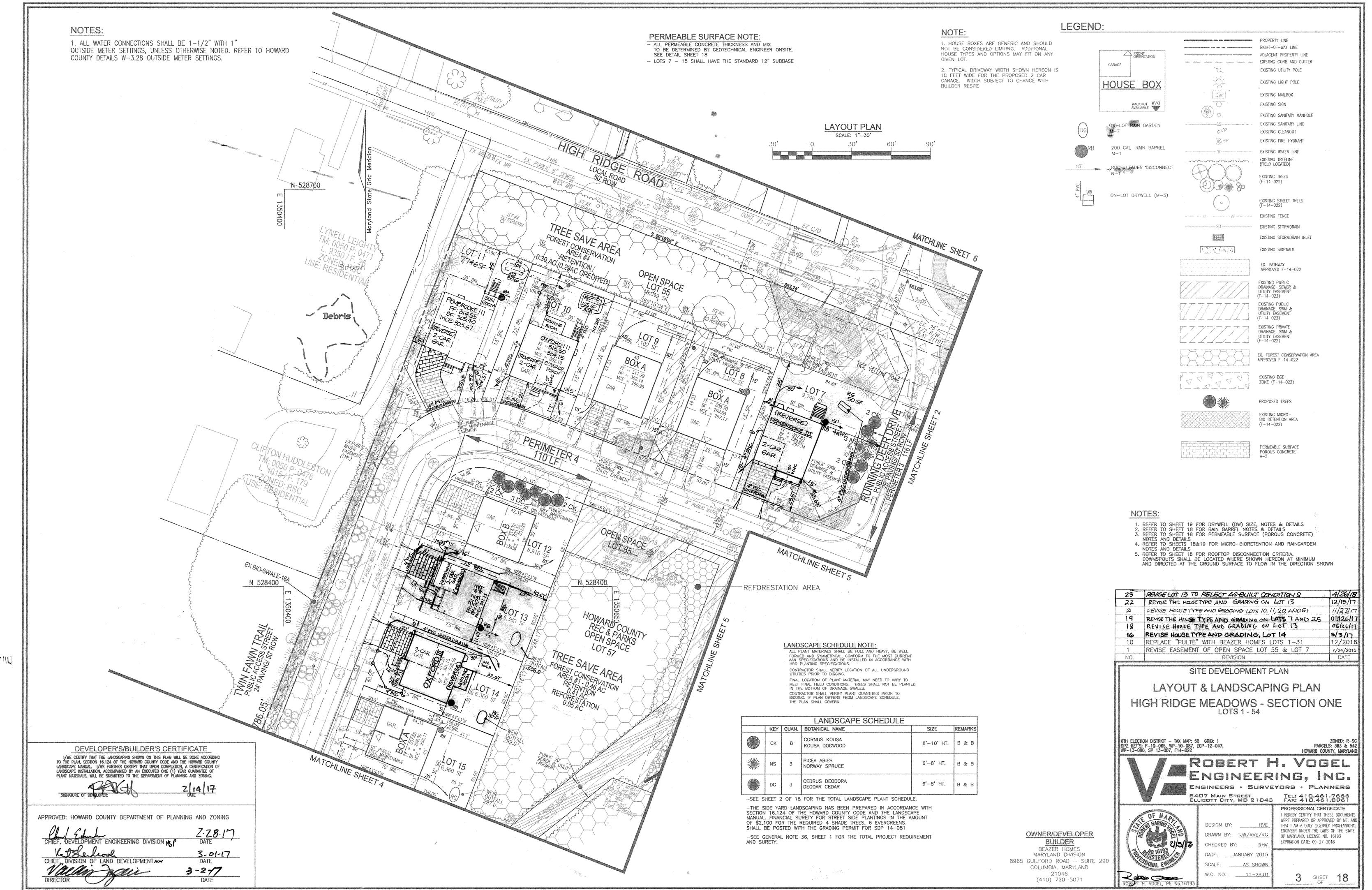
HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2016

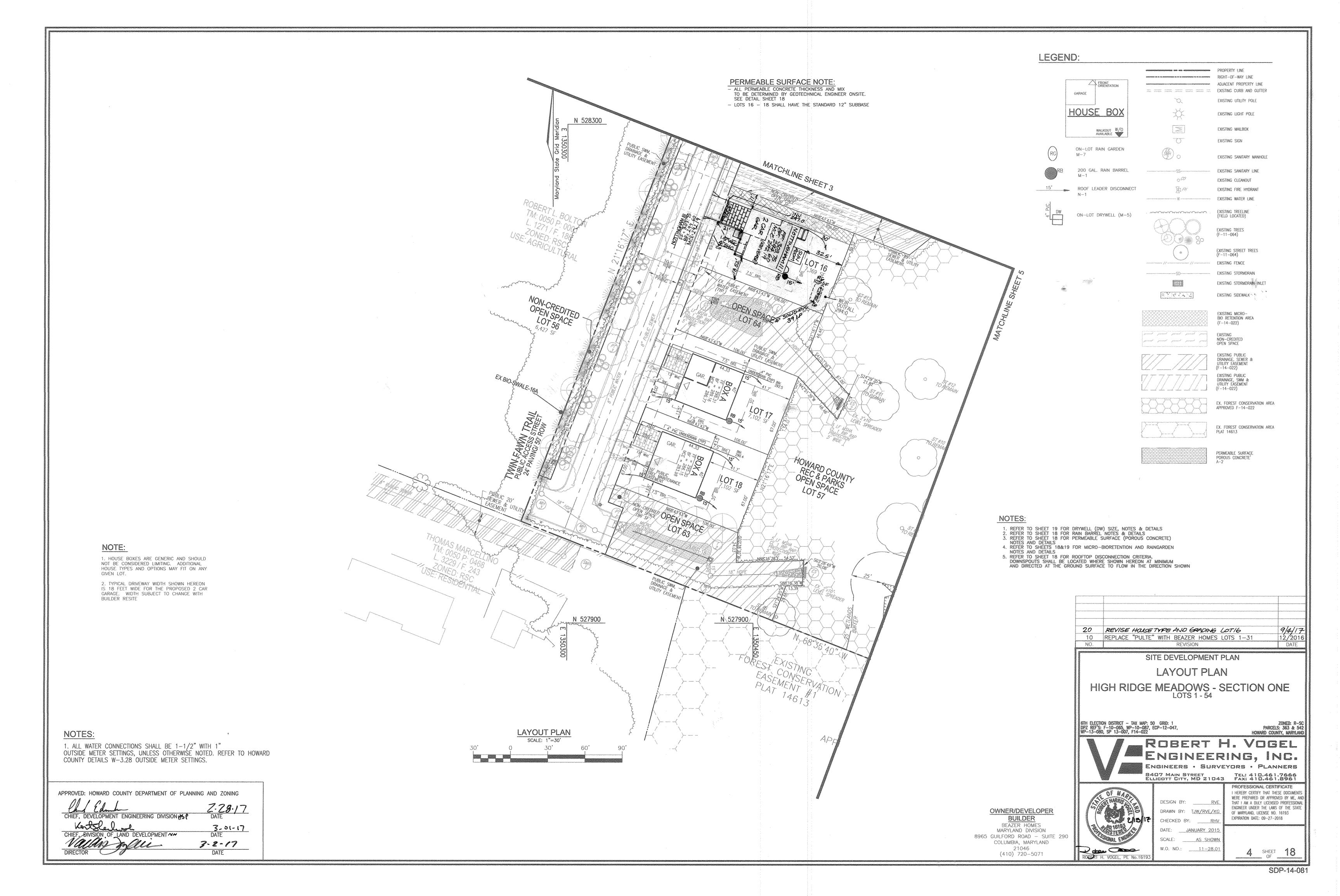
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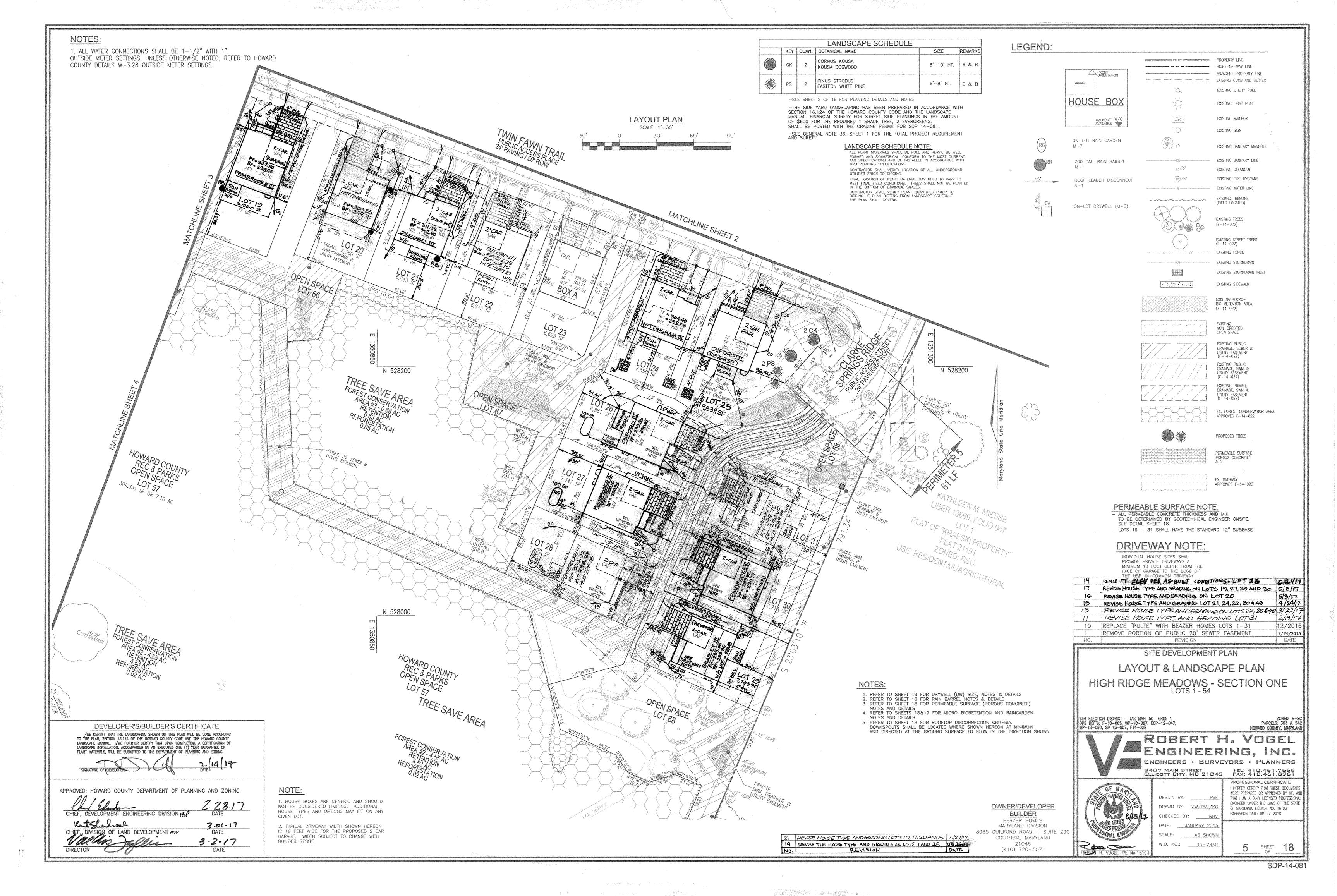
HOWARD COUNTY, MARYLAN

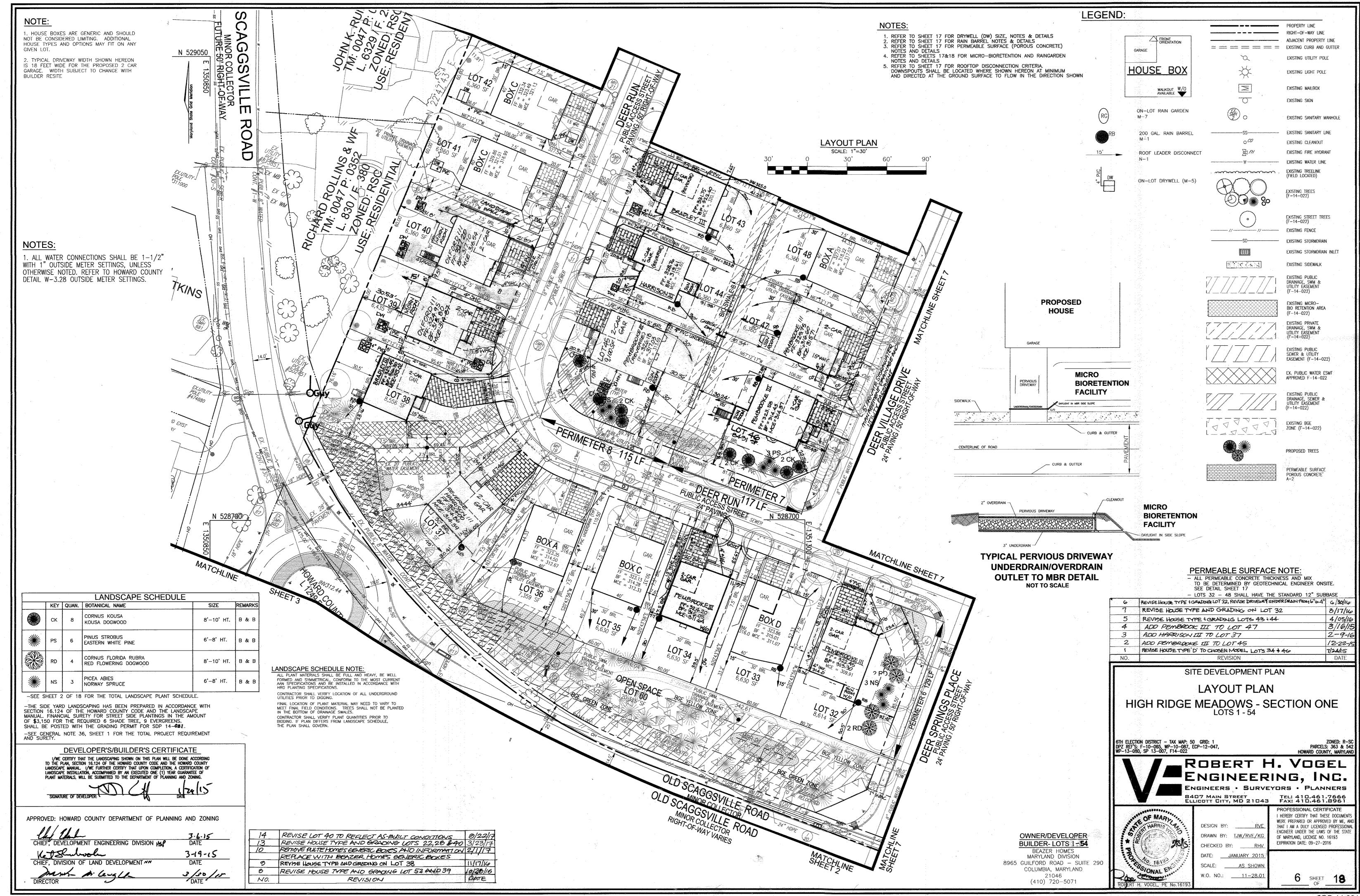
PROFESSIONAL CERTIFICATE

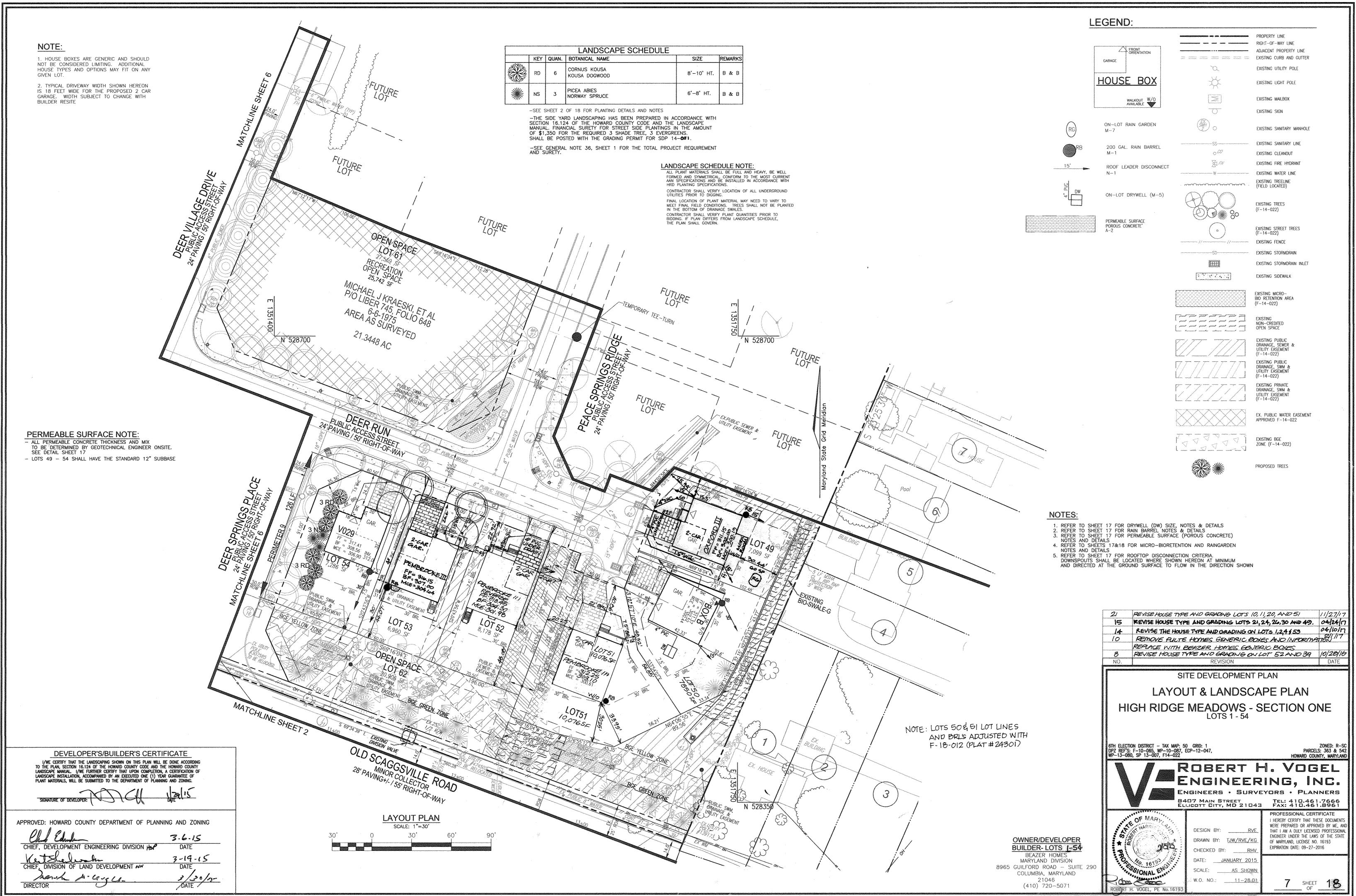


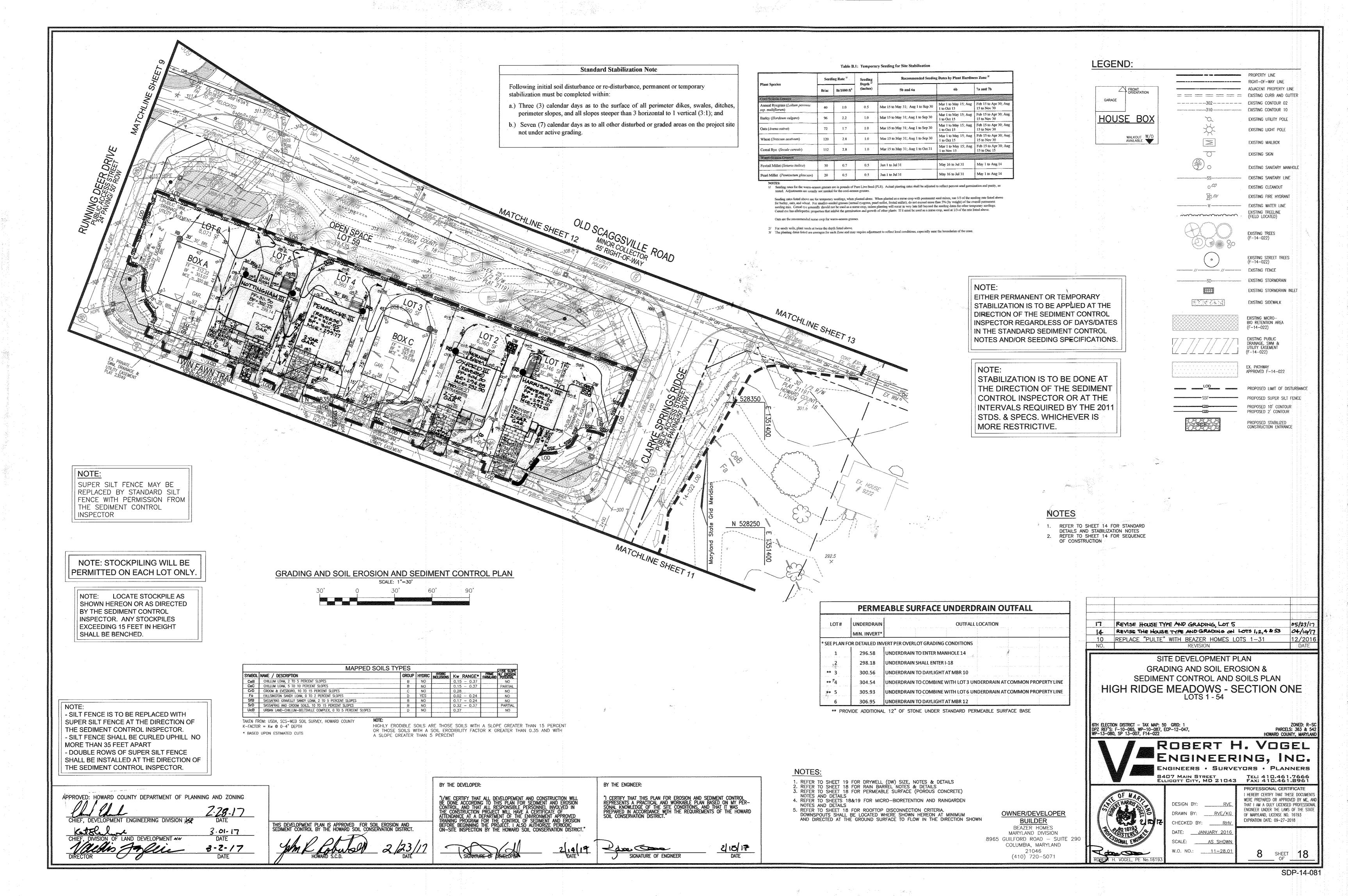


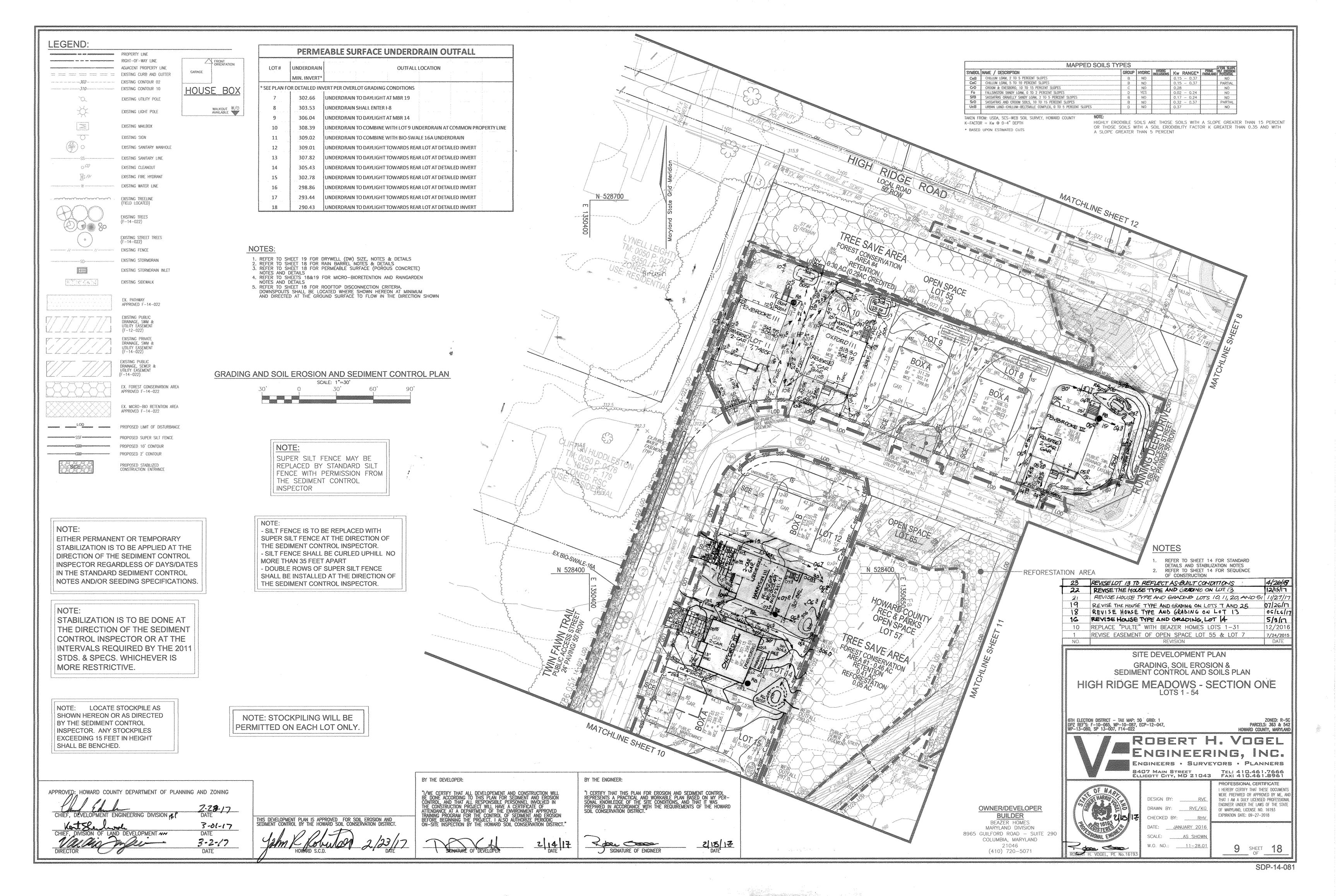


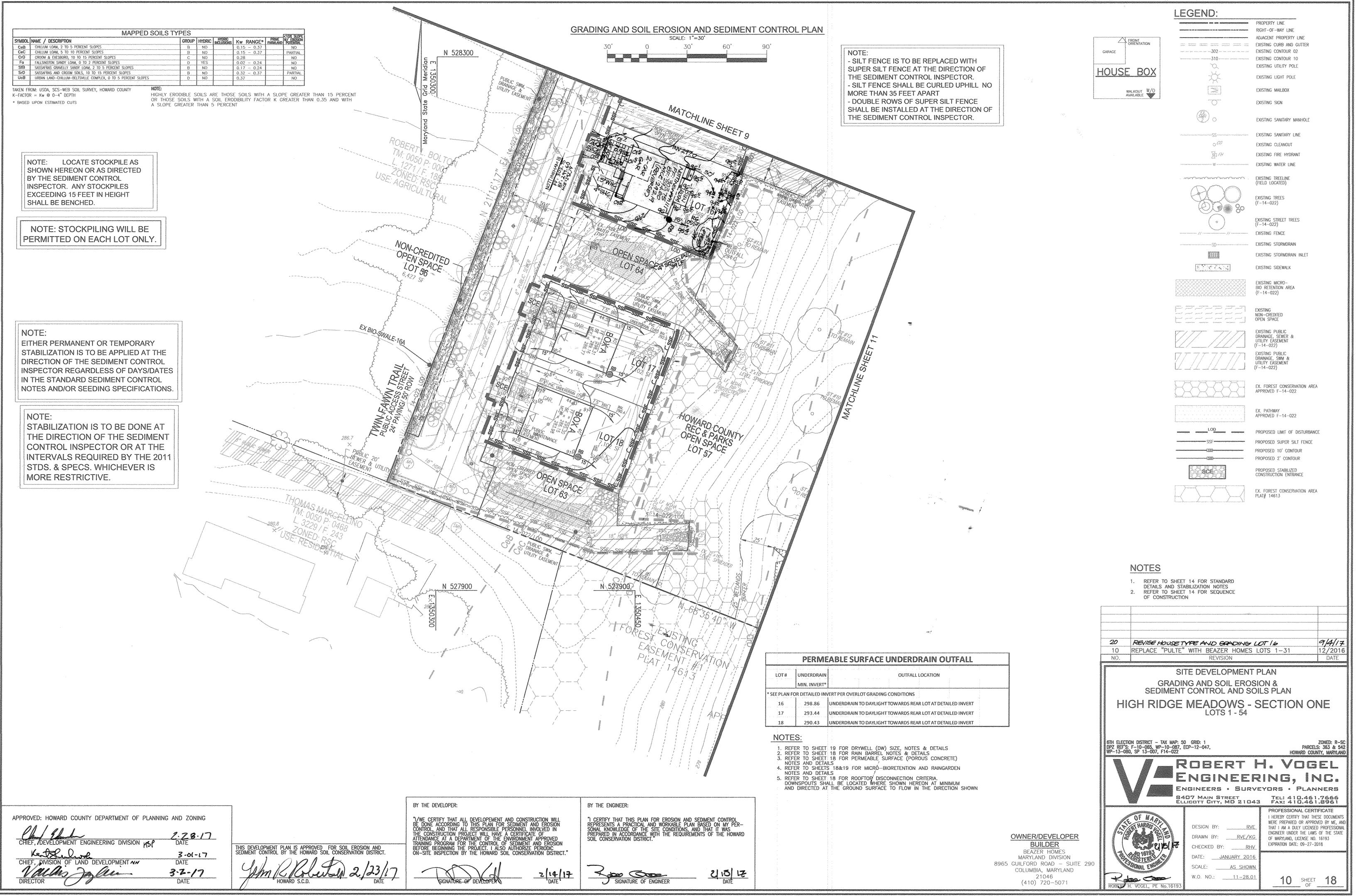


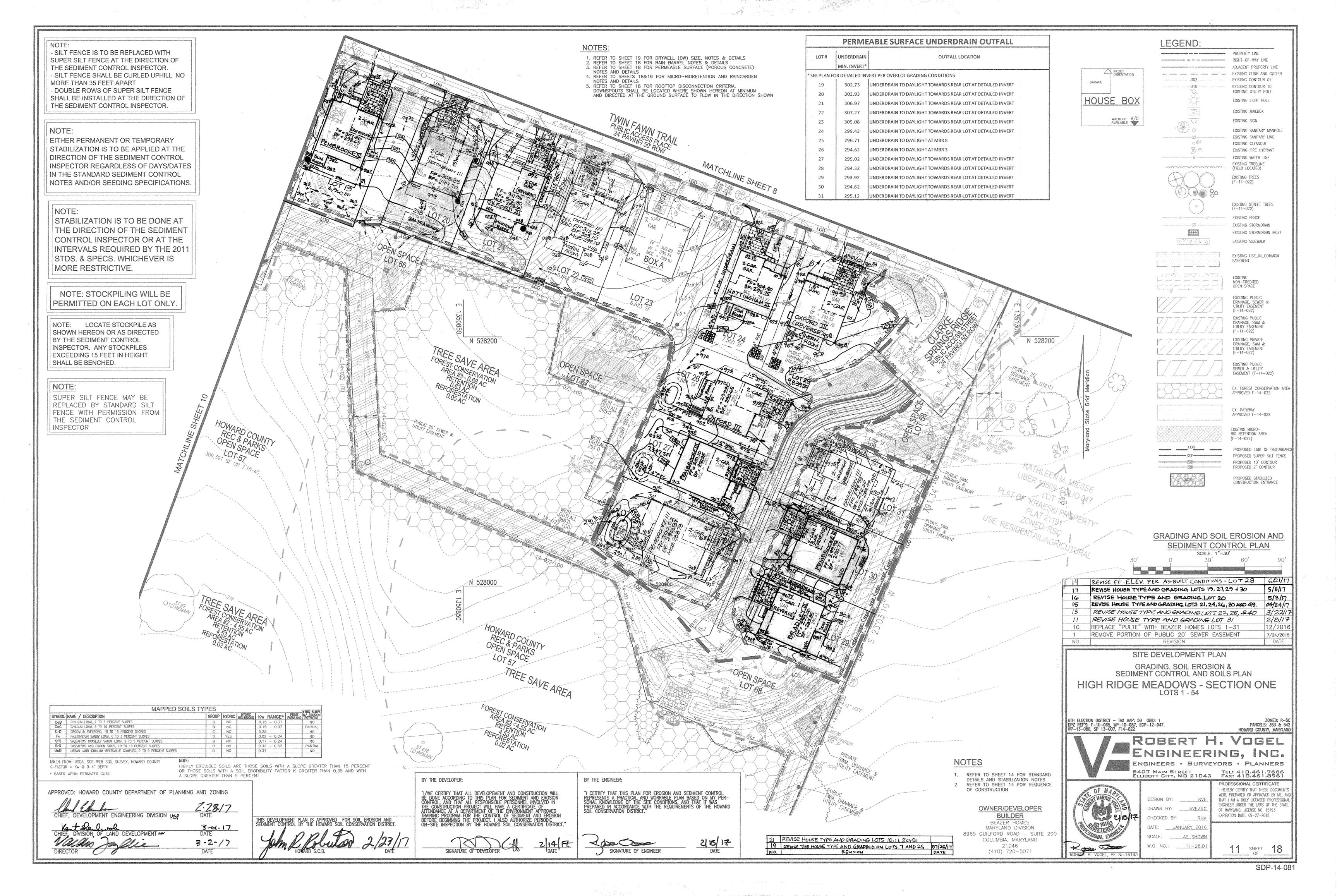


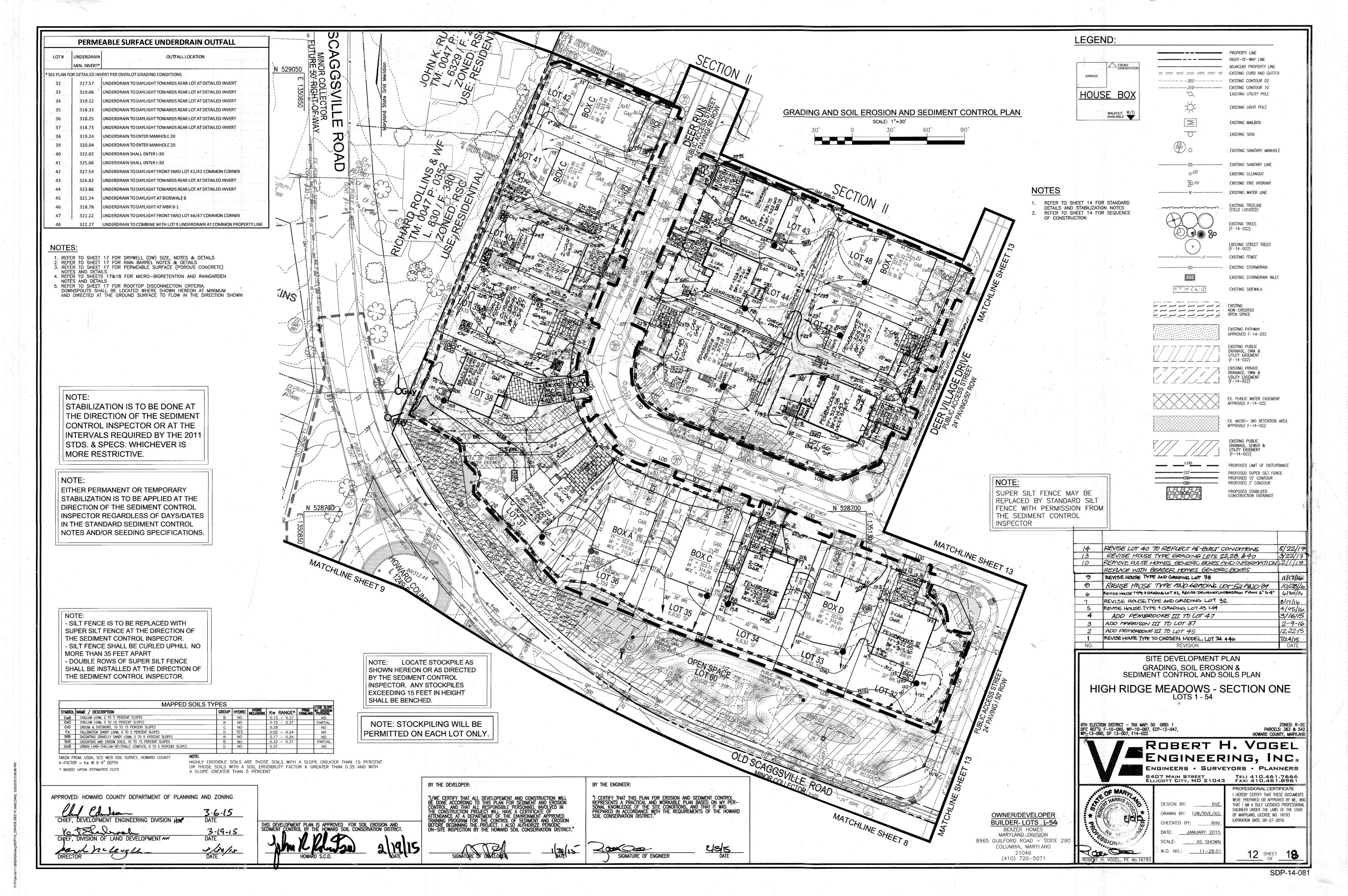


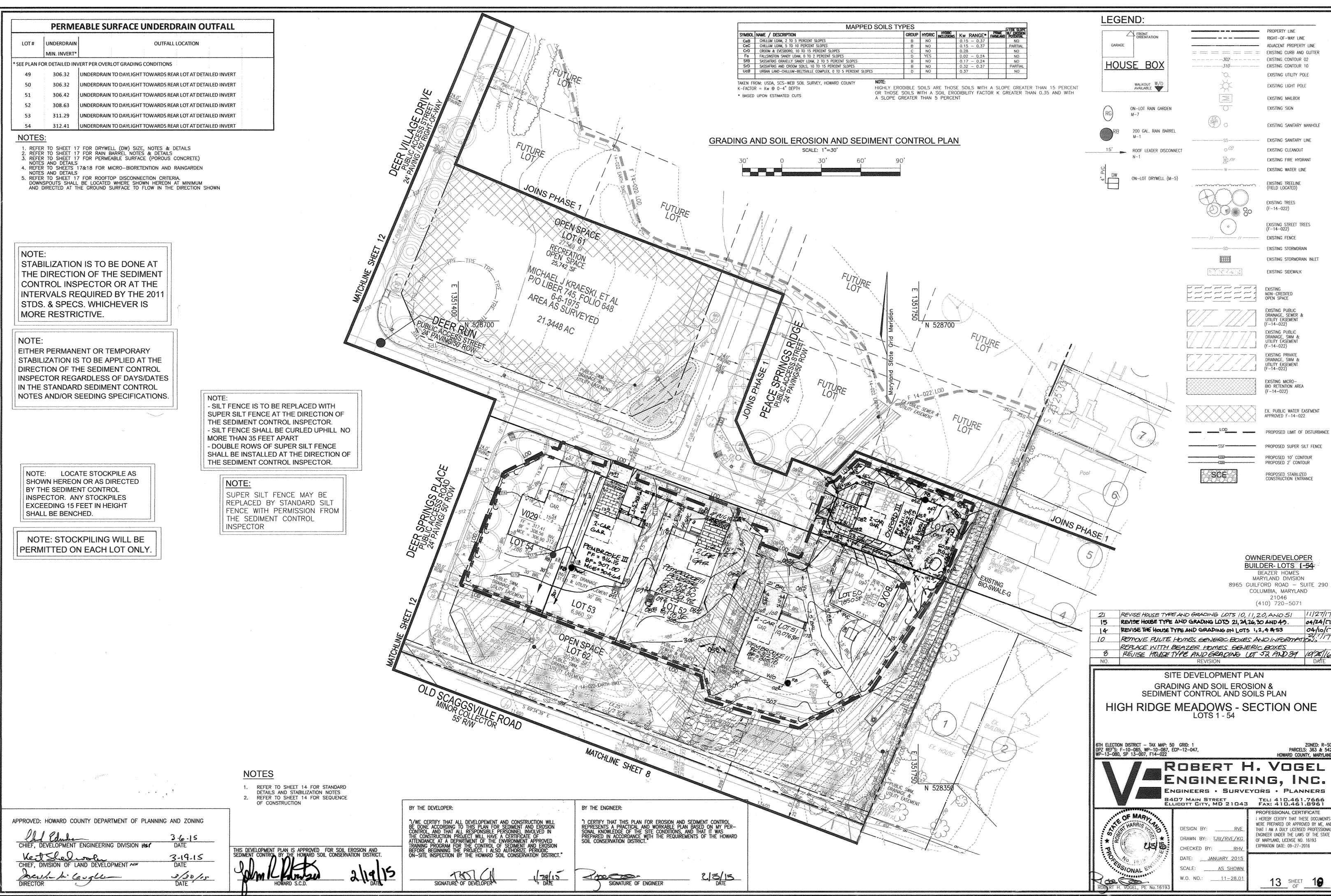












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A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE DEFINITION START OF ANY CONSTRUCTION, (313-1855). ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT

AND REVISIONS THERETO. 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

"MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL",

ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSIÓN AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. 8-4-4) AND MULCHING (SEC 8-4-3). 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.

> TOTAL AREA OF SITE 8.98 (54 LOTS) ACRES ACRES** AREA TO BE ROOFED OR PAVED AREA TO BE VEGETATIVELY STABILIZED ACRES TOTAL FILL OFFSITE WASTE/BORROW AREA LOCATION

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 THI 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 UTILITIES 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. UNIESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED ATA GIVEN TIME

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

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS. <u>PURPOSE</u>

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

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

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE 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 8-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

	HARDINESS Z SEED MIXTUR	FELIZER RATE	LIME RATE			
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)	2000
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.	generation and the second seco	

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPEMENT AND CONSTRUCTION WILL DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND ENUSION ONTROL, 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:

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.

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

B-4-5 STANDARDS AND SPECIFICATIONS 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.

L GENERAL USE

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. 3. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, TREAM 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 SUMMAR

A SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR

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

I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT, IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND FASTERN SHORE, RECOMMENDED CERTIFIED KENTUCKY BLUFGRASS CULTIVARS SEFTING RATE: 1.5 TO 2.0 POLINDS PER 1000 SOUARE FEET, CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT I. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN

areas where rapid establishment is necessary and when turf will receive MEDIUM TO INTENSIVE MANAGEMENT, CERTIFIED PERENNIAL RYEGRASS CULTIVARS/ CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH FACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT. III, TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE, RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5

PERCENT, SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1½ 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 MARYI AND" 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

C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

- WESTEM MD: MARCH 15 TO JUNE 1, AUGUST 1TO OCTOBER 1 (HARDINESS ZONES: SB, 6A) - Central MD: March 1 to May 15. August 15 to October 15 (Hardiness Zone: 68) 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 1½ 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).

A CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED, SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR. I. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS (MINUS 1/4 INCH, AT THE TIME OF CUTTING, MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TOM OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.

C. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION. D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL. E. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

A DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD. B. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS. C. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS, ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE. D. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOO PAD AND SOIL SURFACE RELOW THE SOO ARE THOROLICHLY WET. COMPLETE

THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT

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.

R-4-2 STANDARDS AND SPECIFICATIONS

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

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

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

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

CRITERIA A. SOIL PREPARATION

A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMEN AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT

RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS. . INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

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

PERMANENT STARILIZATION A A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE: I. SOIL PH BETWEEN 6.0 AND 7.0.

II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM). III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD À MODERATE AMOUNT OF MOISTURE, AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO

D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER FOLIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

5 INCHES

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 PH MATERIALS TOXIC TO PLANTS AND/OR LINACCEPTABLE SOIL GRADATION 2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS, TYPICALLY, THE DEPTH OF

TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA TOPSOLING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.

B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR 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. 4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND

TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA-A TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM OR LOAMY SAND, OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 15 INCHES IN DIAMETER.

B, TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS C. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

TOPSOIL APPLICATION A EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING B, UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. C. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MIDDLY 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) I. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE, SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY, SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES. 2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND

WARRANTY OF THE PRODUCER. 3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEFDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A \$100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE. 4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS 5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS. SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

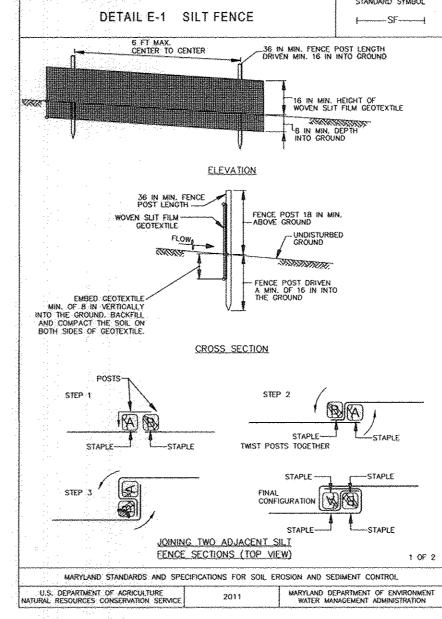
PERMANENT SEEDING SUMMARY

		ONE (FROM FIGURE E (FROM TABLE B.)			LIME RATE			
)	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P ₂ 0 ₅	к ₂ 0	
	COOL SEASON TALL FESCUE & KENTUCKY BLUEGRASS OR EQUAL	T.F. 60 LB / AC K.B. 40 LB / AC	MAI IO	1/4-1/2 IN.	(1 LB PER	(2 LB PER	(2 LB PER	2 TONS/AC (90 LB PER 1000 SF)

DETAIL B-1 STABILIZED CONSTRUCTION SCL FNTRANCE - EXISTING PAVEMENT 1111 40040 -EARTH FILI -PIPE (SEE NOTE 6) AND WIDTH OF ENTRANCE PROFILE 50 FT MIN. LENGTH PLAN VIEW CONSTRUCTION SPECIFICATIONS

o convey, a pipe is not necessary. A mountable berm is required when see is not PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS

SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.



DETAIL E-1 SILT FENCE |----SF-----CONSTRUCTION SPECIFICATIONS . USE WOOD POSTS 1% X 1% ± 1% Inch (minimum) square cut of sound quality hardwood. As an alternative to wooden post use standard "t" or "u" section steel posts weighing not less than 1 pound per linear foot. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTRE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND, BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC. . WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNORF FROM COING AROUND THE ENDS OF THE SILT PENCE. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL, FENCE.

2011

DETAIL E-3 SUPER SILT FENCE GROUND SURFACE---MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE CHAIN LINK FENCING -WOVEN SLIT FILM GEOTEXTILE -CROSS SECTION CONSTRUCTION SPECIFICATIONS 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 1970 THE CERTIFICAL CORRESPONDED. FASTEN 9 GAUGE OR HEAVER CALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE THES OR HUG RINGS. 3. 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 GEOTEXPILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS. 5. 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 COING AROUND THE ENDS OF THE SUPER SILT FENCE. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT, REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL

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

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

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE

PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.

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 8-4-1 INCREMENTAL STABILIZATION AND STANDARD 8-4-4 TEMPORARY

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

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE STABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF FROSION. AF 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 SEQUENCE OF CONSTRUCTION

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 14-022 MICRO BIO RETENTION FACILITIES.

ANY F14-022 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 8 & 13), UTILIZE EXISTING CONTROLS OF F14-022 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) STOCKPILING SHALL BE LIMITED TO ONLOT OR AS SHOWN HEREON. STOCKPILES SHALL BE STABILIZED AS DETAILED HEREON. (1 DAY)

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 & 7. LOT GRADING SHALL MEET COMPLY (5% OR LESS) FOR THE

DETAILED LENGTH FOR PROPER "DISCONNECTION CREDIT". (1 WEEK) 13. 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 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. 15. WITH ALL ONLOT DISTURBANCES COMPLETED, STABILIZE WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH OR EQUAL. (1 DAY)

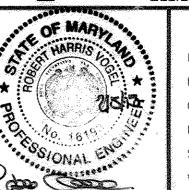
16. AFTER PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING E/S CONTROLS AND STABILIZE THE DISTURBED AREAS FROM THE AFOREMENTIONED DISTURBANCES WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. (1 WEEK)

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

REMOVE PULTE HOMES GENERIC BOXES AND INFORMATION; REPLACE WITH BEAZER HOMES GENERIC BOXES DATE SITE DEVELOPMENT PLAN GRADING AND SOIL EROSION, AND SEDIMENT CONTROL PLAN - DÉTAILS

HIGH RIDGE MEADOWS - SECTION ONE

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



DESIGN BY: DRAWN BY: TJW/RVE/KG CHECKED BY: DATE: <u>JANUARY 2015</u> SCALE: AS SHOWN W.O. NO.: 11-28.01

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

14 SHEET 18

ZONED: R-SC PARCELS: 363 & 542

HOWARD COUNTY, MARYLAND

PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLE: MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE, USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WOTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE, PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5-1 SLOPES AND A MINIMUM OF 12 INCHES OF STOME OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN, WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOU REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.

MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND

B-4-3 STANDARDS AND SPECIFICATIONS 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

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 ANY PROJECT, REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED, SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE. B. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND

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. NOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER, ADD FRESH INOCH ANTS AS DIRECTED ON THE PACKAGE LISE 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

2. APPLICATION A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS. I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE 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.

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

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

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)

PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS

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 I. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.

II, WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS. III, WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED. FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS. IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL 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

PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM. A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A

UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 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

ANCHORING A PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS. BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD: I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS. BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR. IL 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

SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED. IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET

MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER. III SYNTHETIC RINDERS SLICH 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

WNER/DEVELOPER BUILDER-LOTS 1-91

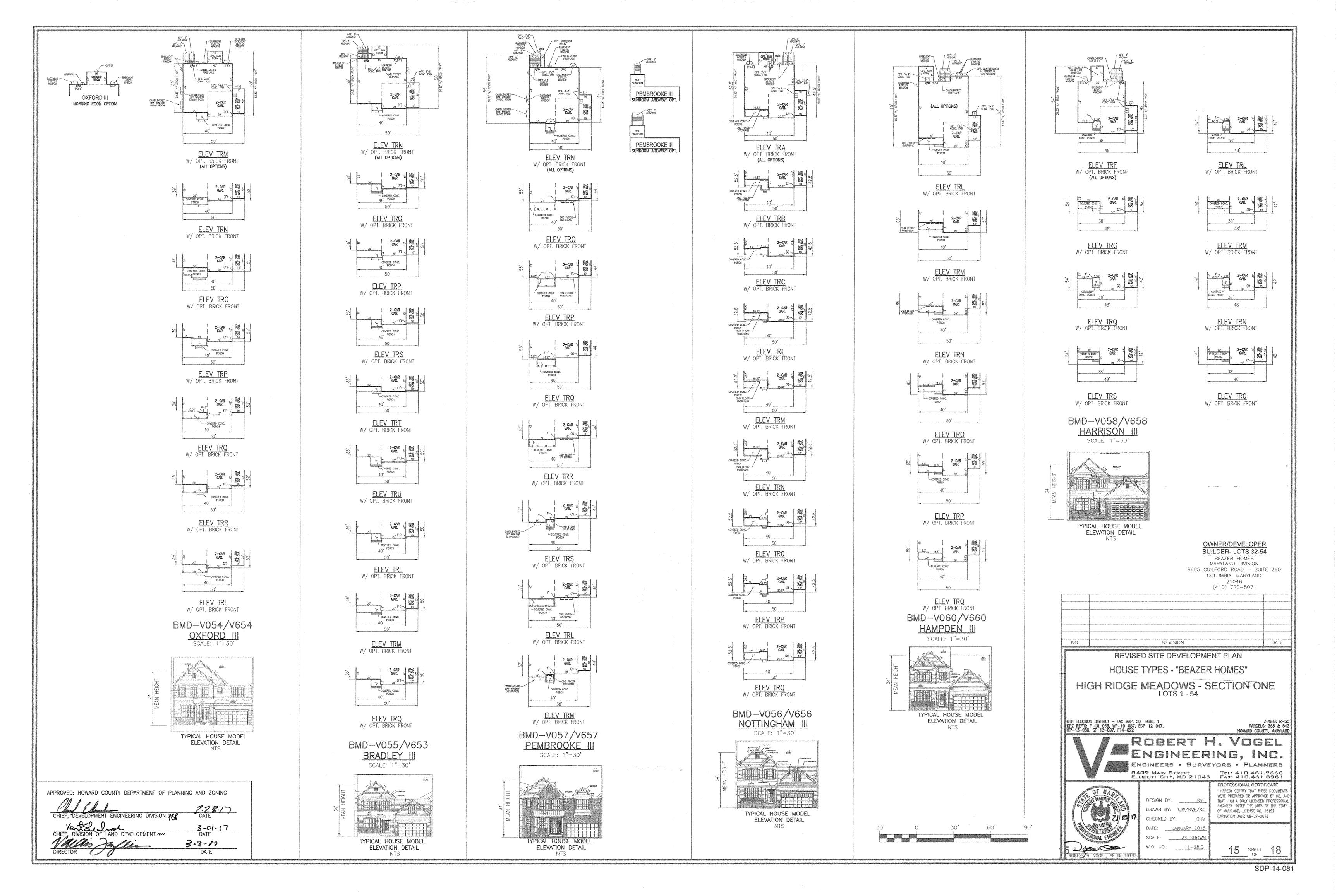
PULTE HOMES

(410) 720 507 WNER/DEVELOPE UILDER-LOTS/1-54 BEAZER HOMES MARYLAND DIVISION

8965 GUILFORD ROAD - SUITE 290 COLUMBIA, MARYLAND 21046 (410) 720-5071

965 GUILFORD ROAD SUIT COLLINGIA WARYLAND

ORINAT H. VOGEL. PE No.1619



BOX A $\overline{}$

FITS:

BMD-V054/V654 - OXFORD III MIN FOOTPRINT 40' X 42' ALL ELEV

> - NO 3 CAR GAR NO SUNROOM - NO MORNING ROOM NO AREAWAY

BMD-V055/V653 - BRADLEY III MIN FOOTPRINT 40' X 40' - ALL ELEV - NO 3 CAR GAR

 NO SUNROOM NO AREAWAY BMD-V057/V657 - PEMBROOKE III

MIN FOOTPRINT 40' X 45' - DOES NOT FIT

BMD-V056/V656 - NOTTINGHAM III MIN FOOTPRINT 40' X 42.5'

> ALL ELEV NO 3 CAR GAR NO SUNROOM

- NO AREAWAY NOTE: FIREPLACE INTERIOR TO MODEL

BMD-V060/V660 - HAMPDEN III MIN FOOTPRINT 40' X 57'

BMD-V058/V658 - HARRISON III

MIN FOOTPRINT 38' X 42' ALL ELEV - NO 3 CAR GAR

- DOES NOT FIT

 NO SUNROOM - NO SCREENED PORCH NO AREAWAY

BOX B

FITS:

BMD-V054/V654 - OXFORD III MIN FOOTPRINT 40' X 42' - DOES NOT FIT

BMD-V055/V653 - BRADLEY III MIN FOOTPRINT 40' X 40' - DOES NOT FIT

BMD-V057/V657 - PEMBROOKE III MIN FOOTPRINT 40' X 45' - DOES NOT FIT

BMD-V056/V656 - NOTTINGHAM III MIN FOOTPRINT 40' X 42.5' - DOES NOT FIT

BMD-V060/V660 - HAMPDEN III MIN FOOTPRINT 40' X 57' - DOES NOT FIT

- NO AREAWAY

BMD-V058/V658 - HARRISON III MIN FOOTPRINT 38' X 42'

- ALL ELEV - NO 3 CAR GAR NO SUNROOM

- NO SCREENED PORCH

NOTE: FIREPLACE INTERIOR TO MODEL BMD-V060/V660 - HAMPDEN III

- DOES NOT FIT BMD-V058/V658 - HARRISON : III MIN FOOTPRINT 38' X 42'

- NO 3 CAR GAR

BOX C ∇

FITS:

BMD-V054/V654 - OXFORD III MIN FOOTPRINT 40' X 42' ALL ELEV

- NO 3 CAR GAR NO SUNROOM NO MORNING ROOM POSSIBLE AREAWAY

BMD-V055/V653 - BRADLEY III MIN FOOTPRINT 40' X 40' ALL ELEV - NO 3 CAR GAR

- POSSIBLE AREAWAY BMD-V057/V657 - PEMBROOKE III MIN FOOTPRINT 40' X 45'

ALL ELEV - NO 3 CAR GAR NO SUNROOM NO AREAWAY

BMD-V056/V656 - NOTTINGHAM III MIN FOOTPRINT 40' X 42.5' ALL ELEV

 NO 3 CAR GAR NO SUNROOM - POSSIBLE AREAWAY

MIN FOOTPRINT 40' X 57'

ALL ELEV

 NO SUNROOM NO SCREENED PORCH - POSSIBLE AREAWAY

BOX D V 40'

FITS:

BMD-V054/V654 - OXFORD III MIN FOOTPRINT 40' X 42'

> ALL ELEV - NO 3 CAR GAR - POSSIBLE AREAWAY

BMD-V055/V653 - BRADLEY III MIN FOOTPRINT 40' X 40' ALL ELEV NO 3 CAR GAR

- POSSIBLE AREAWAY BMD-V057/V657 - PEMBROOKE III MIN FOOTPRINT 40' X 45'

> ALL ELEV - NO 3 CAR GAR - SUNROOM ONLY W/ REVERSE MODELS POSSIBLE AREAWAY W/O SUNROOM

BMD-V056/V656 - NOTTINGHAM III MIN FOOTPRINT 40' X 42.5'

ALL ELEV - NO 3 CAR GAR POSSIBLE AREAWAY

NOTE: FIREPLACE INTERIOR TO MODEL BMD-V060/V660 - HAMPDEN III

MIN FOOTPRINT 40' X 57' ALL ELEV NO REVERSE MODELS NO 3 CAR GAR

 NO SUNROOM NO BRICK NO AREAWAY

BMD-V058/V658 - HARRISON III MIN FOOTPRINT 38' X 42' ALL ELEV - NO 3 CAR GAR

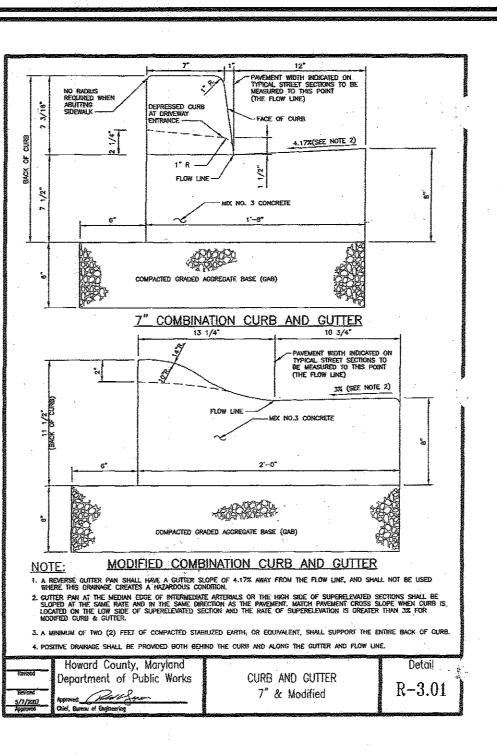
NOTE:

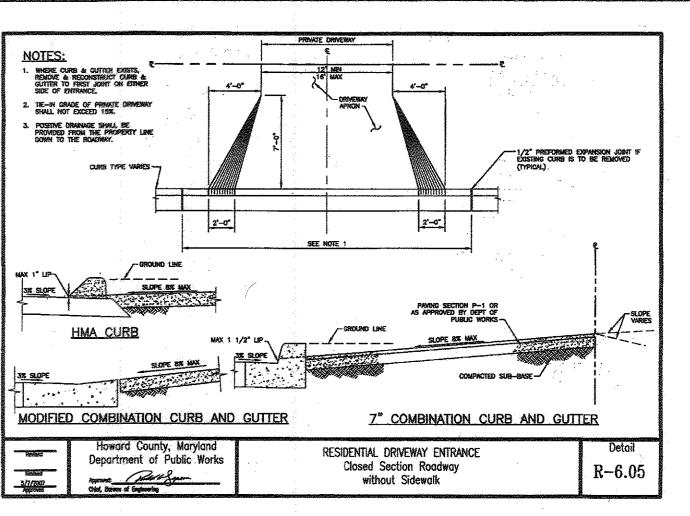
1. GENERIC HOUSE BOX MODEL FIT SHOWN HEREON

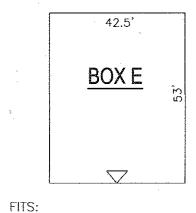
2. HOUSE BOXES ARE GENERIC AND SHOULD NOT BE CONSIDERED LIMITING. ADDITIONAL HOUSE TYPES AND OPTIONS MAY FIT ON ANY GIVEN LOT.

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 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.







BMD-V054/V654 - OXFORD III MIN FOOTPRINT 40' X 42' ALL ELEV NO 3 CAR GAR

- POSSIBLE AREAWAY BMD-V055/V653 - BRADLEY III MIN FOOTPRINT 40' X 40' ALL ELEV

 POSSIBLE AREAWAY BMD-V057/V657 - PEMBROOKE III MIN FOOTPRINT 40' X 45'

- ALL ELEV - NO 3 CAR GAR NO SUNROOM - POSSIBLE AREAWAY

- NO 3 CAR GAR

BMD-V056/V656 - NOTTINGHAM III MIN FOOTPRINT 40' X 42.5' - ALL ELEV - NO/3 CAR GAR

 POSSIBLE AREAWAY NOTE: FIREPLACE INTERIOR TO MODEL BMD-V060/V660 - HAMPDEN III MIN FOOTPRINT 40' X 57'

 DOES NOT FIT BMD-V058/V658 - HARRISON III MIN FOOTPRINT 38' X 42'

ALL ELEV - NO 3 CAR GAR - NO SUNROOM - NO SCREENED PORCH POSSIBLE AREAWAY

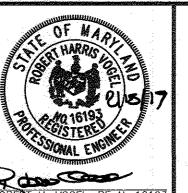
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION K 3-01-17

50'- RIGHT OF WAY (R/W) _ € CONSTR. GRADE LINE P-2 PAVING SEE HO.CO. R-3.02; WHERE MODIFIED CURBING IS PROPOSED, TYPICAL ROADWAY SECTION
CLASSIFICATION: PUBLIC ACCESS PLACE MOD. C&G SHALL TRANSITION TO STANDARD COMBINATION CURB AND GUTTER (R-3.01) AT ALL INLETS AND WHERE PUBLIC ACCESS STREET ** MODIFIED CURBING SHALL TRANSITION TO SECTION NOT TO SCALE STANDARD COMBINATION CURB AND GUTTER (R 3.01) AT ALL INLETS. SEE R-3.02 OR AS

> REVISE HOUSE BOX MATRIX 6 / 2015 DATE NO. REVISION REVISED SITE DEVELOPMENT PLAN **GENERIC HOUSE BOXES -**"BEAZER HOMES" & DETAILS HIGH RIDGE MEADOWS - SECTION ONE

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, F14-022

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



OWNER/DEVELOPER

BUILDER- LOTS 32-54

BEAZER HOMES

MARYLAND DIVISION

8965 GUILFORD ROAD - SUITE 290

COLUMBIA, MARYLAND 21046

(410) 720-5071

DRAWN BY: TJW/RVE/KG CHECKED BY: ____ DATE: JANUARY 2015 SCALE: AS SHOWN W.O. NO.: 11-28.01

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: 09-27-2018

16 SHEET 18

PROFESSIONAL CERTIFICATE

ZONED: R-SC PARCELS: 363 & 542

HOWARD COUNTY, MARYLANI

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

THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.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 IF TOPSOIL IS IMPORTED,

THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED. 3. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL IF PRACTICES ARE EXCAVATED USING 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 INFILIRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE. COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL 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

7. MISCELLANEOUS

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 S 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 ON THE OUTSIDE OF THE TREE BALL

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:

* 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 OF 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).

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.

4. 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

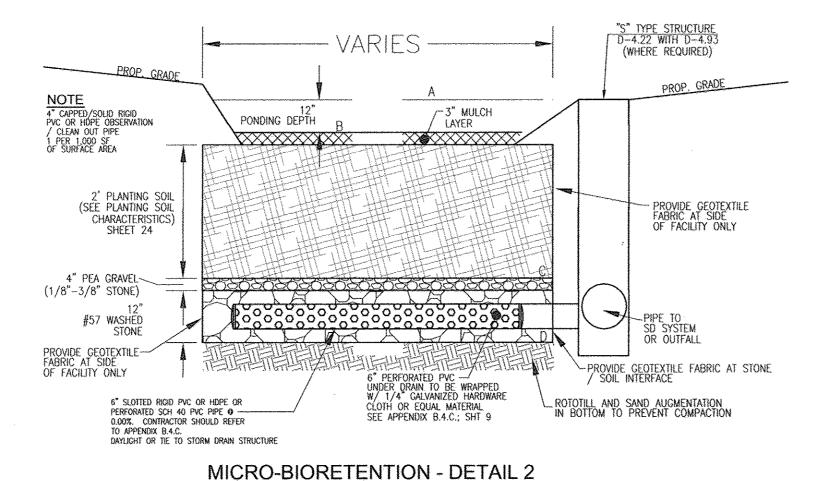
A 1- OR 2-YEAR STORM EVENT OR MORE THAN 48 HOURS FOLLOWING A 10-YEAR STORM EVENT. NOTE: UNDERDRAIN AND CHECK DAMS OF BIOSWALE SHALL BE PUBLICALLY MAINTAINED.

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 OWN NOTE S [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 I 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 %-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.

N	MICRO-BIO	DRETENT	ION FACILIT	Y - DESIG	N ELEVAT	ION CHAR	T
MBR	ESD	ТОР	воттом	INV	SURFACE		MBR
FACILITY	WSEL	MULCH	PLANT SOIL		AREA		TYPE
#	A	В	C	D	SF		
77	<u></u>	L	SOUTH AREA		<u> </u>		
1	288.00	287.00	284.75	283.42	700	F14-022	2
2	275.71	274.71	272.46	271.13	330	F14-022	2
3	292.40	291.40	289.15	287.82	910	F14-022	1
7	296.60	295.60	293.35	292.02	760	F14-022	1
8	296.60	295.60	293.35	292.02	585	F14-022	1
9	298.00	297.00	294.75	293.42	1200	F14-022	2
10	300.20	299.20	296.95	295.62	290	F14-022	1
11	293.00	292.00	289.75	288.42	300	SEE PLAN	2
12	306.00	305.00	302.75	301.42	900	F14-022	1
13	303.00	302.00	299.75	298.42	730	F14-022	1
13A	307.00	306.00	303.75	302.42	1555	F14-022	2
13D	309.65	308.65	306.40	305.07	1155	F14-022	1
14	305.00	304.00	301.75	300.42	525	F14-022	1
15	303.00	302.00	299.75	298.42	350	F14-022	2
17	294.00	293.00	290.75	289.42	1010	F14-022	2
18	286.70	285.70	283.45	282.12	885	F14-022	2
19	302.80	301.80	299.55	298.22	500	F14-022	3
			NORTH AREA	1			
A1	315.00	314.00	311.75	310.42	470	SEE PLAN	2
A2	313.00	312.00	309.75	308.42	2160	F14-022	2
B1	319.50	318.50	316.25	314.92	640	SEE PLAN	2
С	311.00	310.00	307.75	306.42	1150	F14-022	1
D1	307.00	306.00	303.75	302.42	710	F14-022	1
D2	306.00	305.00	302.75	301.42	300	F14-022	1
E	317.00	316.00	313.75	312.42	400	F14-022	1
F	297.00	296.00	293.75	292.42	750	F14-022	2

FACILITY DOES NOT RECEIVE PUBLIC ROAD RUNOFF CONSTRUCT UNDER THIS PLAN



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.

APPENDIX 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.

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. AGGREGATE - PERVIOUS CONCRETE CONTAINS A LIMITED FINE AGGREGATE 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 AGGREGATE (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 ACI JOA. AS A GENERAL RULE, POTABLE WATER SHOULD BE USED ALTHOUGH RECYCLED CONCRETE PRODUCTION WATER MEETING ASTM C 94 OR

ADMIXTURES - CHEMICAL ADMIXTURES (E.G., RETARDERS OR HYDRATION-STABILIZERS) ARE USED TO OBTAIN SPECIAL PROPERTIES IN PERVIOUS CONCRETE. USI OF ADMIXTURES SHOULD MEET ASTM C 494 (CHEMICAL ADMIXTURES) AND ASTM C 260 (AIR ENTRAINING ADMIXTURES) AND CLOSELY FOLLOW MANUFACTURER'S

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. REINFORCED 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.

PERMEABLE PAVEMENTS

CONSTRUCTION CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING CONSTRUCTION OF PROJECTS WITH PERMEABLE PAVEMENT: - FROSION AND SEDIMENT CONTROL: FINAL GRADING FOR INSTALLATION SHOULD NOT TAKE PLACE UNTIL THE SURROUNDING SITE IS STABILIZED, IF THIS CANNOT BE ACCOMPLISHED. 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.

DISTRIBUTION SYSTEMS: 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 ROTTOM.

- SUBBASE INSTALLATION: 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).

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 AF 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

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

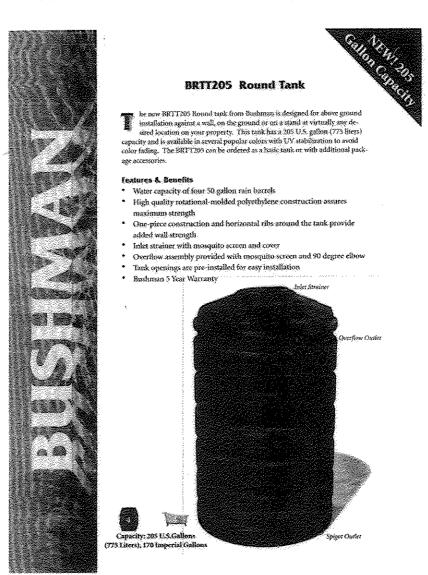
AND SNOW MELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT.

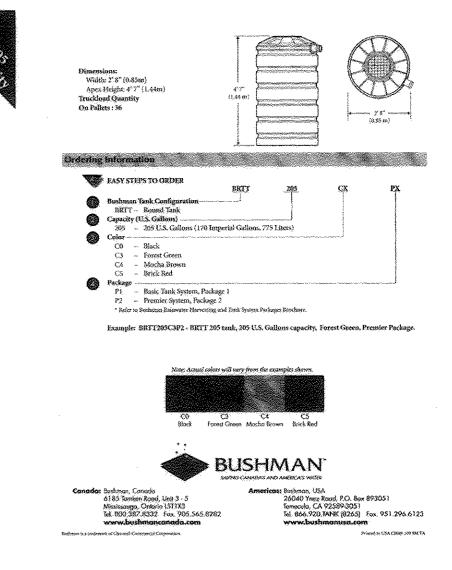
A. THE INDIVIDUAL LOT OWNER SHALL PERIODICALLY SWEEP (OR VACUUM POROUS CONCRETE PAVEMENT) THE PAVEMENT SURFACES TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY, SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS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

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

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

THE INDIVIDUAL LOT 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.





BUSHMAN BRTT205 (205 GALLON) RAIN HARVESTING SYSTEM OR EQUIVALENT

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

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

B. THE OWNER SHALL VERIFY INTEGRITY OF LEAF SCREENS, GUITTERS, DOWNSPOUTS, SPIGOTS, AND MOSQUITO SCREENS, AND CLEAN AND REMOVE ANY DEBRIS

C. 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) = 0.66"

> 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 SECTIONE OF ROOFTOP IS P = 0.34". THIS CAN BE ACHIEVED BY A 40' DISCONNECTION OF ROOFTOP RUNOFF LENGTH.

> > OLUMBIA MARYLAND

(410) 720 5071-

OWNER/DEVELOPER

BUILDER- LOTS 1-54

BEAZER HOMES

MARYLAND DIVISION

STD HOWARD COUNTY GARAGE DRIVEWAY APRON PERMEABLE CONCRETE DRIVEWAY STANDARD CONCRETE 2" ASTM C 33 OVERDRAIN 2" MIN. -PERFORATED OR SLOTTED WITHIN SUBBASE

LENGTH VARIES

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

TYP. HOUSE

ADDITIONAL ESDV STORAGE STONE RESERVOIR

3/4" TO 2" STONE

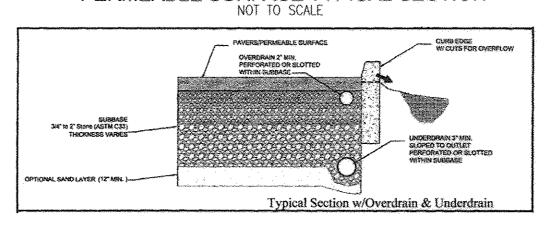
DEPTH VARIES ASTM C 33

FOR UNDERDRAIN, SEE NOTE 2. DETAIL - PERMEABLE CONCRETE DRIVEWAY - 5% OR LESS NOT TO SCALE ALL PERMEABLE CONCRETE THICKNESS, MIX AND SUB-BASE

3. OVERDRAIN SHALL COMBINE WITH UNDERDRAIN OR DAYLIGHT AS DETAILED

PERMEABLE SURFACE TYPICAL SECTION

TO BE DETERMINED BY GEOTECHNICAL ENGINEER ONSITE.



OUTLET PERFORATED O SLOTTED WITHIN SUBBASE **GEOTEXTILE** FABRIC SIDES ONLY

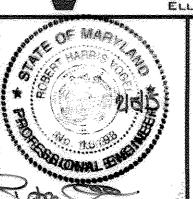
8965 GUILFORD ROAD - SUITE 290 COLUMBIA, MARYLAND 21046 (410) 720-5071

REMOVE PULTE HOMES GENERIC BOXES AND INFORMATION REPLACE WITH BEAZER HOMES GENERIC BOXES

SITE DEVELOPMENT PLAN STORMWATER MANAGEMENT NOTES AND DETAILS HIGH RIDGE MEADOWS - SECTION ONE LOTS 1 - 54

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, F14-022

ZONED: R-SC PARCELS: 363 & 542 HOWARD COUNTY, MARYLAN ROBERT H. VOGEL ENGINEERS · SURVEYORS · PLANNERS 8407 MAIN STREET TEL: 410.461.7666 ELLICOTT CITY, MD 21043 FAX: 410.461.8961



DESIGN BY: DRAWN BY: TJW/RVE/KG CHECKED BY: DATE: <u>JANUARY 2015</u> SCALE: AS SHOWN W.O. NO.: <u>11-28.0</u>

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

17 SHEET 18

SDP-14-08

CHIEF. DEVELOPMENT ENGINEERING DIVISION DIVISION OF LAND DEVELOPMENT M

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

"NORTH AREA 2" SUMMARY **HIGH RIDGE MEADOWS - ESDV COMPUTATIONS** Site Computations: A = 36.94 Acres ESDv = 61940 cuft 1.6 inches Rv=0.05+0.009XI V min=1.0" rainfall $(1.0 \times RV \times A)/12$ Vmax= 1yr rainfall=2.6" $(2.6 \times RV \times A)/12$ DA MINIMUM MAXIMUM 1.6" VOLUME IMPERV IMPERV GREEN DA % IMPERV RV (AC) VOLUME VOLUME PROVIDED* (SF) (AC) AREA NORTH AREA #2 - REQUIRED Pe = 1.6" Provided (Underdrains / Outfall Flows Freely) * Accounts for 75% Ponding Volume, See Computations VOLUME IMPERV IMPERV GREEN OLUME VOLUME VOLUME PROVIDED* (SF) 982 1054 377 381 34.9 0.3644 322544 7.40 9794 25463 15670 **15943** 112661 2.59 4.82 **NORTH TOTALS** MINIMUM MAXIMUM 1.6" VOLUME IMPERV IMPERV GREEN VOLUME VOLUME VOLUME PROVIDED (SF) (AC) AREA 9794 25463 15670 15943 112661 2.59 4.82 "SOUTH AREA" SUMMARY HIGH RIDGE MEADOWS **HIGH RIDGE MEADOWS - ESDv COMPUTATIONS** Rv=0.05+0.009XI V min=1.0" rainfall $(1.0 \times Rv \times A)/12$ Vmax= 1yr rainfall=2.6" (2.6 x Rv x A)/12 SOUTH AREA - REQUIRED Pe = 1.6" Provided (Underdrains / Outfall Flows Freely) * Accounts for 75% Ponding Volume, See Computations MINIMUM MAXIMUM 1.6" VOLUME IMPERV IMPERV GREEN REMARKS 1013 1928 14146 0.32 0.36 NON-STRUCTURAL, ALT. SURFACE & MICRO BIO S-9 47.69 0.4792 29660 0.68 1185 3080 **1895** \$-10 53.35 0.5301 12600 0.29 557 1447 **891 932** 6722 0.15 0.13 NON-STRUCTURAL, MICRO SCALE, ALT. SURFACE & MICRO BIO 0.47 308 800 **493 503** 2970 0.07 0.40 NON-STRUCTURAL, MICRO SCALE & MICRO BIO 1792 **1103** 1108 8456 0.19 0.11 NON-STRUCTURAL, ALT SURFACE & MICRO BIORETENTION 1188 8165 0.19 0.51 NON-STRUCTURAL, MICRO SCALE & MICRO BIO 1923 **1183** 1470 116 178 110 1953 1202 1211 8481 0.19 0.44 MICRO BIORETENTION 0.34 643 1672 **1029 1058** 7750 0.18 0.16 MICRO BIORETENTION 1526 939 1042 7124 0.16 0.13 NON-STR, ALT SURFACES & MICRO BIO 156 96 110 445 0.01 0.14 NON-STR & MICROSCALE PRACTICES 195 120 120 445 0.01 0.22 NON-STR & MICROSCALE PRACTICES 0.19 67 175 **108 112** 445 0.01 0.18 NON-STR & MICROSCALE PRACTICES 445 0.01 0.17 NON-STR & MICROSCALE PRACTICES 172 106 115 760 468 495 3140 0.07 0.24 NON-STR & MICRO BIORETENTION 1562 **961 1100** 6800 0.16 0.34 MICRO SCALE PRACTICE - BIOSWALE 0.55 1125 2926 **1801 1815** 13675 0.31 0.24 ALT SURFACES & MICRO BIORETENTION 0.16 147 383 **236 236** 1570 0.04 0.13 NON-STR & MICROSCALE PRACTICES S-17B 18.02 0.2122 4356 0.10 77 200 123 123 785 0.02 0.08 NON-STR & MICROSCALE PRACTICES S-17C 15.15 0.1863 6535 0.15 101 264 162 179 990 0.02 0.13 NON-STR & MICROSCALE PRACTICES S-18 36.52 0.3787 28085 0.64 886 2305 1418 1422 10258 0.24 0.41 NON-STRUCTURAL, MICRO SCALE, ALT. SURFACE & MICRO BIO S-19 40.51 0.4146 15000 0.34 518 1347 829 830 6076 0.14 0.20 NON-STR, ALT SURFACES & MICRO BIORETENTION SOUTH TOTALS 34.8 0.3636 467171 10.72 14153 36799 22645 **23848** 162758 3.74 6.99 SECTION ONE - PROJECT TOTALS DA MINIMUM MAXIMUM 1.6" VOLUME IMPERV IMPERV GREEN (AC) VOLUME VOLUME VOLUME PROVIDED* (SF) (AC) AREA 34.9 0.3639 789715 18.13 23947 62262 38315 **39791** 275419 6.32 11.81

65 GUILFORD ROAD SUITE 29

- COLUMBIA, MARYLAND

(410) 720 - 5071

OWNER/DEVELOPER

BUILDER-LOTS 17-54

BEAZER HOMES

MARYLAND DIVISION

8965 GUILFORD ROAD - SUITE 290

COLUMBIA, MARYLAND

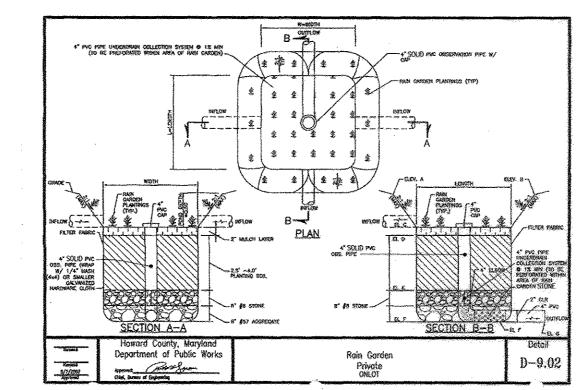
21046

(410) 720-5071

	M-7	M-5	M-1		N-1		Α-
-				4		and the second s	Per
Lot	Rain		Rain	15'	30'	45'	Surf
	Garden	Drywell	Barrel			Disconnect	Dri
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Lot 1		1	1	-	1		1
Lot 2		1	1	<u> </u>	1		1
Lot 3			1	1		1	1
Lot 4		1	1	1		2	1
Lot 5			1	1		2	1
Lot 6			1	1	2		1
Lot 7	1		1	2	1		1
Lot 8	1		1	3	1		. 1
Lot 9	1	100		1	1	1	1
Lot 10	1			2	1	1	1
Lot 11	1		····	1		2	1
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Lot 16	1		<u> </u>	1	1		<u>-</u> 1
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Lot 18	7		1	3			<u>^</u> 1
Lot 19			<u>*</u>	3			
Lot 20			<u>1</u>	3			<u>-</u> 1
Lot 21			<u>+</u>	3			1
Lot 22			<u> </u>	2			 1
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Lot 26	1	*		2	1		1
Lot 27	1			2	1		
Lot 28	1 1	·	, , , , , , , , , , , , , , , , , , , 	2	1		<u>+</u> 1
Lot 29	1			2	<u> </u>		1
Lot 30				2			1
Lot 31				2			1
Lot 32			1		1		<u>+</u> 1
Lot 33	+		<u>_</u>	3	7		1
Lot 34			1	3	2		1
Lot 35	1		<u>_</u> 1		2		1
****************			1		4	2	1
Lot 36	 		1			1	1
Lot 37 Lot 38	1	1	1	2			1
Lot 38 Lot 39	1	2		1			<u>1</u> 1
 		2		1 1			<u>+</u> 1
Lot 40		2		1			<u>_</u> 1
Lot 41		2		1			1
Lot 42				1	3		1
Lot 43	1	1	1		2		
Lot 44	1	1	1	<u> </u>	2		1
Lot 45	1	1	1		2		1
Lot 46	1		1		. 2		1
Lot 47	-		1		2		1
Lot 48	-		1		2		1
Lot 49			1	3			1
Lot 50	11	_ 1	11	2	1 1		1
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Lot 52				1			1
Lot 53			1		1		1
Lot 54	1	1	1		1		1

RG	ESD	TOP	воттом	INV	* TOP	** FACILITY	SURFACE
FACILITY	WSEL	MULCH	PLANT SOIL	STONE	ELEV	DIMENSIONS	AREA
Lot#	Α	В	C	D	E	FT (W x L)	SF
	2-59		SOUT	HAREA			
7			301.75			5 X 10	50
8	305.00	304.00	302 25	3∞.92		5 X 10	50
9			303,65			5.5 X 10	55
10	309.00	308.00	305.75	304.42		6 X 10	- 60
11	310.00	309.00	306.75	305.42		5 X 10	50
13	305.00	304.00	301.75	300.42	305.30	5 X 10	50
14	299.00	298.00	295.75	294.42	299.30	5 X 10	50
15	297.00	296.00	293.75	292.42	297.30	6 X 10	60
16	294.00	293.00	290.75	289.42	294,30	10 X 10	100
26	295.00	194.00		290.42			100
27	291.00	290,00	281.75	286.42	291, 3p	≇ 10 X 10	100
28	288.00	287.00	284.75	283.42	288,30	10 X 10	100
	LJ	L	NORT	H AREA			L
49	301.00	300.00	297.75	296.42	301.30	6 X 10	60

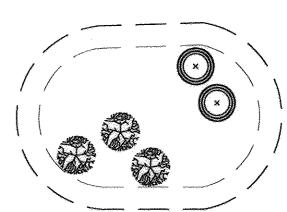
 COMMON TO WEIR OUTLET FACILITIES, LOTS 13-16 & 26-28 ** OR EQUAL SF TOTAL. ACTUAL HOUSE TYPE MAY DICTATE SHAPE OF RAIN GARDEN



RAINGARDEN FACILITY Private

ON-LOT RAINGARDEN - PLANTING SCHEDULE RG SURFACE REQUIRED PROPOSED PLANTINGS FACILITY AREA PLANTINGS SOUTH AREA SO 2 LINDERA BENZOIN - SPICEBUSH 2 LINDERA BENZOIN - SPICEBUSH 2 LINDERA BENZOIN - SPICEBUSH VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY 2 LINDERA BENZOIN - SPICEBUSH 2 LINDERA BENZOIN - SPICEBUSH 2 UNDERA BENZOIN - SPICEBUSH 2 LINDERA BENZOIN - SPICEBUSH ! VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY 100 2 LINDERA BENZOIN - SPICEBUSH VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY 12 LINDERA BENZOIN - SPICEBUSH VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY 2 LINDERA BENZOIN - SPICEBUSH VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY 60 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

		ONLOT RAINGARDEN PLANTING SCHEDUL	E	
	QTY E	BOTANICAL NAME/COMMON NAME	SIZE	REMAR
0	16 N	Burnum Trilobum Merican Highbush Cranberry	5 GALLON	CONT
0	26 S	PICEBUSH NDERA BENZOIN	3 GALLON	CONT
YP. 100 SI	X 75%)	x .0229 STEMS PER SQUARE FOOT = 2 PLANTS		

FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH

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 PRINTING.

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

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

BIO-SWALE - PLANTING PLANTINGS SHALL CONSIST OF A MIXTURE: REED CANARY GRASS - PHALARIS ARUNDINACEA SWITCHGRASS — PANICUM VIRGATUM MAJESTIC LILY TURF — LIRIOPE MUSCARI 'MAJESTIC' OR EQUAL COMBINATION OF COOL / WARM SEASON GRASSES TOLERANT OF FREQUENT INUNDATION

WEIR OUTLET RAINGARDEN

WEIR 1'

0.3'MINI 3

TYPICAL SPILLWAY PROFILE

NOT TO SCALE

EROSION MATTING

TO BOTTOM OF

TYPICAL SPILLWAY SECTION

LAYOUT OPTION 2

Pedforated Pyc Inside Trench Assa Cally —

OCHNEPOUT

NOT TO SCALE

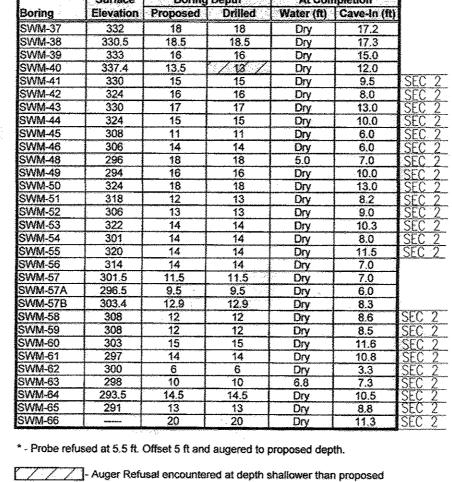
High Ridge Meadows (Deer Springs) HCEA Project No. 12324#

Table 1. Auger Probe Summary

		Boring Depth		At Completion		
Boring	Elevation	Proposed	Drilled	Water (ft)	Cave-In (ft)	
SWM-1	304	14	14	Dry	8.0	
SWM-1A	309	15	15	Dry	8.0	
SWM-2	304	16	16	Dry	8.5	
SWM-3	302	17	17	Dry	8.4	
SWM-4	304	19	19	Dry		
SWM-5	296	11	11	Dry	5.3	
SWM-6	282	5	5	Dry	2.6	
SWM-7	276	11.5	11,5	Dry	7.0	
SWM-8	272	11.5	11.5	Dry	7.0	
SWM-9	273	13	14	Dry	8.0	
SWM-10	277	11	11	Dry	7.3	
SWM-10.5	288	5	5	Dry	2.5	
SWM-11	292	13	13	Dry	7.0	
SWM-12	308.5	23.5	24.5	Dry	13.3	
SWM-13	310	21	21	Dry	13.6	
SWM-14	298	18	18	Dry	11.3	
SWM-15	298	13	13	Dry	9.0	
SWM-16	292	16	16	Dry	12.0	
SWM-17	302	9	/5.5/9/	Dry	4.4	
SWM-18	303	15	15	Dry	10.0	
SWM-19	304	9	9	Dry	4.8	
SWM-20	312	13	13	Dry	7.8	
SWM-21	313	13	13	Dry	8.0	
SWM-22	306	12.5	12.5	Dry	10.0	
SWM-23	301	14	14	Dry	10.0	
SWM-24	289.5	11	11	Dry	6.8	
SWM-25	290.5	16.5	16.5	Dry	11.0	
SWM-26	296.5	16.5	16.5	Dry	12.5	
SWM-27	297	12	13	Dry	7.0	
SWM-28	307	14	14	Dry	9.0	
SWM-29	308	13	13	Dry	6.0	
SWM-30	312	13	13	Dry	12.5	
SWM-31	314	12	12	Dry	8.7	
SWM-32	317.5	12.5	12	Dry	8.3	
SWM-33	323	17.5	17.5	Dry	13.0	
SWM-34	326	16	16	Dry	11.0	
SWM-35	321	15	15	Dry	11.3	
SWM-36	330	18	18	Dry	12.0	

High Ridge Meadows (Deer Springs) HCEA Project No. 12324/

Table 1. Auger Probe Summary



/--- OCCUPANTION WELL / CLEANOUS SELF FLUSH WITH PROPOSED EXISTING GRADE SROWER PRE -----SPLASH BLOCK SOLID PERFORMED NOTES

1. MANIFACTURED SAND IS NOT ACCEPTABLE IN
OFFICELS.

2. ALL MANS SHOULD BE SEN 40 PVC 4" MM

16" 4 10"
OFFICELS SAND IS NOT ACCEPTABLE IN
OFFICELS SHOULD BE SEN 40 PVC 4" MM

10" 10" NOW SOURDED FORMATION

10" 10" NOW SOURDED FORMATION
10" FORMATION MATERIAL MY EASEMENT

SEPACE.

SEPACE.

NOT TO SOUR SEL LOCATED TO MEMBER MY EASEMENT CHOUND WATER OF PAC Separe. 4. Ambien Houser of Perforadors Shull be 5 Thes 1995 Area. 5. Trench hav hot be destruid in Fil. Howard County, Maryland Department of Public Works Orywell Prîvate D-9.01 SPIRES Reprint OFFICE Spires

LAYOUT OPTION 1

TOPCAL DOMESTICAL DESIGNATION OF THE PERSON OF THE PERSON

SOLD PIC TO OTHER DOMESPOUR LOCATIONS, EXC. LARGE PLACE.

OBSERVATION WELL.
/ CLEMONT. SEE
DETAILS THIS SHEET

TYPICAL DOWNSPORT __ PUC DOMESPOUT ADAPTER

**/ REMOVABLE CAP

SPLASH BLOCK

UNDISTURBED

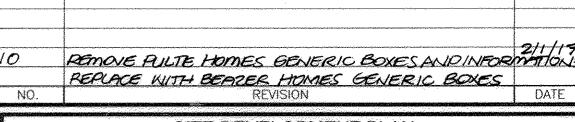
GROUND

ON-LOT DRYWELL - DESIGN ELEVATION CHART INV SURFACE STONE LOT OF DW'S GRADE STONE STONE SIZE DEPTH 2 | 296.00 | 295.00 | 291.00 | 8.5X8.5 | 295.00 294.00 290.00 8.5X8.5 1 294.20 293.20 289.20 8.5X8.5 4 1 299.00 298.00 294.00 8.5X8.5 4 2 1 301.50 300.50 296.50 8.5X8.5 4 A-1/A-2 38 R 1 319.00 318.00 314.00 6X6 4 322.00 321.00 317.00 6X6 320.00 319.00 315.00 8X8 2 324.00 323.00 319.00 6X6 323.50 322.50 318.50 8X8 2 | 327.00 | 326.00 | 322.00 | 6X6 325.50 324.50 320.50 8X8 2 | 331.80 | 330.80 | 326.80 | 6X6 328.50 327.50 323.50 8X8 1 328.00 327.00 323.00 8X8 4 1 325.00 324.00 320.00 8X8 1 322.00 321.00 317.00 8X8 G-1 50 1 305.50 304.50 300.50 8X8 4

R= REAR OF LOT ELEVATION CHART MAY CHANGE DUE TO ACTUAL HOUSE SITE 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



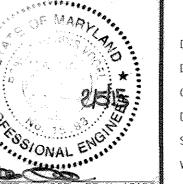
SITE DEVELOPMENT PLAN

STORMWATER MANAGEMENT - NOTES & DETAILS

HIGH RIDGE MEADOWS - SECTION ONE LOTS 1 - 54

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, F14-022

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



DESIGN BY: DRAWN BY: TJW/RVE/KG CHECKED BY: DATE: <u>JANUARY 2015</u> SCALE: AS SHOWN W.O. NO.: <u>11-28.01</u>

18 SHEET OF

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-SO PARCELS: 363 & 54;

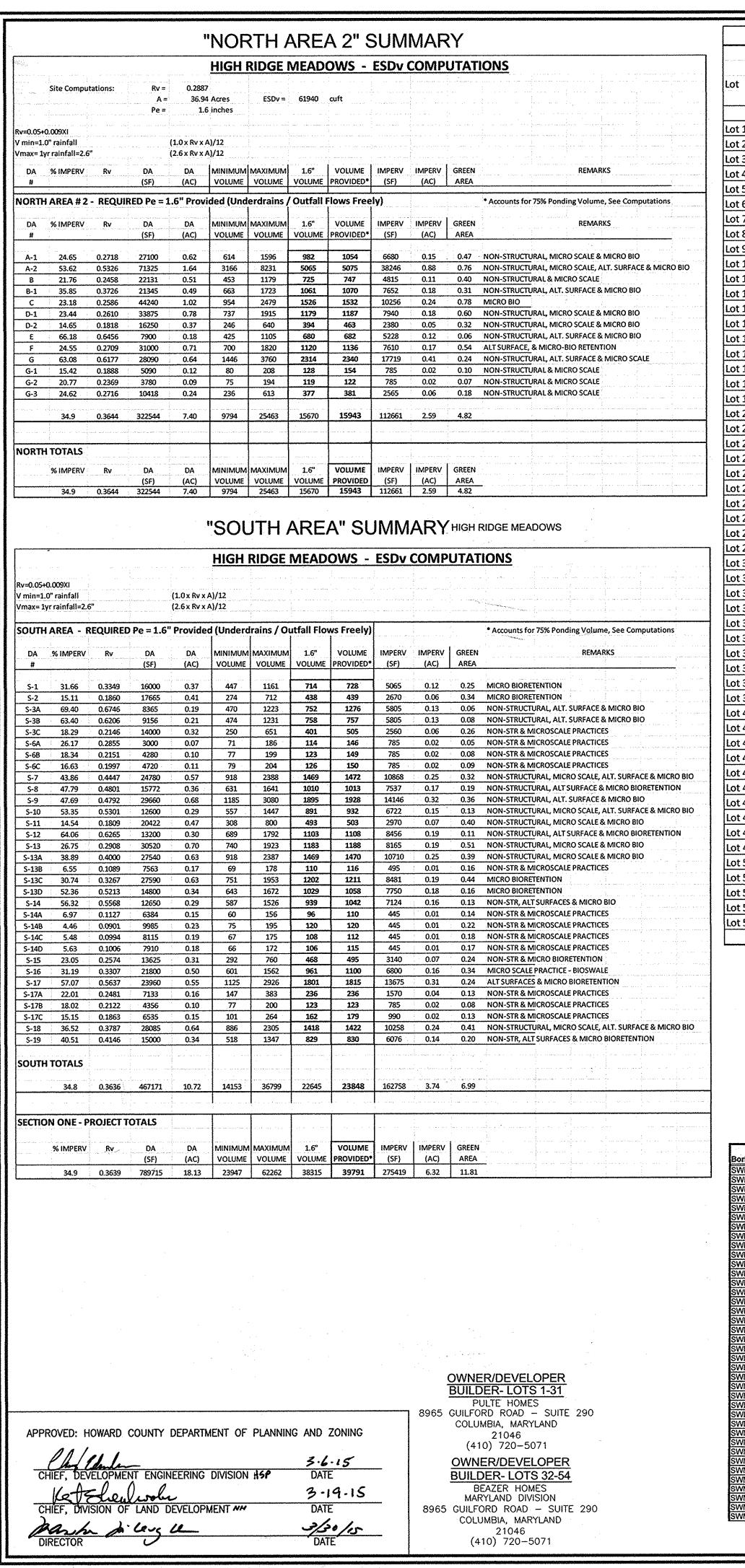
HOWARD COUNTY, MARYLANI

STORMWATER MANAGEMENT TEST PIT DATA HILLIS-CARNES ENGINEERING ASSOCIATES, INC. 9/12

CHIEF, DEVELOPMENT ENGINEERING DIVISION HSP 3-19-15 DATE DIVISION OF LAND DEVELOPMENT *** DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

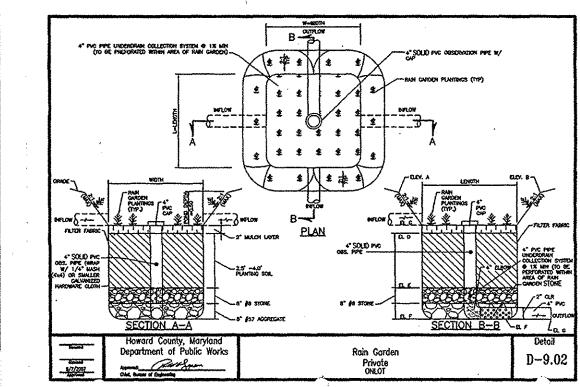
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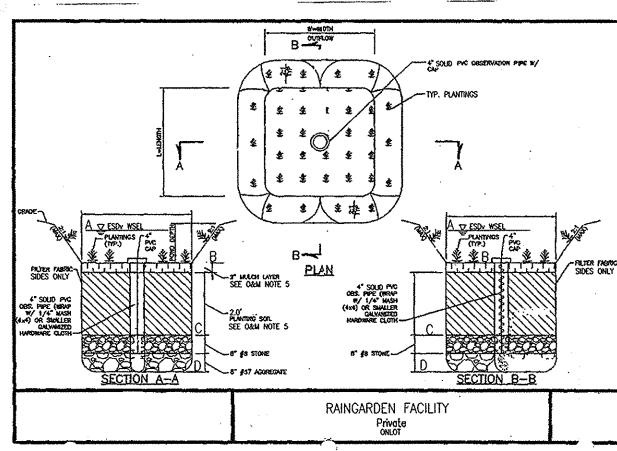


	M-7	T STORN M-5	M-1		N-1	· · · · · · · · · · · · · · · · · · ·	A-2
			American construction of the state of		to the second se		Perr
Lot	Rain		Rain	15'	30'	45'	Surfa
	Garden	Drywell	Barrel	Disconnect	Disconnect	Disconnect	Driv
Lot 1		1	1		1		1
Lot 2		1	1	1	1		1
Lot 3			1	1		1	1
Lot 4		1	1	1		2	1
Lot 5			11	1		2	1
Lot 6			1	1	2		1
Lot 7	1		1	2	1		1
Lot 8	1		1	3	1		1
Lot 9	1	`		1	1	1	1
Lot 10	1			2	1	1 2	1
Lot 11 Lot 12	i.			2	1	4	1
Lot 13	1		1	<u> </u>	2		1
Lot 14	1		1		1		1
Lot 15	1		1		1		1
Lot 16	1		1	1	1		1
Lot 17			1	3			1
Lot 18			1	3			1
Lot 19			1	3			. 1
Lot 20			1	3			1
Lot 21			1	3			1
Lot 22				2			1
Lot 23				2			1
Lot 24		2		1			1
Lot 25		1		2			1
Lot 26	1			2	11		1
Lot 27	1			2	1		1
Lot 28	1		-	2	1		1
Lot 29 Lot 30				2	<u> </u>		1
Lot 31				2			1
Lot 32			1	<u>-</u>	1		1
Lot 33			1	3			1
Lot 34			1		2		1
Lot 35	,		1		2		1
Lot 36			1			2	1
Lot 37			1			1	1
Lot 38		1 .	11	2			1
Lot 39		2		1			1
Lot 40		2		1			1
Lot 41		2		1	<u> </u>		1
Lot 42		2		1			1
Lot 43		1	1		2		1 1
Lot 44		1	1 1		2		1 1
Lot 45 Lot 46		<u> </u>	1		2		1
Lot 46			1	1	2]	1
Lot 48			1		2		1
Lot 49			1	3			1
Lot 50	1	, 1	1	2	1		1
Lot 51		Ì					1
Lot 52				1			1
Lot 53			1		1		1
Lot 54			1		1		1
						m ta	

RG	ESD	TOP	воттом	INV	* TOP	** FACILITY	SURFACE
FACILITY	WSEL	MULCH	PLANT SOIL	STONE	ELEV	DIMENSIONS	AREA
Lot#	Α	В	С	D	E	FT (W x L)	SF
			SOUT	H AREA	,		
7	307.00	306.00	303.75	302.42	-	5 X 10	50
8	307.00	306.00	303.75	302.42	-	5 X 10	50
9	308.50	307.50	305.25	303.92	-	5.5 X 10	55
10	310.00	309.00	306.75	305.42	-	6 X 10	60
11	310.00	309.00	306.75	305.42		5 X 10	50
13	305.00	304.00	301.75	300.42	305.30	5 X 10	50
14	299.00	298.00	295.75	294.42	299.30	5 X 10	50
15	297.00	296.00	293.75	292.42	297.30	6 X 10	60
16	294.00	293.00	290.75	289.42	294.30	10 X 10	100
26	294.00	293.00	290.75	289.42	294.30	10 X 10	100
27	294.00	293.00	290.75	289.42	294.30	10 X 10	100
28	288.00	287.00	284.75	283.42	288.30	10 X 10	100
	•						
			NORT	H AREA			
49	301.00	300.00	297.75	296.42	301.30	6 X 10	60

** OR EQUAL SF TOTAL. ACTUAL HOUSE TYPE MAY DICTATE SHAPE OF RAIN GARDEN

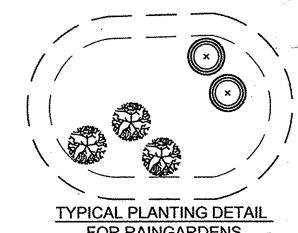




RG SURFACE REQUIRED **PROPOSED** FACILITY AREA PLANTINGS 2 LINDERA BENZOIN - SPICEBUSH 2 LINDERA BENZOIN - SPICEBUSH 2 LINDERA BENZOIN - SPICEBUSH 12 LINDERA BENZOIN - SPICEBUSH 2 LINDERA BENZOIN - SPICEBUSH 2 LINDERA BENZOIN - SPICEBUSH VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY 2 LINDERA BENZOIN - SPICEBUSH 60 VIBURNUM TRILOBUM - AMERICAN HIGHBUSH CRANBERRY

ON-LOT RAINGARDEN - PLANTING SCHEDULE

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



FOR RAINGARDENS

WEIR OUTLET RAINGARDEN **EROSION MATTING** 1' | WEIR | 1' TO BOTTOM OF

TYPICAL SPILLWAY PROFILE NOT TO SCALE

ONLOT RAINGARDEN PLANTING SCHEDULE QTY BOTANICAL NAME/COMMON NAME VIBURNUM TRILOBUM AMERICAN HIGHBUSH CRANBERRY 0 5 GALLON CONT 3 GALLON TYP. 100 SF X 75% X .0229 STEMS PER SQUARE FOOT = 2 PLANTS

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.

BIO-SWALE - PLANTING PLANTINGS SHALL CONSIST OF A MIXTURE:
REED CANARY GRASS — PHALARIS ARUNDINACEA
SWITCHGRASS — PANICUM VIRGATUM
MAJESTIC LILY TURF — LIRIOPE MUSCARI 'MAJESTIC' OR EQUAL COMBINATION OF COOL / WARM SEASON GRASSES TOLERANT OF FREQUENT INUNDATION

TYPICAL SPILLWAY SECTION

NOT TO SCALE

,	
High Ridg (Deer Spr	e Meadow
Cheet Shi	mysj
HCEA Project N	lo. 12324A
Table 1. Auger Pro	be Summary

High Ridge Meadows (Deer Springs) HCEA Project No. 12324A

Table 1. Auger Probe Summary

1	Surface	Boring Depth		At Completion	
Boring	Elevation	Proposed	Drilled	Water (ft)	Cave-In (ft)
SWM-37	332	18	18	Dry	17.2
SWM-38	330.5	18.5	18.5	Dry	17.3
SWM-39	333	16	16	Dry	15.0
SWM-40	337.4	13.5	/13/	Dry	12.0
SWM-41	330	15	15	Dry	9.5
SWM-42	324	16	16	Dry	8.0
SWM-43	330	17	17	Dry	13.0
SWM-44	324	15	15	Dry	10.0
SWM-45	308	11	11	Dry	6.0
SWM-46	306	14	14	Dry	6.0
SWM-48	296	18	18	5.0	7.0
SWM-49	294	16	16	Dry	10.0
SWM-50	324	18	18	Dry	13.0
SWM-51	318	12	13	Dry	8.2
SWM-52	306	13	13	Dry	9.0
SWM-53	322	14	14	Dry	10.3
SWM-54	301	14	14	Dry	8.0
SWM-55	320	14	14	Dry	11.5
SWM-56	314	14	14	Dry	7.0
SWM-57	301.5	11.5	11.5	Dry	7.0
SWM-57A	296.5	9.5	9.5	Dry	6.0
SWM-57B	303.4	12.9	12.9	Dry	8.3
SWM-58	308	12	12	Dry	8.6
SWM-59	308	12	12	Dry	8.5
SWM-60	303	15	15	Dry	11.6
SWM-61	297	14	14	Dry	10.8
SWM-62	300	6	6	Dry	3.3
SWM-63	298	10	10	6.8	7.3
SWM-64	293.5	14.5	14.5	Dry	10.5
SWM-65	291	13	13	Dry	8.8
SWM-66		20	20	Dry	11.3

PERFORATED PAC INSIDE TREMCH AREA CHEY TYPICAL COMMSPOUT ENFORMED PRE NO SCH 40 3/8" HOLES 4" /C 90 GEOREES ANOUND PVC NYE TO SPLASH BLOCK NOTES
1. IMMERIACITIES SAND IS NOT ACCOPUBLE IN
1. DISNELLS SAND IS NOT ACCOPUBLE IN
100 WELLS SAND IS SEX 40 PVC 4" MIN
2. ALL PPES SANDLE BE SEX 40 PVC 4" MIN
2. ALL PPES SANDLE BE SEX 40 PVC 4" MIN
2. ALL PPES SANDLE BE SEX 40 PVC 4" MIN
2. ALL PPES SANDLE BE SEX 40 PVC ASSINDER
2. ALL PPES SANDLE BE LECOTION
3. AND SHOULD BE Scapes.
4. Mocalin incurer of perforations shull be 8 times per area.
5. Tredich may not be bestaled in full. Department of Public Works Roof Drain Drywell Private D-9.01

UNDISTURBED -

GROUND

ON-LOT DRYWELL - DESIGN ELEVATION CHART 2 | 296.00 | 295.00 | 291.00 | 8.5X8.5 | 24 R 295.00 294.00 290.00 8.5X8.5
 25
 1
 294.20
 293.20
 289.20
 8.5X8.5
 4

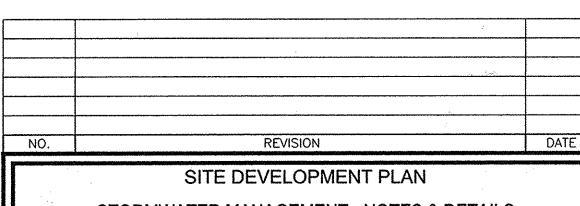
 1
 1
 299.00
 298.00
 294.00
 8.5X8.5
 4

 2
 1
 301.50
 300.50
 296.50
 8.5X8.5
 4
 A-1/A-2 38 R 1 319.00 318.00 314.00 6X6 4 2 | 322.00 | 321.00 | 317.00 | 6X6 320.00 319.00 315.00 8X8 2 | 324.00 | 323.00 | 319.00 | 6X6 323.50 322.50 318.50 8X8 327.00 | 326.00 | 322.00 | 6X6 325.50 324.50 320.50 8X8 4 331.80 330.80 326.80 6X6 328.50 327.50 323.50 8X8 43 1 328.00 327.00 323.00 8X8 4 44 1 325.00 324.00 320.00 8X8 4 45 1 322.00 321.00 317.00 8X8 4 G-1 50 1 305.50 304.50 300.50 8X8 4

R= REAR OF LOT ELEVATION CHART MAY CHANGE DUE TO ACTUAL HOUSE SITE OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRYWELL (M-5)

> THE OWNER SHALL INSPECT & CLEAN ANNUALLY, INCLUDING PIPES GUTTERS DOWNSPOUTS AND FILTERS.

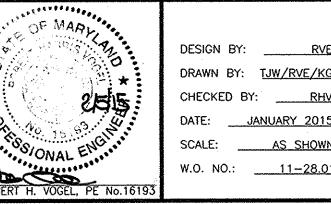
B. PONDING STANDING WATER OR ALGAL GROWTH ON THE TOP OF A DRYWELL MAY INDICATE FAILURE DUE TO SEDIMENTATION IN THE GRAVEL MEDIA. IF WATER PONDS FOR MORE THAN 48 HOURS AFTER A MAJOR STORM OR MORE THAN SIX INCHES OF SEDIMENT HAS ACCUMULATED, THE GRAVEL MEDIA SHOULD BE EXCAVATED AND REPLACED.



STORMWATER MANAGEMENT - NOTES & DETAILS HIGH RIDGE MEADOWS - SECTION ONE LOTS 1 - 54

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, F14-022

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 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND DESIGN BY: THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE DRAWN BY: TJW/RVE/KG OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2016 CHECKED BY: DATE: JANUARY 201 AS SHOWN

19 SHEET OF

ZONED: R-SC PARCELS: 363 & 542 HOWARD COUNTY, MARYLAND

STORMWATER MANAGEMENT TEST PIT DATA HILLIS-CARNES ENGINEERING ASSOCIATES, INC. 9/12