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RESIDENTIAL SITE DEVELOPMENT PLAN

BONNIE RIDGE

LOTS 15 AND 16

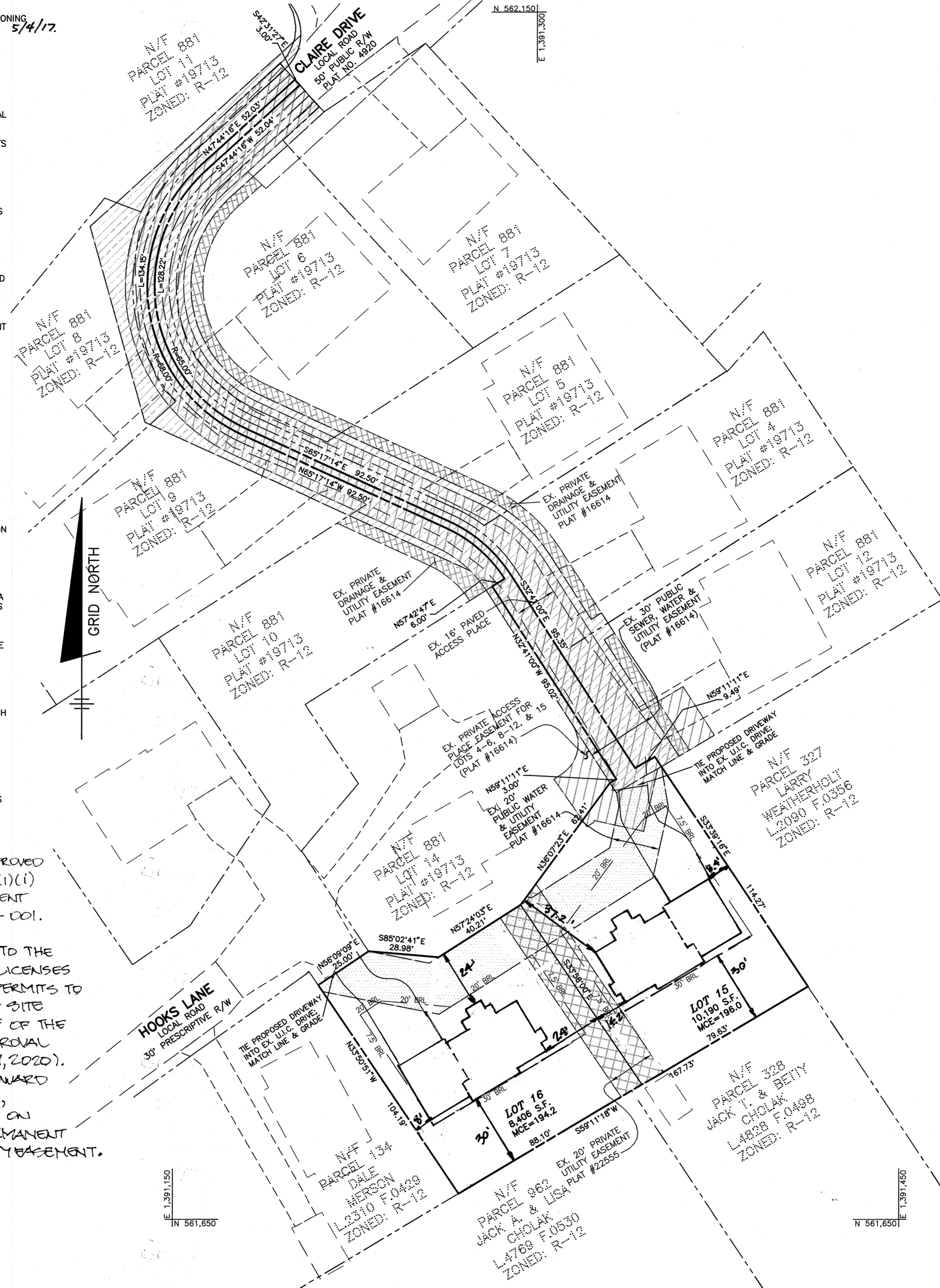
GENERAL NOTES

- THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE SUBJECT PROPERTY IS ZONED R-12 PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NO. 38AA AND 38BA WERE USED FOR THIS PROJECT.
- TRACT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED ON OR ABOUT JUNE, 2004 BY FSH ASSOCIATES, INC. SEE PLAT NO. 22555 FOR BEARINGS, DISTANCES, MONUMENTATION, EASEMENTS, AREAS, ETC.
- THE NOISE STUDY IS FOR THIS PROJECT WAS ADDRESSED UNDER F-03-109.
- A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. THE WATER AND SEWER IS PUBLIC. THE CONTRACT NUMBER IS CONT. #86-S, CONT. #1053/33212 AND CONT. #14-4008-D.
- THIS SUBDIVISION IS SUBJECT TO SECTION 18.122B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND/OR SEWER SERVICE HAS BEEN GRANTED UNDER THE TERMS AND PROVISIONS FOR DEVELOPERS AGREEMENT NUMBER F-03-109 WHICH WAS FILED AND ACCEPTED.
- WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND SEWERAGE ALLOCATION WILL BE GRANTED AT TIME OF ISSUANCE OF BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON-SITE.
- THERE ARE NO HISTORIC SITES/FEATURES LOCATED ON THIS SITE.
- THERE ARE NO WETLANDS, STREAMS AND THEIR REQUIRED BUFFERS, LOCATED ON THIS SITE. THERE IS NO 100YR FLOODPLAIN ON THIS SITE.
- THERE ARE NO STEEP SLOPES THAT 25% OR GREATER THAT IS MORE THAN A CONTIGUOUS 20,000 SF LOCATED ON THIS SITE.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (18' SERVING MORE THAN ONE RESIDENCE).
 - SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN).
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10R GRADE CHANGE AND MINIMUM 45' TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1-FOOT DEPTH OVER DRIVEWAY.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- PREVIOUS HOWARD COUNTY FILE NUMBERS: S-99-11, P-01-11, F-02-31, WP-03-49, F-03-109, F-04-011, F-07-173, F-07-202, WP-13-024, WP-13-122, CONT. #14-4008-D, ECP-16-032.
- IN ACCORDANCE WITH SECTION 128.0.1 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 (APPLIES FOR RESIDENTIAL SDP'S).
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING OR NEW STRUCTURES SHALL BE PERMITTED WITHIN THE WETLANDS, STREAM(S), THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS OR 100 YEAR FLOODPLAIN EXCEPT AS APPROVED THE HOWARD COUNTY, DEPARTMENT OF PLANNING AND ZONING.
- 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 PIPESTEM LOT DRIVEWAY.
- LANDSCAPING FOR THIS SUBDIVISION IS PROVIDED IN ACCORDANCE WITH SECTION 18.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE GRADING PERMITS IN THE AMOUNT OF \$1,200 FOR A PERIMETER SHADE TREES AND FOR THE ONE STREET TREE LOT 15 SHALL POST \$750 AND LOT 16 SHALL POST \$450. THE TOTAL FOREST CONSERVATION OBLIGATION WAS PREVIOUSLY ADDRESSED UNDER F-03-109 BY THE OFF-SITE REFORESTATION OF 1.64 AC. WITHIN CHASE FARM FOREST CONSERVATION EASEMENT, F-04-011 AND PLAT NO. 16138.
- THE OPEN SPACE OBLIGATION FOR THIS PROJECT WAS PREVIOUSLY ADDRESSED UNDER F-03-109.
- NO COMMUNITY MEETING IS REQUIRED FOR THIS PROJECT SINCE THE LOTS ARE EXISTING.
- STORMWATER MANAGEMENT ENVIRONMENTAL SITE DESIGN (ESD) HAS BEEN PROVIDED IN ACCORDANCE WITH THE "MARYLAND DEPARTMENT OF THE ENVIRONMENT STORMWATER MANAGEMENT ACT OF 2007" AND THE "HOWARD COUNTY DESIGN MANUAL VOLUME I, CHAPTER 5" TO THE MAXIMUM EXTENT PRACTICAL (MEP) VIA 4 M-5 DRY WELLS. THE PRACTICES ARE PRIVATELY OWNED AND PRIVATELY MAINTAINED.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- EXISTING TOPOGRAPHY SHOWN HEREON IS TAKEN FROM SDP-05-045 WHICH REFERENCED AERIAL SURVEY WITH 2 FOOT CONTOUR INTERVALS PREPARED BY LDE, INC., ON AUGUST, 2000 AND SUPPLEMENTED WITH GRADING FROM FINAL PLAN F-03-109.
- EXISTING UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATIONS AND RECORD DRAWINGS.
- ANY DAMAGE TO THE COUNTY'S RIGHT OF WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- SHC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE OR EASEMENT LINE.
- FOR DRIVEWAY ENTRANCES DETAILS REFER TO THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD DETAIL R-6.03.

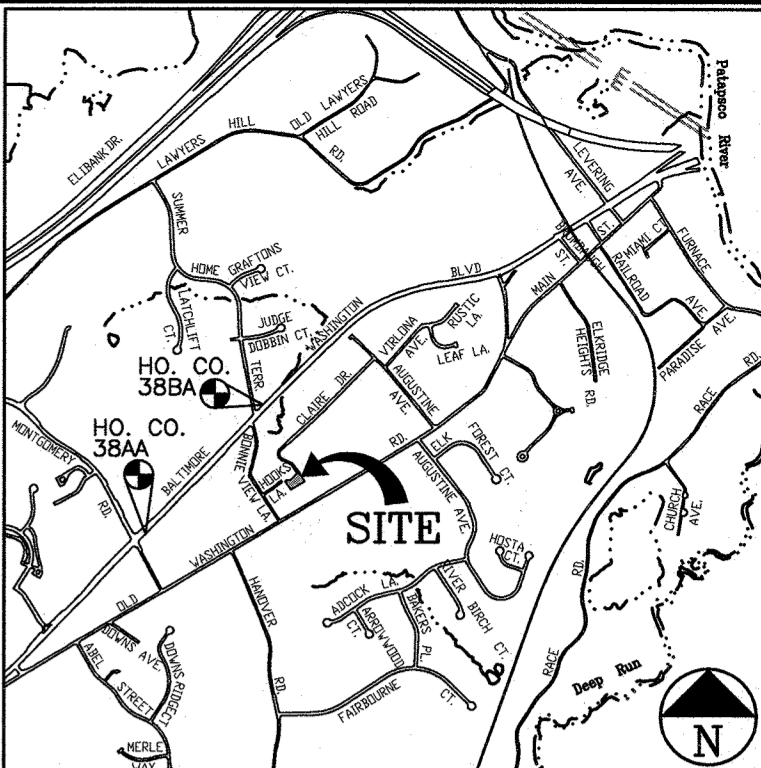
- BUILDING PERMITS ARE SUBJECT TO OBTAINING AN AIRPORT ZONING PERMIT FROM THE MARYLAND AVIATION ADMINISTRATION. ISSUED 5/4/17.
- BRL INDICATES BUILDING RESTRICTION LINE.
- AREAS ARE MORE OR LESS.
- GEOTECH REPORT BY GEOLAB, DATED OCTOBER 14, 2015.
- THESE LOTS ARE SUBJECT TO A DESIGN MANUAL WAIVER REQUEST TO REDUCE THE 10 FOOT SETBACK FROM A PUBLIC WATER EASEMENT TO THE STRUCTURE REQUIRED BY DESIGN MANUAL VOLUME II, SECTION 5.4.B.5.
- UNLESS VERIFIED TO MEET COUNTY STANDARDS THE RESIDENTS CANNOT PETITION TO CONVERT THE COMMON ACCESS DRIVEWAY TO BECOME A PUBLIC ROAD.
- A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5751 FOR DETAILS AND COST ESTIMATES.
- PROPERTY OWNERS OF LOTS 15 & 16 MAY UTILIZE THE PRIVATE ACCESS PLACE TO REACH OPEN SPACE LOTS 10 AND 11.
- THE PRIVATE ACCESS PLACE AGREEMENT HAS BEEN RECORDED IN THE LAND RECORDS OFFICE OF HOWARD COUNTY, MD AS LIBER 8179, FOLIO 574, DATED FEBRUARY 25, 2004.
- THE HOMEOWNERS ASSOCIATION DOCUMENTS HAVE BEEN RECORDED WITH THE MARYLAND STATE DEPARTMENT OF ASSESSMENT AND TAXATION AS RECORDING REFERENCE NO. D07817638.
- HOMEOWNERS ASSOCIATION COVENANTS AND RESTRICTIONS WERE RECORDED IN THE LAND RECORDS OFFICE OF HOWARD COUNTY, MD AS LIBER 8179, FOLIO 587 ON MARCH 26, 2004.
- THIS PROJECT IS EXEMPT FROM MIHU REQUIREMENTS SINCE THE LOTS WERE RECORDED PRIOR TO 10/6/13.
- PER A LETTER FROM THE DEPUTY DIRECTOR OF THE DEPARTMENT OF PUBLIC WORKS DATED DECEMBER 28, 2018 ENCROACHMENTS OF THE SINGLE FAMILY DWELLINGS ON LOTS 15 AND 16 INTO THE REQUIRED 10-FOOT HORIZONTAL CLEARANCE REQUIREMENTS ARE APPROVED. THIS APPROVAL IS SUBJECT TO THE CONDITION THAT THE WATER AND SEWER CONTRACT DRAWINGS MUST BE REDLINED TO SHOW THE NEW LOCATION OF THE 1 1/2 TWIN WATER HOUSE CONNECTION AT THE COMMON PROPERTY LINE OF LOTS 15 AND 16.
- ON MARCH 1, 2018 A REVISION TO THE ENCROACHMENTS (SEE NOTE 43) WAS APPROVED BY DPW. AN ADDITIONAL CONDITION WAS REQUIRED THAT A COPY OF THE WORK CHECK THAT SHOWS THE EASEMENTS, BE FORWARDED TO DPW UPON COMPLETION OF THE FOUNDATION WALLS.
- ON FEBRUARY 15, 2018, THE DIRECTOR OF PLANNING AND ZONING APPROVED AN ALTERNATIVE COMPLIANCE REQUEST, COUNTY FILE WP-18-075, TO WAIVE SECTIONS 16.156(a) AND 16.156(m). A REQUEST TO THE APPROVAL OF THIS ALTERNATIVE COMPLIANCE WAS APPROVED BY THE DIRECTOR OF PLANNING AND ZONING ON SEPTEMBER 25, 2018. THE RECONSIDERATION APPROVAL WAS SUBJECT TO THE FOLLOWING CONDITIONS:
 - THE APPROVAL OF SDP-17-001 IS HEREBY REACTIVATED. THE COMPLETION OF THE DEVELOPER'S AGREEMENT AND PAYMENT OF FEES FOR SDP-17-001 MUST BE COMPLETED WITHIN 6 MONTHS FROM THE DATE OF THE ALTERNATIVE COMPLIANCE APPROVAL LETTER (ON OR BEFORE MARCH 25, 2019).
 - SITE DEVELOPMENT PLAN ORIGINALS FOR SDP-17-001 MUST BE SUBMITTED TO DPZ WITHIN 6 MONTHS FROM THE DATE OF THE ALTERNATIVE COMPLIANCE APPROVAL LETTER (ON OR BEFORE MARCH 25, 2019).
 - PLEASE ADD THE FILE NUMBER, SECTION, DECISION, DATE OF DECISION AND CONDITIONS OF APPROVAL AS A GENERAL NOTE ON SDP-17-001 AND ALL RELATED PLANS.
- IN AN EMAIL DATED MARCH 1, 2018, THE CHIEF OF UTILITY DESIGN DIVISION, DEPARTMENT OF PUBLIC WORKS, APPROVED A CONCEPT FOR THE GARAGE TO FURTHER ENCRACH INTO THE PUBLIC UTILITY EASEMENT SETBACK UP TO 8.8'. THE APPROVAL IS SUBJECT TO WHAT WAS PRESENTED TO DPW AND A FOUNDATION LOCATION SURVEY THAT SHOWS THE EASEMENT AND THE FOUNDATION WALLS BEING FORWARDED TO DANIEL DAVIS UPON COMPLETION.
- THIS PLAN IS SUBJECT TO WP 20-040 APPROVED NOVEMBER 7, 2019 TO SECTION 16.156(b)(1)(i) OF THE SUBDIVISION & LAND DEVELOPMENT REGULATIONS TO REACTIVATE SDP-17-001. SUBJECT TO THE FOLLOWING:

THE DEVELOPER SHALL APPLY TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS FOR BUILDING PERMITS TO INITIATE CONSTRUCTION ON THE SITE WITHIN 6 MONTHS FROM DATE OF THE ALTERNATIVE COMPLIANCE APPROVAL LETTER (ON OR BEFORE MAY 7, 2020).

AS A DESIGN MANUAL WAIVER TO HOWARD COUNTY DESIGN MANUAL, VOLUME II, SECTION 5.4.B.5 WAS APPROVED ON APRIL 1, 2020 TO ALLOW A PERMANENT STRUCTURE WITHIN 10' OF THE UTILITY EASEMENT.



BENCH MARKS	
HO. CO. #38AA (NAD '83)	ELEV. 220.044
STAMPED DISC ON CONCRETE MONUMENT	N 561,158.819 E 1,369,726.3323
HO. CO. #38BA (NAD '83)	ELEV. 166.177
STAMPED DISC ON CONCRETE MONUMENT	N 562,553.3149 E 1,390,967.8619



STORMWATER MANAGEMENT PRACTICE(S)		
LOT NUMBER	ADDRESS	DRY-WELL FACILITY #S (QUANTITY)
LOT 15	6103 CLAIRE DR.	2
LOT 16	6147 HOOKS LA.	2

LEGEND

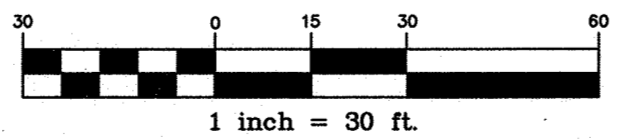
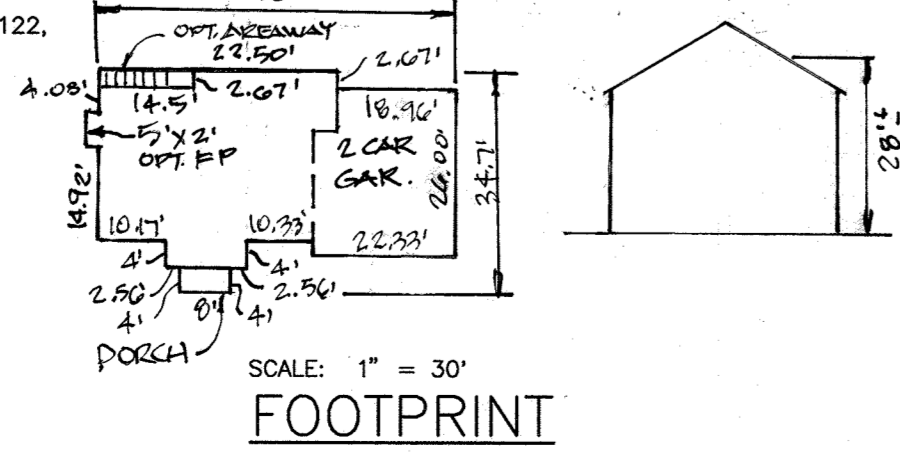
- SOILS CLASSIFICATION: UdB
- SOILS DELINEATION: [Symbol]
- EXISTING CONTOURS: [Symbol]
- PROPOSED CONTOURS: [Symbol]
- EXISTING STRUCTURE: [Symbol]
- PROPOSED STRUCTURE: [Symbol]
- EX. PRIVATE ACCESS PLACE EASEMENT PLAT 16614: [Symbol]
- EX. PUBLIC SEWER, WATER & UTILITY EASEMENT PLAT 16614: [Symbol]
- EX. PUBLIC WATER & UTILITY EASEMENT PLAT 16614: [Symbol]
- EX. PRIVATE 20' UTILITY EASEMENT PLAT 22555: [Symbol]
- EX. PRIVATE DRAINAGE & UTILITY EASEMENT PLAT 16614: [Symbol]

THIS PROJECT IS EXEMPT FROM MIHU REQUIREMENTS SINCE THE LOTS WERE RECORDED PRIOR TO 10/6/13.

THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

SITE ANALYSIS DATA CHART

A.) TOTAL PROJECT AREA	0.43 ACRES ±
B.) AREA OF PLAN SUBMISSION	0.43 ACRES ±
C.) LIMIT OF DISTURBED AREA	0.38 ACRES ±
D.) PRESENT ZONING:	R-12 (RESIDENTIAL SINGLE)
E.) PROPOSED USE OF SITE:	RESIDENTIAL SINGLE FAMILY DETACHED
F.) FLOOR SPACE ON EACH LEVEL OF BLDG PER USE	N/A
G.) TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLAT(S)	2
H.) TOTAL NUMBER OF UNITS PROPOSED	2
I.) MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON SITE PER USE	N/A
J.) NUMBER OF PARKING SPACES REQUIRED BY HG. CO. ZONING REGS. AND/OR FDP CRITERIA	5 (2 UNITS @ 2.5 P.S./UNIT)
K.) NUMBER OF PARKING SPACES PROVIDED ON-SITE (INCLUDES HANDICAPPED SPACES)	6 (1 FOR EACH GARAGE AND 2 FOR EACH DRIVEWAY)
L.) OPEN SPACE ON-SITE	N/A
M.) AREA OF RECREATIONAL OPEN SPACE REQUIRED	N/A
N.) BUILDING COVERAGE OF SITE	N/A
O.) APPLICABLE DPZ FILE REFERENCES:	S-99-11, P-01-011, F-02-31, WP-03-49, F-03-109, F-04-011, F-07-173, F-07-202, WP-13-024, WP-13-122, CONT. #14-4008-D, ECP-16-032.



MINIMUM LOT SIZE CHART				
LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM SIZE	LOT SIZE
15	10,190 SF	1784 SF	8406 SF	

ADDRESS CHART	
LOT	STREET ADDRESS
15	6103 CLAIRE DR.
16	6147 HOOKS LA.

PERMIT INFORMATION CHART					
SUBDIVISION NAME:		SECTION/AREA:	LOT/PARCEL #		
BONNIE RIDGE		N/A	LOTS 15 AND 16		
PLAT No.	GRID	ZONE	TAX MAP	ELECTION DISTRICT	CENSUS TRACT
22555	03	R-12	38	1st	601201

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief Engineer 10-24-18
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Director 10-25-18
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Director 10-25-18
DIRECTOR DATE

REVISION	
NO.	DATE
1	6-17-20

REVISION: REUSE HOUSE MODEL FOR LOTS 15 & 16

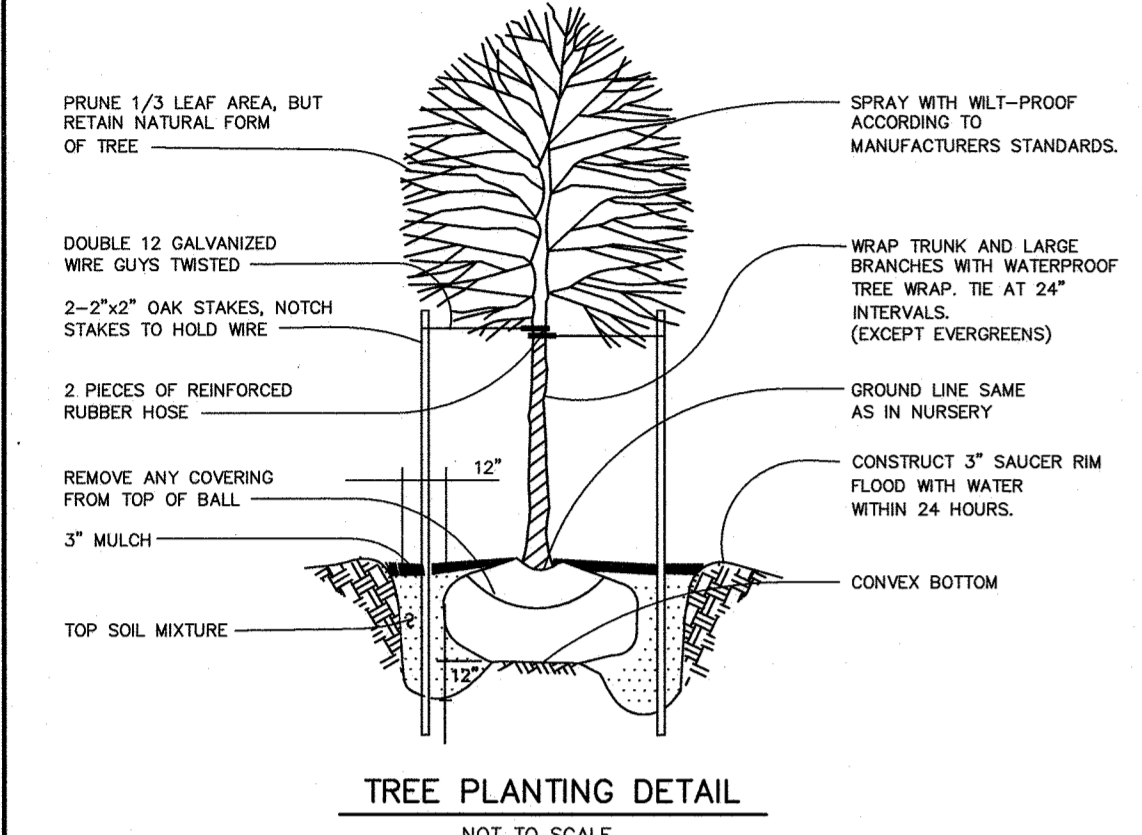
<p>BENCHMARK ENGINEERING, INC.</p> <p>8480 BALTIMORE NATIONAL PIKE & SUITE 315 A ELICOTT CITY, MARYLAND 21043 (410) 466-6103 (F) 410-466-6644 WWW.BE-CMDENGINEERING.COM</p>	<p>Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 45377, Expiration Date: 06-06-2026.</p> <p><i>[Signature]</i> PROFESSIONAL ENGINEER</p>
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<p>OWNER/DEVELOPER:</p> <p>LAWYERS HILL, LLLP MANAGING MEMBER: NEWBURN DEVELOPMENT CORP 6378 WINTERS LANE HANOVER, MD 21076-1013 443-794-7813</p>	<p>BONNIE RIDGE LOTS 15 & 16 (PLAT #22555)</p> <p>TAX MAP: 38, GRID: 03, P/O PARCEL: 881 ZONED: R-12 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND</p>
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TITLE SHEET	
DATE: OCTOBER, 2018	BEI PROJECT NO. 2713
SCALE: AS SHOWN	SHEET 1 OF 4

PERIMETER LANDSCAPE REPLACEMENT PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
	6	Acer griseum (PAPERBARK MAPLE)	1 1/2"-2" MIN. CAL. B & B FULL HEAD	ORNAMENTAL SHADE TREES ALONG PERIMETER TO BE PROVIDED BY THE DEVELOPER
	1	Acer rubrum "October Glory" OCTOBER GLORY RED MAPLE	2 1/2"-3" MIN. CAL. B & B FULL HEAD	SHADE TREES ALONG PERIMETER TO BE PROVIDED BY THE DEVELOPER

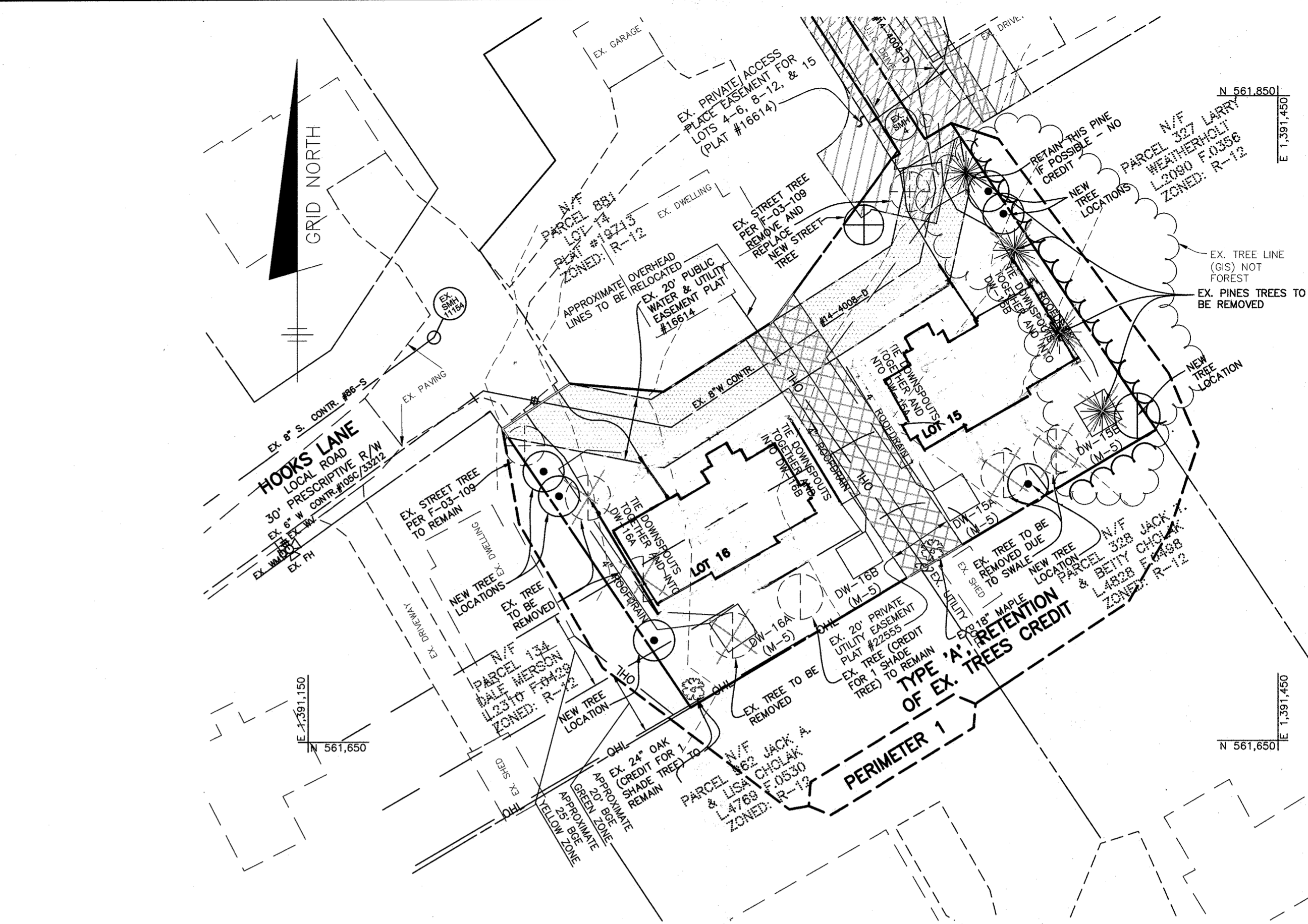
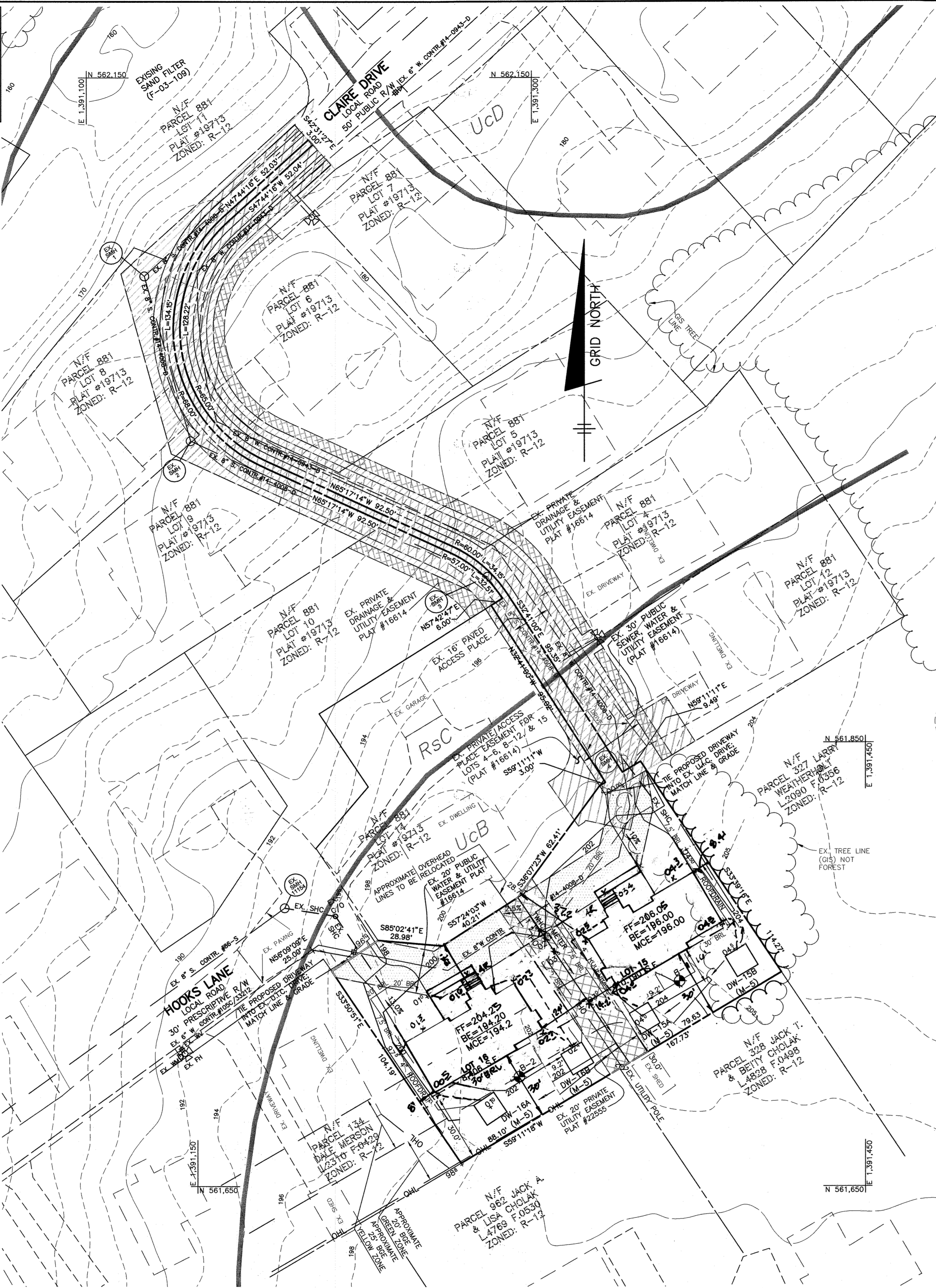
EXISTING STREET TREE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
	1	Acer rubrum "October Glory" OCTOBER GLORY RED MAPLE	2 1/2"-3" MIN. CAL. B & B FULL HEAD	



ALL PLANTINGS SHALL BE THE SPECIFIED HEIGHT AND OR CALIPER AT THE TIME OF INSTALLATION.

PLANTING NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- TREES MUST BE PLANTED A MINIMUM OF 4 FEET FROM THE EDGE OF PAVING, 10' FROM A DRIVEWAY AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING SHALL BE POSTED AS PART OF THE GRADING PERMIT IN THE AMOUNT OF \$1,200 FOR FOUR SHADE TREES. ~~AND ONE OTHER TREE. LOT 15 SHALL POST \$750 + LOT 16 SHALL POST \$450 WITH THEIR GRADING PERMITS.~~
- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
- THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.



SCHEDULE A PERIMETER LANDSCAPE EDGE		
CATEGORY	ADJACENT TO ROADWAY	NO
	ADJACENT TO PERIMETER PROPERTIES	YES
F-03-109 PERIMETER NO. / LANDSCAPE TYPE		① A
LINEAR FEET OF ROADWAY FRONTAGE PERIMETER ON LOTS 15 AND 16:		0
		386
CREDIT FOR EXISTING VEGETATION ON LOTS 15 AND 16: NO OR YES (DESCRIBE BELOW IF NEEDED)		YES #2 TREES
CREDIT FOR WALL, FENCE OR BERM: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)		NO
NUMBER OF PLANTS REQUIRED: SHADE TREES		4+
		-
		-
		-
OTHER TREES (2:1 SUBSTITUTE)		-
PLANTING UNITS REQUIRED		4+
NUMBER OF PLANTS PROVIDED: SHADE TREES		1
		-
		-
		-
OTHER TREES (2:1 SUBSTITUTE)		6
SHRUBS (10:1 SUBSTITUTE)		4
PLANTING UNITS PROVIDED		-
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)		-

*CREDIT FOR PRESERVATION OF 2 EXISTING TREES THAT ARE TO REMAIN PER THIS PLAN.

LEGEND	
SOILS CLASSIFICATION	UcB
SOILS DELINEATION	190
EXISTING CONTOURS	192
PROPOSED CONTOURS	202
EXISTING STRUCTURE	
PROPOSED STRUCTURE	
EX. PERIMETER TREE	
EX. STREET TREE	
LANDSCAPE PERIMETER DESIGNATION	PERIMETER 1
PROPOSED PERIMETER ORNAMENTAL TREE	
PROPOSED PERIMETER TREE	
PROPOSED STREET TREE	
GEOTECHNICAL TEST LOCATION	
EX. PRIVATE ACCESS PLACE EASEMENT PLAT 16614	
EX. PUBLIC SEWER, WATER & UTILITY EASEMENT PLAT 16614	
EX. PUBLIC WATER & UTILITY EASEMENT PLAT 16614	
EX. PRIVATE 20' UTILITY EASEMENT PLAT 22555	
EX. PRIVATE DRAINAGE & UTILITY EASEMENT PLAT 16614	

DEVELOPER'S/BUILDER'S CERTIFICATE

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

Jamie Nelson 10.11.21 DATE

LAWYERS HILL, LLLP

NOTE:
ROOF LEADER SHALL BE 4" DIAMETER UP TO THE FIRST CONNECTION OF ANOTHER DOWNSPOUT, THEN 6" DIAMETER.

NOTICE TO BUILDER:
FOR HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS STEPS ARE NOT ALLOWED WITHIN THE EXISTING 20' WATER BASEMENT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Chamberlain 10-24-18 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Keith Goodland 10-25-18 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

Natalie Joffe 10-25-18 DATE
DIRECTOR

SOILS LEGEND			
MAP SYMBOL	SOIL TYPE	Kw VALUE	MAPPING UNIT
UcB	D	0.37	URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0% TO 5% SLOPES

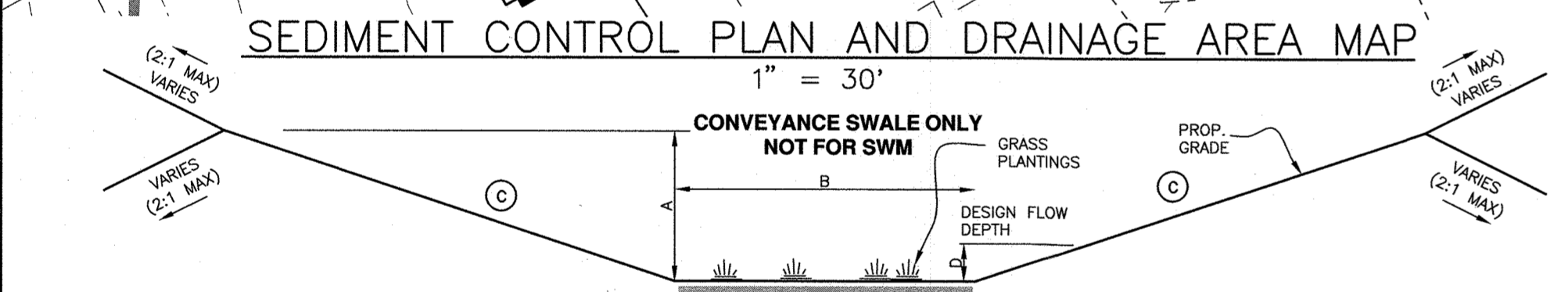
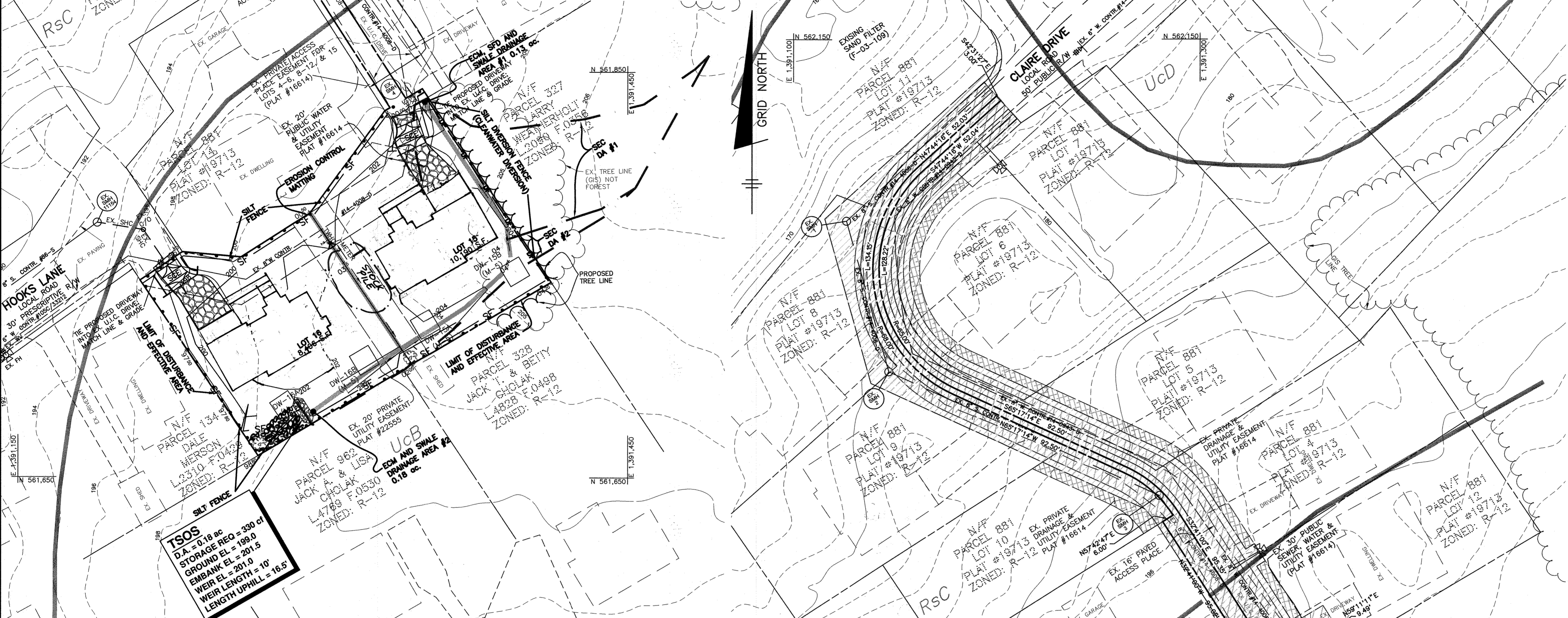
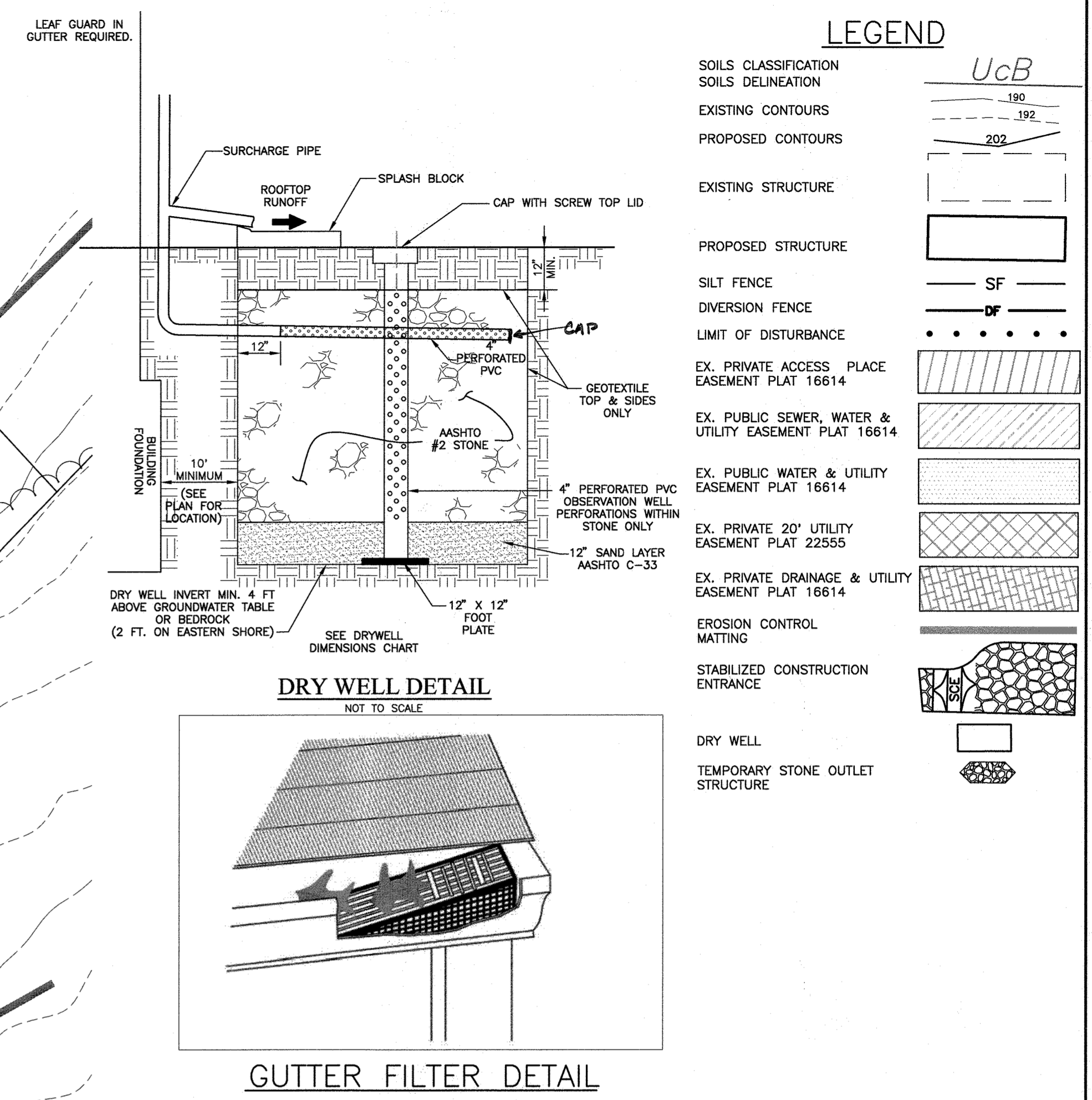
USDA WEBSITE

BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLIOTT CITY, MARYLAND 21043 (7) 410-465-6108 (F) 410-465-6844 WWW.BEI-ONLINEENGINEERING.COM		Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer in the State of Maryland, License No. 15277, expiring 06-08-2020.
OWNER/DEVELOPER: LAWYERS HILL, LLLP MANAGING MEMBER: NEWBURN DEVELOPMENT CORP 6378 WINTERS LANE HANOVER, MD 20178-1013 443-794-7813	BONNIE RIDGE LOTS 15 & 16 (PLAT #22555) TAX MAP: 38, GRID: 03, P/O PARCEL: 881 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND	
SITE DEVELOPMENT PLAN, LANDSCAPE PLAN, NOTES AND DETAILS		
DATE: OCTOBER 2018 DESIGN: JC DRAFT: EDD	BEI PROJECT NO. 2713 SCALE: AS SHOWN	SHEET 2 OF 4

Target Pe =	1.8	Porosity =	0.4	(M-5)					
Drywell Designation	Area (SF)	Area (SF)	Runoff Required (CF)	ESDv (ft)	Length (ft)	Width (ft)	Depth (ft)	Volume Provided (CF)	Full ESDv Provided?
DW-15-A	1080	1080	0.95	153.90	10.75	10.75	5.00	231.13	yes
DW-15-B	1080	1080	0.95	153.90	10.75	10.75	5.00	231.13	yes
DW-16-A	1088	1088	0.95	155.04	10.75	10.75	5.00	231.13	yes
DW-16-B	1088	1088	0.95	155.04	10.75	10.75	5.00	231.13	yes

SWM SUMMARY TABLE													
Pe=	1.8	inches	Impervious Area	Qe	Required	Provided	2% DA	Depth	Required	Treated	ESDv Test	Required	Provided
D.A.	MDE Type	Total DA											
DW-15-A	(M-5)	1,080	1,080	1.71	NA	NA	NA	NA	154	231	100%	231	231
DW-15-B	(M-5)	1,080	1,080	1.71	NA	NA	NA	NA	154	231	100%	231	231
DW-16-A	(M-5)	1,088	1,088	1.71	NA	NA	NA	NA	155	231	100%	231	231
DW-16-B	(M-5)	1,088	1,088	1.71	NA	NA	NA	NA	155	231	100%	231	231
Totals		4,336	4,336		0	0			618	925		0.0350	925

SOILS LEGEND			
MAP SYMBOL	SOIL TYPE	Kw VALUE	MAPPING UNIT
UcB	D	0.37	URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0% TO 5% SLOPES
USDA WEBSITE			



OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED & MAINTAINED DRY WELLS (M-5)

a. The Owner shall inspect the monitoring wells and structures on a quarterly basis and after every heavy storm event.

b. The Owner shall record the water levels and sediment build up in the monitoring wells over a period of several days to insure trench drainage.

c. The Owner shall maintain a log book to determine the rate at which the facility drains.

d. When the facility becomes clogged so that it does not drain down within a seventy-two (72) hour time period, corrective action shall be taken.

e. The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.

f. Once the performance characteristics of the infiltration facility have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.

STORM Q (RUNOFF)	VELOCITY	STORM Q (RUNOFF)	VELOCITY
2YR 0.32 CFS	1.64 FPS	2YR 0.45 CFS	1.84 FPS
10YR 0.59 CFS	1.98 FPS	10YR 0.83 CFS	2.19 FPS

ENGINEER'S CERTIFICATE

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

John M. Carney 10/9/18
ENGINEER: JOHN M. CARNEY #45577 DATE

DEVELOPER'S CERTIFICATE

I, WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED 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.

Janie Nahn 10-11-18
DEVELOPER DATE

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

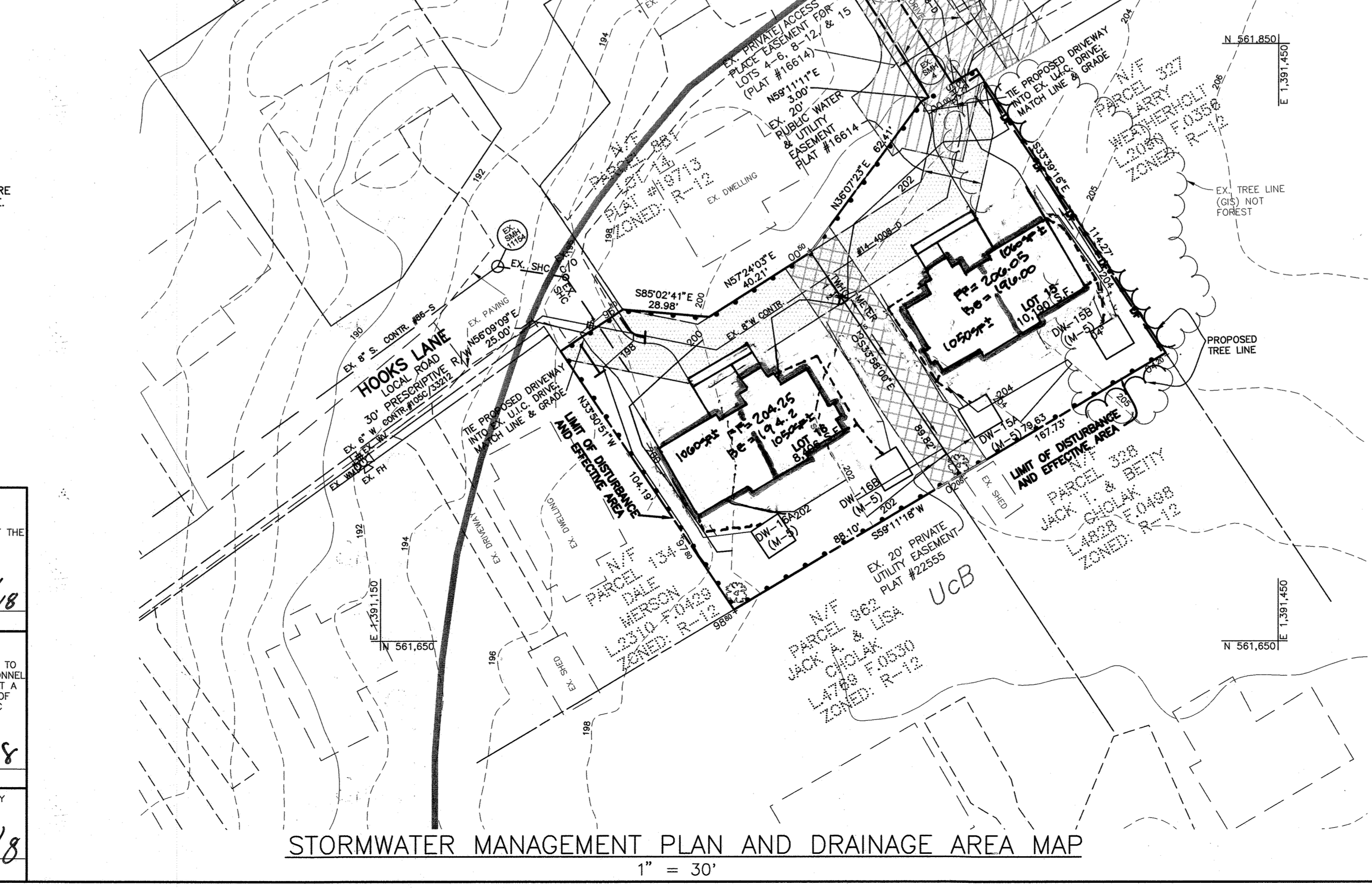
John K. Robinson 10/23/18
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Chubb 10-24-18
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kevin Sheehy 10-25-18
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Nadine Zylka 10-25-18
DIRECTOR DATE



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 (2' to 4' deep)	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil type loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipe; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/2-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 pressure); 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.

1 6.17.20 REVISE HOUSE MODEL FOR LOTS 15 & 16

NO. DATE REVISION

BENCHMARK ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE SUITE 315 & ELICOTT CITY, MARYLAND 21043
(910) 410-465-8105 (910) 410-465-6644
WWW.BE-CONENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2020.

John M. Carney 10/9/18
PROFESSIONAL ENGINEER

OWNER/DEVELOPER:
LAWYERS HILL, L.L.P.
MANAGING MEMBER:
NEWBURN DEVELOPMENT CORP
6378 WINTERS LANE
HANOVER, MD 21076-1013
443-794-7815

BONNIE RIDGE LOTS 15 & 16 (PLAT #22555)

TAX MAP: 38, GRID: 03, P/O PARCEL: 881
ZONED: R-12
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

SEDIMENT & EROSION CONTROL, STORMWATER MANAGEMENT, DRAINAGE AREA MAP, NOTES AND DETAILS PLAN

DATE: OCTOBER, 2018 BEI PROJECT NO. 2713
DESIGN: JC DRAFT: EDD SCALE: AS SHOWN SHEET 3 OF 4

STORMWATER MANAGEMENT PLAN AND DRAINAGE AREA MAP
1" = 30'

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Definition
Using vegetation to cover to prevent exposed soil from erosion.

Purpose
To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies
On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization, soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

Criteria
A. **General Use**
1. Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.
2. Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.
3. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.
4. Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment
Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and seedings within the planting season.

Criteria
1. Adequate vegetative stabilization requires 95 percent groundcover.
2. If an area has less than 40 percent groundcover, reestablish following the original recommendations to area, fertilizer, seedbed preparation, and seeding.
3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

B-4-1 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Definition
Establishment of vegetative cover on cut and fill slopes.

Purpose
To provide timely vegetative cover on cut and fill slopes as work progresses.

Conditions Where Practice Applies
Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

Criteria
A. **Incremental Stabilization - Cut Slopes**
1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
2. Construction sequence example (Refer to Figure B.1):
a. Construct and install all temporary swales or dikes that will be used to convey runoff around the excavation.
b. Perform Phase 1 excavation, prepare seedbed, and stabilize.
c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary.
d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.
Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

B. Incremental Stabilization - Fill Slopes
1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses.
2. Stabilize slopes immediately when the vertical height of a fill reaches 15 feet, or when the grading operation ceases as necessary.
3. At the end of each day, install temporary water conveyance practices, as necessary, to intercept surface runoff and prevent erosion on non-erosive material.
4. Construction sequence example (Refer to Figure B.2):
a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill.
b. Construct all fill on the low side of the fill unless other methods shown on plans address this area.
c. At the end of each day, install temporary water conveyance practices, as necessary, to intercept surface runoff and prevent erosion on non-erosive material.
d. Place Phase 1 fill, prepare seedbed, and stabilize.
e. Place Phase 2 fill, prepare seedbed, and stabilize.
f. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.
Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

B-4-2 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

Definition
Use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria
A. Select one or more of the species or mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
B. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
C. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-A.1.b and maintain until the next seeding season.

H-5 STANDARDS AND SPECIFICATIONS FOR BEST PRACTICES

Definition
Controlling the suspension of dust particles from construction activities.

Purpose
To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including health and traffic hazards.

Conditions Where Practice Applies
Areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Criteria
1. **Mulches:** See Section B-4-2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3 Seeding and Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be anchored to prevent blowing.
2. **Vegetative Cover:** See Section B-4-4 Temporary Stabilization.
3. **Tarps:** Tarps to roughen surface and bring closer to the surface. Begin blowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect.
4. **Isopropyl:** Sprinkle site with water until the surface is moist. Repeat as needed. The site must not be irrigated to the point that runoff occurs.
5. **Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing.**
6. **Chemical Treatment:** Use chemical treatment requires approval by the appropriate plan review authority.

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

ENR: JOHN M. CARNEY #45571

DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A SEPARATE MEETING 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.

DEVELOPER: *Jessie Newman* DATE: 10/11/2014

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DATE: 10/23/18

DATE: 10/24/18

DATE: 10/25/18

DATE: 10/25/18

B-4-3 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION (CONTINUED)

Definition
To stabilize disturbed soils with permanent vegetation.

Purpose
To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for 6 months or more.

Criteria
A. **Seed Mixtures**
1. Select one or more of the species or mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site conditions or purposes shown on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. This Summary is to be placed on the plan.
2. Additional planting species such as shrubs, legumes, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
3. For sites having soil tests performed, use and show the recommended rates by the testing agency.
4. For sites requiring low maintenance, apply urea from fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
B. **Turfgrass Mixtures**
1. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance and all joints are buffed tight in order to prevent weeds which would cause air drying of the roots.
2. Select one or more of the species or mixtures listed below based on the site conditions or purposes. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. This Summary is to be placed on the plan.
I. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of Central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivar: Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
II. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas requiring low to medium maintenance in full sun to medium shade. Recommended mixture includes Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 5 to 5 percent. Seeding Rate: 5 to 6 pounds per 1000 square feet. One or more cultivars may be blended.
III. Kentucky Bluegrass/Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf areas. Mixture includes Certified Kentucky Bluegrass Cultivars 50 to 60 percent and Certified Fescue 40 to 50 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.
Note: Selected turfgrass varieties from those listed in the current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Recommendations for Maryland".

SEEDING AND MULCHING

Definition
The application of seed and mulch to establish vegetative cover.

Purpose
To protect disturbed soils from erosion during active grading and construction.

Conditions Where Practice Applies
The surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria
A. **Seeding**
1. **Specifications**
a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the last 12 months preceding the date of seeding. Seed must be on any application. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to identify the variety type and seed and seeding rates.
b. Mulch alone may be used for erosion control on the soil surface. The mulch must be applied in a uniform layer.
c. Inoculants: The inoculant must be applied to the seed at the time of seeding. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until use. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
d. Soil or seed must not be placed on soil that has been treated with soil sterilants or chemicals used for soil surface sanitation (e.g. 1:4 day min.) to permit dispersal of phytotoxic materials.
2. **Application**
a. **Drilling/Seeding:** This includes use of conventional drop or broadcast seeders.
i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1. Plowing is required in the areas of Central Maryland and Eastern Shore.
ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
b. **Drill or Cultipacker Seeding:** Mechanized seeders that apply and cover seed with soil.
i. Outspacing seeds: Do not attempt to bury the seed in such a fashion as to provide less than 1/4 inch of soil covering. Seeded 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 (either includes seed and fertilizer).
i. Fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; phosphorus, 100 pounds per acre total of soluble phosphorus; potassium, 200 pounds per acre.
ii. Limit: Use only ground agricultural lime (up to 3 tons per acre) that is 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. If hydroseeding does not incorporate seed into the soil.

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

Definition
The process of preparing the soil to sustain adequate vegetative stabilization.

Purpose
To provide a suitable soil medium for the establishment of vegetation.

Conditions Where Practice Applies
Where vegetative stabilization will be established.

Criteria
A. **Soil Preparation**
1. **Temporary Stabilization**
a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or trench plows, flippers mounted on construction equipment. After the soil is loosened, it must not be firmed or dragged smooth but left in a roughened condition. Seedbeds 3:1 or flatter are to be trenched with ridges running parallel to the contour of the slope.
b. Apply fertilizer and lime as prescribed on the plans.
c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disk or other suitable means.
2. **Permanent Stabilization**
a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
i. Soil pH between 6.0 and 7.0.
ii. Soluble salts less than 500 parts per million (ppm).
iii. Soil contains less than 40 percent of gravel material greater than 2.0 millimeters (No. 20 sieve) plus clay to provide the capacity to hold a moderate amount of moisture. An exception: if topsoil will be planted, then a sandy soil with 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 soil does not meet the above conditions.
c. Seeded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
e. Mix soil amendments into the top 3 to 5 inches of soil by disk or other suitable means. Rate lawn areas to spread, remove, and replace objects and equipment with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track spades 3:1 or flatter with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeding operation may be interrupted on newly disturbed areas.
B. **Topsoiling**
1. Topsoil placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
a. The texture of the exposed subsoil material is not adequate to produce vegetative growth.
b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
c. The original soil to be vegetated contains material toxic to plant growth.
d. The soil is so acidic that treatment with limestone is not feasible.
4. Areas having slopes steeper than 2:1 require special consideration and design.
5. **Topsoil Specification:** Soil to be used as topsoil must meet the following criteria:
a. Topsoil must be a loam, sandy loam, clay loam, all loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by a qualified 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, cokes, trash, or other materials larger than 1 1/2 inches in diameter.
b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
c. Topsoil that contains herbicides or pesticides, as recommended by a qualified soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
3. **Anchor**
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 (test by punch and anchor upon 1:1).
i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface. 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 equipment.
ii. Wood cellulose fiber may be used for anchoring mulch. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds per acre. The wood cellulose fiber must contain elements or compounds at concentrations levels that will be phytotoxic.
iii. 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, soil content of 1.6 percent maximum and water holding capacity of 60 percent minimum.
2. **Application**
a. Apply mulch to all seeded areas immediately after seeding.
b. When straw is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform 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 a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
c. Wood cellulose fiber mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
3. **Anchor**
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 (test by punch and anchor upon 1:1).
i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface. 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 equipment.
ii. Wood cellulose fiber may be used for anchoring mulch. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds per acre. The wood cellulose fiber must contain elements or compounds at concentrations levels that will be phytotoxic.
iii. 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, soil content of 1.6 percent maximum and water holding capacity of 60 percent minimum.
2. **Application**
a. Apply mulch to all seeded areas immediately after seeding.
b. When straw is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform 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 a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
c. Wood cellulose fiber mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate 1/			Recommended Seeding Dates by Plant Hardiness Zone 3/
	lb/ac	lb/1000 ft ²	lb/1000 ft ²	
Cool-Season Grasses				
Annual Ryegrass (Lolium perenne sp.)	40	1.0	0.5	Mar 1 to May 15; Aug 1 to Oct 31
Multiflorum				
Barley (Hordeum vulgare)	36	2.2	1.0	Mar 1 to May 15; Aug 1 to Oct 31
Oats (Avena sativa)	72	2.7	1.0	Mar 1 to May 15; Aug 1 to Oct 31
Wheat (Triticum aestivum)	120	2.8	1.0	Mar 1 to May 15; Aug 1 to Oct 31
Cereal Rye (Secale cereale)	112	2.8	1.0	Mar 1 to May 15; Aug 1 to Nov 15
Warm-Season Grasses				
Forstail Millet (Seriatia italica)	30	0.7	0.5	May 16 to Jul 31
Pearl Millet (Pennisetum glaucum)	20	0.5	0.5	May 16 to Jul 31

Table B.2: Permanent Seeding Summary

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P20S	K20	Lime Rate
9	Fescue, Tall	60	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	45	90	2	2 tons/ac
	Bluegrass, Kentucky	40	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	45	90	2	2 tons/ac

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): 6b
Seed Mixture (from Table B.3): Tall Fescue/Kentucky Bluegrass

Table B.3: Permanent Seeding Summary

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P20S	K20	Lime Rate
9	Fescue, Tall	60	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	45	90	2	2 tons/ac
	Bluegrass, Kentucky	40	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	45	90	2	2 tons/ac

Table B.4: Temporary Seeding for Site Stabilization

Plant Species

Seeding Rate 1/

Recommended Seeding Dates by Plant Hardiness Zone 3/

Criteria
1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of 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.3.1 and Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the updrift side.
5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary water or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3:1 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner beneath the stockpile must be provided to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance
The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B.4 Negative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3.1 Land Grading.

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

CONSTRUCTION SPECIFICATIONS
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE ENTRANCE. MINIMUM LENGTH OF 50 FEET PER SINGLE RIGIDITY LANE. USE ANCHORING MULCH TO FILL GAPS BETWEEN THE ENTRANCE AND THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PAVE SURFACE WATER FLOWING TO DIVERTED TRENCH UNDER THE ENTRANCE. INSTALLING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE ENTRANCE WITH A MOBILE BERM WITH 3 TO 5 FEET AND A MINIMUM OF 12 INCHES OF SOIL OVER THE PIPE. PREVENT PIPE FROM BEING DISPLACED BY EXCESSIVE TRAFFIC. EXTENDED PRACTICE WITH A MAXIMUM WIDTH OF 20 FEET AND SUFFICIENTLY DEEP ON DOWN TO 2 INCH DEPTH TO PREVENT DISPLACEMENT OF THE PIPE FROM THE EXISTING MATING.
3. PREPARE SURFACE AND PLACE NONWOVEN GEOTEXTILE AS EQUIPMENT IN SECTION B.1 MATERIALS.
4. PLACE CHISEL AGGREGATE TO 3 INCHES IN SIZE OR EQUIVALENT IN RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE MATING.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT AND STORE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOBILE BERM, AND SPORES DRAINAGE.
6. IF SPECIFIED BY THE OWNER OR MANUFACTURER AND DEPENDING ON THE TYPE MAT BEING INSTALLED, ONCE THE MATING IS KEPT AND STABLE IN PLACE, LIFT THE MATS WITH TOP SOIL OR GRANULAR MATERIAL AND VERIFY CONTACT ROLL TO MAINTAIN SOLID CONTACT WITHOUT CRACKING.
7. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B.4 VEGETATIVE STABILIZATION.

DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

CONSTRUCTION SPECIFICATIONS
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLAN.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OTHER THAN SYNTHETIC, NON-DEGRADABLE FIBER OR ELEMENTS OF LUMBER OR TREATED WOOD THROUGHOUT. CHEMICAL USE IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION. GRASSING AND NON-TOXIC TO THE SOIL. PREVENT MATTING FROM BEING DISPLACED BY EXCESSIVE TRAFFIC WITH A MAXIMUM WIDTH OF 20 FEET AND SUFFICIENTLY DEEP ON DOWN TO 2 INCH DEPTH TO PREVENT DISPLACEMENT OF THE MAT FROM THE EXISTING MATING.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAPLES. STAPLES MUST BE "D" OR "T" STAPLED STEEL WITH A MINIMUM GAUGE OF NO. 14 AND NO. 16 RESPECTIVELY. "D" STAPLED STEEL MUST BE AT LEAST 1 1/2 INCHES LONG AND A MINIMUM OF 2 INCHES LONG. "T" STAPLED STEEL MUST BE AT LEAST 1 1/2 INCHES LONG AND A MINIMUM OF 2 INCHES LONG. STAPLES MUST BE PLACED AT LEAST 12 INCHES ON CENTER AND 12 INCHES FROM THE EDGE OF THE MAT.
4. UNLESS MATTING IN DIRECTION OF WATER FLOW, CENTER THE FIRST ROW ON THE CHAIN LINK FENCE LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROWS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SUBSTRATE SURFACE.
5. OVERLAP OR BUTT EDGES OF MATTING BOUNDS PER MANUFACTURER RECOMMENDATIONS. OVERLAP EDGES BY 6 INCHES MINIMUM. WITH THE UPSTREAM END OVERLAPPING TOP OF DOWNSTREAM END. OVERLAP EDGES BY 6 INCHES MINIMUM AT HIGH SPOTS AND HAS NO DRAINAGE TO CORNER. A PIPE IS NOT ALLOWED. A MOBILE BERM IS REQUIRED WITH NO NOTCH AT A HIGH SPOT.
6. SET THE TOP OF SOLE OF SOLE OF 6 INCHES MINIMUM BY EXCAVATING A TRENCH PLACING THE MATTING ROLL IN THE TRENCH. STAPLE THE MAT IN PLACE REPLACING THE EXCAVATED MATERIAL AND TAMPING TO SMOOTH THE MAT END IN THE TRENCH.
7. STAPLE MATS IN A STAGGERED PATTERN ON A FOOT BANNER CENTER THROUGHOUT AND 2 FOOT BANNER CENTER AT THE ENDS.
8. IF SPECIFIED BY THE OWNER OR MANUFACTURER AND DEPENDING ON THE TYPE MAT BEING INSTALLED, ONCE THE MATING IS KEPT AND STABLE IN PLACE, LIFT THE MATS WITH TOP SOIL OR GRANULAR MATERIAL AND VERIFY CONTACT ROLL TO MAINTAIN SOLID CONTACT WITHOUT CRACKING.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B.4 VEGETATIVE STABILIZATION.

DETAIL E-1 SILT FENCE

CONSTRUCTION SPECIFICATIONS
1. USE WOOD POSTS 16 X 16 IN. MINIMUM SQUARE CUT OF SOUND QUALITY HOLLOWWOOD AS AN ALTERNATIVE TO STEEL POSTS. USE STANDARD 7" X 7" SECTION TYPE SILT FENCE NETTING NOT MORE THAN 1 POUND PER SQUARE FOOT.
2. USE 3/8 INCH MINIMUM POSTS DRIVEN 18 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SILT FENCE NETTING AS SPECIFIED IN SECTION B.1 MATERIALS. SECURELY TO THE GROUND AND BELOW GROUND SURFACE.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/AGENCY IDENTIFICATION OF PLAN DEFICIENCIES.
5. ENDED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FENCE.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJACENT OVERLAP, TWIST AND STAPLE TO POST IN ACCORDANCE WITH THIS CONSTRUCTION ACTIVITY SPECIFICATION.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPDRAPE AT 45 DEGREES TO THE MAIN FENCE LINE. DRAPAGE BEYOND RUNNING FROM GOING AROUND THE ENDS OF THE SILT FENCE IS NOT REQUIRED.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BLUES DEVELOP OR WHEN SEDIMENT REACHES 2% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN IF UNDRAINING OCCURS. REINSTALL FENCE.

DETAIL E-7 TEMPORARY STONE OUTLET STRUCTURE

CONSTRUCTION SPECIFICATIONS
1. PROVIDE STONE VOLUME AS SPECIFIED ON APPROVED PLAN.
2. USE NONWOVEN GEOTEXTILE ON INTERFACE BETWEEN GROUND AND STONE.
3. PREPARE BARREL BOARD WITH 2x6x6 IN. 1x6x6 INCHES ON CENTER. LIMBO A MINIMUM OF 4 INCHES INTO GROUND, AND EXTEND BARREL BOARD OF 12 INCHES WITH PARTIAL OVERLAP.
4. USE CLEAN 1/2 TO 1 INCH DIAMETER RIVER-SELECTED CONCRETE PAVEMENT MATERIALS GEOTEXTILE ON UPSTREAM FACE AND COVER WITH A MINIMUM OF 6 INCHES OF DRAINAGE SAND.
5. USE NONWOVEN AND WOVEN NONWOVEN GEOTEXTILES AS SPECIFIED IN SECTION B.1 MATERIALS.
6. SET WEB CREST TO 2 INCHES LOWER THAN THE TOP OF BARREL BOARD. USE MINIMUM LENGTH OF 4 FEET FOR WEB CREST.
7. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO WITHIN 6 INCHES OF WEB CREST. REPLACE GEOTEXTILE AND STONE FACING WHEN STRUCTURE CRACKS TO DRAIN. MAINTAIN LIME, GRADE, AND CROSS SECTION.
8. USE CLEAN 1/2 TO 1 INCH DIAMETER RIVER-SELECTED CONCRETE PAVEMENT MATERIALS GEOTEXTILE ON DOWNSTREAM FACE. STABILIZE DOWNSTREAM AREA WITH TOP SOIL, SEED, AND MULCH OR AS SPECIFIED ON APPROVED PLAN.

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