# SUPPLEMENTAL, LANDSCAPE, SOILS, GRADING & SEDIMENT CONTROL PLAN BETHANY RIDGE, LOTS 2 THRU 5

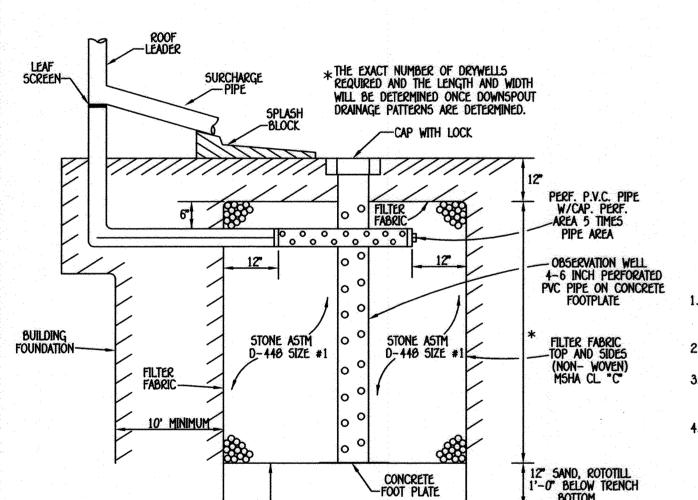
TAX MAP No. 17 GRID No. 20 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

	501L5 LEGEND		
50IL	NAME	CLA55	K FACTOR
MaC	Manor loam, 8 to 15 percent slopes	В	0.24
MaD	Manor loam, 15 to 25 percent slopes	8	0.24
Soil Map	Number: 13 (ELLICOTT CITY, 5W)		

	STORMWA	ITER MAN	agement summary
area id.	E5DV REQUIRED CU.FT.	E5DV PROVIDED CU.FT.	remarks.
SITE	2, <del>8</del> 5)	4,606	DRYWELLS (M-5) & MICRO-BIORETENTION (M-6) & INFILTRATION / STONE TRENCHES
TOTAL	1,854	4,606	

	STORMWATER MANAGEMENT PRACTICES							
LOT NO.	DRY WELLS (M-5) Y/N, NUMBER	MICRO-BIORETENTION (M-6) Y/N, NUMBER	ROOFTOP DISCONNECTION (N-1) Y/N					
2	YES, FOUR (4)	NO	NO	NO				
3	YES, FOUR (4)	NO	NO	NO				
4	YES, FOUR (4)	NO	NO	NO				
5	YES, FOUR (4)	NO	NO	NO				
COMMON DRIVE	NO.	YES, ONE (1)	NO	NO				

GROSS AREA = 2.04 ACRES (SITE) LOD = 1.52 ACRES RCN = 55TARGET Pe = 1.4"



DRY WELL DETAIL (M-5)

GROUND WATER

CUTTER DRAIN FILTER DETAIL

GUTTER DRAIN TILIER DETAIL NOT TO SCALE

### STORMWATER MANAGEMENT NOTES

- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH WITH CHAPTER 5, DESIGN MANUAL, EFFECTIVE MAY 4, 2010. 2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000
- 3. DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5%. THE SIZE AND CONSTRUCTION OF THE

5Q. FT. OR LESS.

DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET. 4. FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.

	To the state of th
SO POSTWICK SD. NOLLMICK	COMPANY OF THE PARTY OF THE PAR
Media Committee	WY PERMINANCE OF THE PARTY OF T
DE HASTIN HEROOMS CT	
SITE	as myet a so
Section of the sectio	The state of the s
300	ATIONAL ST
OPERAGO STREET MAP: MAP20 GRID B6	SE SO. SE

VICINI		Y	MA	Γ
SCALE:	1"	=	1200'	,

## Table B.4. Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration

TRENCH MAY NOT BE

INSTALLED IN FILL

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%		USDA soil types loamy sand or sandy loam; clay content <57
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel diaphragm	pea gravel: ASTM-D-440	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. Aggregate (3/8" to 3/4")	
Underdräin piping	F 750, Type P5 20 or AASHTO M-270	4" to 6" rigid schedule 40 PVC or 5DR35	Slotted or perforated pipe; 3/8" pert. • 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f = 3500 psi at 20 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n.ā	on-site testing of poured-in-place concrete required:  29 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
ōand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are no acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

· Lusayana yana in anana dayan a a a a a a a a a a a a a a a a a a	
	APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
FISHER, COLLINS & CARTER, INC.	Chief Division of Land Development 300 9/27/18
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855	Chief, Development Engineering Division JP Date

DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT		VOLUME PROVIDED	AREA OF TREATMENT	L	W	D
2A	750 5Q. FT.	84 C.F.	128 C.F.	100%*	8' x	8'	x 5'
2B	750 5Q. FT.	84 C.F.	128 C.F.	100%*	8' x	8'	x 5'
2C	750 5Q. FT.	84 C.F.	128 C.F.	100%*	8' x	8'	x 5'
2D	750 SQ. FT.	84 C.F.	128 C.F.	100%*	8' x	8'	x 5'
3A	750 5Q. FT.	84 C.F.	128 C.F.	100%*	8' X	8'	x 5'
3B	750 SQ. FT.	84 C.F.	120 C.F.	100%*	8' X	8'	x 5'
3C	750 5Q. FT.	84 C.F.	128 C.F.	100%*	8' X	8'	x 5'
3D	750 SQ. FT.	84 C.F.	128 C.F.	100%*	8' X	8'	x 5'
4A	750 SQ. FT.	84 C.F.	128 C.F.	100%*	8' x	8'	x 5'
4B	750 SQ. FT.	84 C.F.	120 C.F.	100%*	8' x	8'	x 5'
4C	750 5Q. FT.	84 C.F.	128 C.F.	100%*	8' x	8'	x 5'
<b>4</b> D	750 5Q. FT.	84 C.F.	120 C.F.	100%*	8' x	8'	x 5'
5A	750 5Q. FT.	84 C.F.	128 C.F.	100%*	8' X	8'	x 5'
5B	750 SQ. FT.	84 C.F.	128 C.F.	100%*	8' x	8'	x 5'
5C	750 5Q. FT.	84 C.F.	128 C.F.	100%*	8' x	8'	x 5'
50	750 SQ. FT.	84 C.F.	128 C.F.	100%*	8' x	8'	x 5'

DRY WELL CHART

\* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

### OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND 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 ENSURE 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

### OWNER/DEVELOPER

INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

BETHANY LANE LLC PO BOX 482 LISBON, MARYLAND 21765 410-489-7900

### SITE ANALYSIS DATA CHART TOTAL AREA OF THIS SUBMISSION = 2.04 AC. ±

LIMIT OF DISTURBED AREA = 109,557 5Q.FT. OR 2,52 Ac. ± PRESENT ZONING DESIGNATION = R-20 (PER 10/06/2013 COMPREHENSIVE ZONING PLAN) PROPOSED USE: RESIDENTIAL PREVIOUS HOWARD COUNTY FILES: VP-83-82, F-83-037, F-86-269, 5-96-07, P-98-017, F-96-112, WP-96-77 F-99-044, F-18-010.

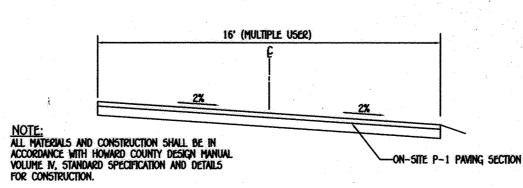
TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0.00 AC± TOTAL AREA OF STEEP SLOPES: MODERATED STEEP SLOPES: 15%-24.9% = 0.00 AC+ STEEP SLOPES: 25% OR GREATER = 0.00 AC+ TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 AC.+ TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0.00 AC. ±

TOTAL AREA OF EXISTING FOREST = 0.00 AC+ TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC+ TOTAL AREA OF LOTS / BUILDABLE PARCELS = 2.04 AC± TOTAL GREEN OPEN AREA = 1.49 AC+ TOTAL IMPERVIOUS AREA = 0.51 AC+ TOTAL AREA OF ERODIBLE SOILS = 0.00 AC. ±

TOTAL AREA OF ROAD DEDICATION = 0.00 AC.±

12' (SINGLE USER) e previous othe analygis chart to replicat road improventation 10/30/20 REMORE SITE ANALYSIS CHART TO DEFLECT ADDITION OF LOT I VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION



TYPICAL PRIVATE USE-IN-COMMON DRIVE CROSS SLOPE SECTION

Andrew Same		and the second of the second o
Whee .	-M. 15111. A.	 was N. M. Jaka I valanta

Minimum Lot Size Tabulation 2 23,775 5q. Fj. ± 1,241 5q. Fj. ± 22,534 5q. Fj. ± 3 21,862 5q. Fj. ± 1,585 5q. Fj. ± 20,277 5q. Fj. ±

> 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



			· · · · · · · · · · · · · · · · · · ·	
		LEGEND		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	
492	EXISTING 2' CONTOURS	162	PROPOSED CONTOUR	
-490	EXISTING 10' CONTOURS	+ 362.5	SPOT ELEVATION	
GgB GgC	SOILS LINES AND TYPE	LOD	LIMITS OF DISTURBANCE	
~~~~	EXISTING TREELINE	ENTERPORNO ESOCIAÇÃO ENTRA CONTRACTOR CONTRA	DRAINAGE AREA DIVIDE	
0 <b>%</b> e	INDIMIDUAL TREES & SHRUBS	——5F——	SILT FENCE	
x x	existing fence line	$\triangleleft$	FLOW ARROWS	
	EXISTING & PROPOSED PAVING	图	STABILIZES CONSTRUCTION ENTRANCE	

### GENERAL NOTES

THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1860 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK. AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.

2. THE CONTRACTOR SHALL NOTIFY (MISS UTILITY) AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

3. BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED MARCH 2017. TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SUVERY PERFORMED BY FISHER, COLLINS & CARTER, INC. IN MARCH 2017 AND SUPPLEMENTED WITH HOWARD COUNTY GIS TOPOGRAPHY AT 5' CONTOUR INTERVAL INTERPOLATED FOR 2' CONTOUR INTERVAL.

4. 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. 17GM1 AND 17GM3 WERE USED FOR THIS PROJECT.

5. PREVIOUS DPZ FILE NUMBERS: VP-03-02, F-03-037, F-00-269, S-96-07, P-90-017, F-96-112, WP-96-77, F-99-044, WP-17-129, ECR-10-003 F-10-010.

6. STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. NON-STRUCTURAL PRACTICES IN ACCORDANCE WITH CHAPTER 5 ARE BEING UTILIZED. DRYWELLS (M-5), MICRO-BIORETENTION (M-6), AND STONE TRENCHES ARE PROPOSED. STORMWATER MANAGEMENT FOR THE PROPOSED ROAD IMPROVEMENTS ALONG BETHANY LANE IS PROVIDED BY STONE TRENCHES.

THIS PROPERTY IS LOCATED INSIDE THE METROPOLITAN DISTRICT. LOTS TO BE SERVED PUBLIC WATER AND PRIVATE SEWER, CONTRACT #24-3749-D &

8. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE 9. THE SUBJECT PROPERTY IS ZONED R-20 (PER DATE 10/06/2013 COMPREHENSIVE ZONING PLAN. NO 100 YEAR FLOODPLAIN, WETLANDS, STREAM(5) AND/OR THEIR BUFFERS, NOR STEEP SLOPES EXIST ON-SITE

11. NO FOREST STANDS EXIST ON-SITE. SEE ENVIRONMENTAL FINDINGS LETTER PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED SEPTEMBER 2017.
12. THIS PROJECT IS SUBJECT TO FOREST CONSERVATION REQUIREMENTS. FOREVER A FARM (SDP-14-005) WILL BE UTILIZED TO MEET THE REFORESTATION 13. SOIL BORINGS WERE CONDUCTED FOR THIS PROJECT SINCE DRYWELLS, A MICRO-BIORETENTION. AND STONE TRENCHES ARE BEING UTILIZED.

14. STRUCTURES EXIST ON THE PROPERTY. THE HISTORIC DWELLING, KNOWN AS 3062 BETHANY LANE, IS PROPOSED TO BE REMOVED, ALONG WITH TWO OF THE ACCESSORY STRUCTURES. PLANS WENT TO THE HISTORIC PRESERVATION COMMISSION MEETING ON APRIL 6, 2017. 15. SOILS SHOWN HEREON ARE BASED ON THE NRCS WEBSOIL SURVEY AND HOWARD COUNTY SOIL MAP #13.

16. THERE ARE NO CEMETERIES ON SITE. 17. SUBJECT PROPERTY ZONED R-20 PER 10/06/13 COMPREHENSIVE ZONING PLAN. 18. ALL AREAS ARE MORE OR LESS  $(\pm)$ .

19. DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '83 GRID MEASUREMENT 20. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:

A). WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE); B). SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING

C). GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS;

D). STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING); E). DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER

F). STRUCTURE CLEARANCE - MINIMUM 12 FEET

G). MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE. 21. THERE ARE NO FOREST STANDS EXISTING ON-SITE. SEE ENVIRONMENTAL FINDINGS LETTER PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED

23. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.1228 OF THE HOWARD COUNTY CODE. 24. PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT

CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE

DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT. 26. ARTICLES OF INCORPORATION FOR THE BETHANY RIDGE HOMEOWNERS ASSOCIATION, INC. IS FILED WITH THE MARYLAND STATE DEPARTMENT OF ASSESSMENTS AND TAXATION ONAUGUST 1, 2010 AS ACCOUNT NO. 1000362011430993 27. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL FINANCIAL SURETY FOR THE REQUIRED PERIMETER LANDSCAPING WILL BE PROVIDED UNDER THE SITE DEVELOPMENT PLAN FOR IN THE

AMOUNT \$6,750 BASED ON (17) SHADE TREES ● \$300.00 EACH AND (11) EVERGREENS ● \$150.00 EACH. 28. SITE DEVELOPMENT PLAN APPROVAL BY THE DEPARTMENT OF PLANNING AND ZONING IS REQUIRED PRIOR TO BUILDING PERMITS BEING ISSUED FOR THE CONSTRUCTION OF RESIDENTIAL DWELLINGS ON THESE LOTS. 29. THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH SECTION 16.127 - RESIDENTIAL INFILL DEVELOPMENT OF THE SUBDIMISION AND LAND

DEVELOPMENT REGULATIONS. THE DEVELOPER OF THIS PROJECT SHALL CREATE COMPATIBILITY WITH THE EXISTING NEIGHBORHOOD THROUGH THE USE OF ENHANCED PERIMETER LANDSCAPING, BERMS, FENCES, SIMILAR HOUSING UNIT TYPES AND THE DIRECTIONAL ORIENTATION OF THE PROPOSED

30. THERE ARE NO WETLANDS ON THIS SITE, AS STATED IN A LETTER OF FINDINGS DATED SEPTEMBER, 2017 PREPARED BY ECO-SCIENCE

31. A COMMUNITY MEETING WAS CONDUCTED MARCH 13, 2017 FOR THE PURPOSE OF THE DEVELOPER TO PROVIDE INFORMATION TO THE COMMUNITY REGARDING THE PROPOSED RESIDENTIAL DEVELOPMENT AND TO ALLOW THE COMMUNITY TO ASK QUESTIONS AND TO MAKE COMMENTS, PER SECTION 16.128(D) OF THE SUBDIVISION REGULATIONS.

32. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND WILL BE SERVED BY PUBLIC WATER AND SEWER. 33. SUBDIMISION IS SUBJECT TO SECTION 104.0.F. OF THE ZONING REGULATIONS. AT LEAST 10% OF THE DWELLING UNITS SHALL BE MODERATE INCOME HOUSING UNITS (M.I.H.U.) OR AN ALTERNATIVE COMPLIANCE WILL BE PROVIDED. THE DEVELOPER SHALL EXECUTE A M.I.H.U. AGREEMENT WITH THE DEPARTMENT OF HOUSING TO INDICATE HOW THE M.I.H.U. REQUIREMENT WILL BE MET. THE M.I.H.U. AGREEMENT AND COVENANTS WILL BE RECORDED SIMULTANEOUSLY WITH THIS PLAT IN THE LAND RECORDS OFFICE OF HOWARD COUNTY, MARYLAND. THIS DEVELOPMENT WILL MEET M.I.H.U. ALTERNATIVE COMPLIANCE BY A PAYMENT OF A FEE-IN-LIEU TO THE DEPARTMENT OF HOUSING FOR EACH REQUIRED UNIT. MODERATE INCOME HOUSING UNIT (M.I.H.U.) TABULATION:

M.I.H.U. REQUIRED =  $(4 \text{ LOTS } \times 10\%) = 0.4 \text{ M.I.H.U.}$ b. M.I.H.U. PROPOSED = DEVELOPER WILL PURSUE ALTERNATIVE COMPLIANCE BY PAYING A FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING

DEPARTMENT FOR THE UNITS REQUIRED BY THE DEVELOPMENT. AN EXECUTED M.I.H.U. AGREEMENT WITH THE HOWARD COUNTY HOUSING DEPARTMENT HAS BEEN COMPLETED AND RECORDED SIMULTANEOUSLY WITH 34. NO NOISE STUDY IS REQUIRED BECAUSE THE PROJECT DOES NOT FALL WITHIN THE GUIDELINES OF DESIGN MANUAL, VOLUME III, ROADS, BRIDGES,

34. THE HISTORIC RESIDENTIAL DWELLING (#3062 BETHANY LANE) IS PROPOSED TO BE REMOVED. A MEETING WITH THE HISTORIC DISTRICT COMMISSION ON APRIL 6, 2017 APPROVED THE REMOVAL OF THE DWELLING (HPC-17-24). 35. THE LOTS CREATED BY THIS SUBDIMISION PLAT ARE SUBJECT TO A FEE OR A ASSESSMENT TO COVER OR DEFRAY ALL OR PART OF THE

DEVELOPERS COST OF THE INSTALLATION OF THE WATER AND SEWER FACILITIES. PURSUANT TO THE HOWARD COUNTY CODE SECTION 18.112. THIS FEE OR ASSESSMENT, WHICH RUNS WITH THE LAND, IS A CONTRACTUAL OBLIGATION BETWEEN THE DEVELOPER AND EACH OWNER OF THIS PROPERTY and is not in any way a fee or assessment of Howard County. 36. THE 24' PRIVATE USE-IN-COMMON ACCESS DRIVEWAY EASEMENT FOR THE USE AND BENEFIT OF LOT 1 AND NON-BUILDABLE BULK PARCEL 'A'

(FUTURE LOTS 2 THRU 5) AND MAINTENANCE AGREEMENT WAS RECORDED WITH PHASE 1. 37. 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 410-313-5752 FOR DETAILS AND COST ESTIMATES.

30. OPEN SPACE REQUIREMENT FOR BETHANY RIDGE WAS PROVIDED WITH GERMAN PROPERTY, F-99-044 RECORDED AS PLAT NOS. 14905 AND 14906. OPEN SPACE TABULATION: A. TOTAL OPEN SPACE REQUIRED = 3.629 ACRES

1. GERMAN PROPERTY (F-99-044) = 3.478 ACRES (11.594 ACRES X 30%

2. BETHANY RIDGE (NOT INCLUDED IN F-99-044) = 0.151 ACRES (2.509 ACRES X 6%) B. TOTAL OPEN SPACE PROVIDED (F-99-044) = 4.162 ACRES

39. ON JULY 19, 2017, THE PLANNING DIRECTOR APPROVED THE ALTERNATIVE COMPLIANCE (WP-17-129) TO SECTION 16.119(F)(1) REQUIRING A RESIDENTIAL SUBDIVISION WHICH FRONTS A MAJOR COLLECTOR TO ACCESS THE SUBDIVISION BY A LOWER CLASSIFICATION PUBLIC ROAD AND SECTION 16.1205(A) (7) AND (10) WHICH PROHIBITS REMOVAL OF 5 SPECIMEN TREES, BUT DENIED ALTERNATIVE COMPLIANCE TO SECTION 16.132(A) REQUIRING THE CONSTRUCTION OF SIDEWALKS AND SECTION 16.132(A)(3)(II)(C)(1) REQUIRING ROAD IMPROVEMENTS ON UP TO ONE-HALF OF THE MINIMUM USABLE

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS: 1. COMPLIANCE WITH ALL SUBDIVISION REVIEW COMMITTEE COMMENTS. 2. THE SUBDIVISION PLAN MUST COMPLY WITH SECTION 16.127 (RESIDENTIAL INFILL DEVELOPMENT) OF THE SUBDIVISION AND LAND DEVELOPMENT

3. THE ALTERNATIVE COMPLIANCE APPLICATION NUMBER (WP-17-129) AND ITS CONDITIONS OF APPROVAL MUST BE ADDED TO ALL SUBDIVISION PLANS 4. THE DEVELOPER SHALL PLANT TEN (10) 3" MINIMUM CALIPER NATIVE SHADE TREES IN ADDITION TO THE REQUIRED PERIMETER LANDSCAPING TO MITIGATE THE REMOVAL OF THE SPECIMEN TREES. INCLUDE THE ADDITIONAL TREES ON THE FINAL PLAN AND ALL SUBSEQUENT PLANS. THESE TREES

WILL BE BONDED WITH THE DEVELOPER'S AGREEMENT UNDER THE FINAL SUBDIVISION PLAN.

5. THE ALTERNATIVE COMPLIANCE APPLICATION APPROVAL APPLIES ONLY TO THE 5 SPECIMEN TREES TO BE REMOVED AS SHOWN ON THE ALTERNATIVE COMPLIANCE APPLICATION PLAN EXHIBIT. THE REMOVAL OF ANY OTHER SPECIMEN TREES ON THE PROPERTY IS NOT PERMITTED UNLESS IT CAN BE SUFFICIENTLY DEMONSTRATED BY THE APPLICANT TO BE JUSTIFIED.

. THERE IS AN EXISTING SIDEWALK WITHIN 150' OF THE SUBDIMISION. THE CONTINUATION OF THE EXISTING SIDEWALK WILL PROVIDE A PEDESTRIAN CONNECTION TO THE EXISTING CHURCH 'AND PATUXENT OVERLOOK COURT, THUS PROVIDING COMPLETE PEDESTRIAN ACCESS TO 35 HOMES. THE REQUIRED RIGHT-OF-WAY EXISTS TO PROVIDE PUBLIC ROAD IMPROVEMENTS.

. In accordance with development engineering division comments dated July 10, 2017 and office of transportation comments dated 4, II IS THE GOAL OF HOWARD COUNTY TO PROMOTE SAFE AND ACCESSIBLE PEDESTRIAN CONNECTIVITY BETWEEN NEW DEVELOPMENTS AND SURROUNDING

5, THE SIDEWALK AND ROAD IMPROVEMENT REQUIREMENT IS CONSISTENT WITH THE LEGISLATIVE INTENT OF THE REGULATIONS FOR THE ORDERLY, EFFICIENT AND INTEGRATED DEVELOPMENT OF LAND WHICH REQUIRES THE OWNER/DEVELOPER TO CONSTRUCT THE MINIMUM REQUIRED INFRASTRUCTURE IMPROVEMENTS AT THE TIME OF A MAJOR SUBDIMISION TO FACILITATE SAFE PEDESTRIAN TRAVEL OR THE EXTENSION OF A SIDEWALK SYSTEM ALONG PUBLIC ROADS AS A MEANS TO SEPARATE VEHICULAR AND PEDESTRIAN TRAFFIC.

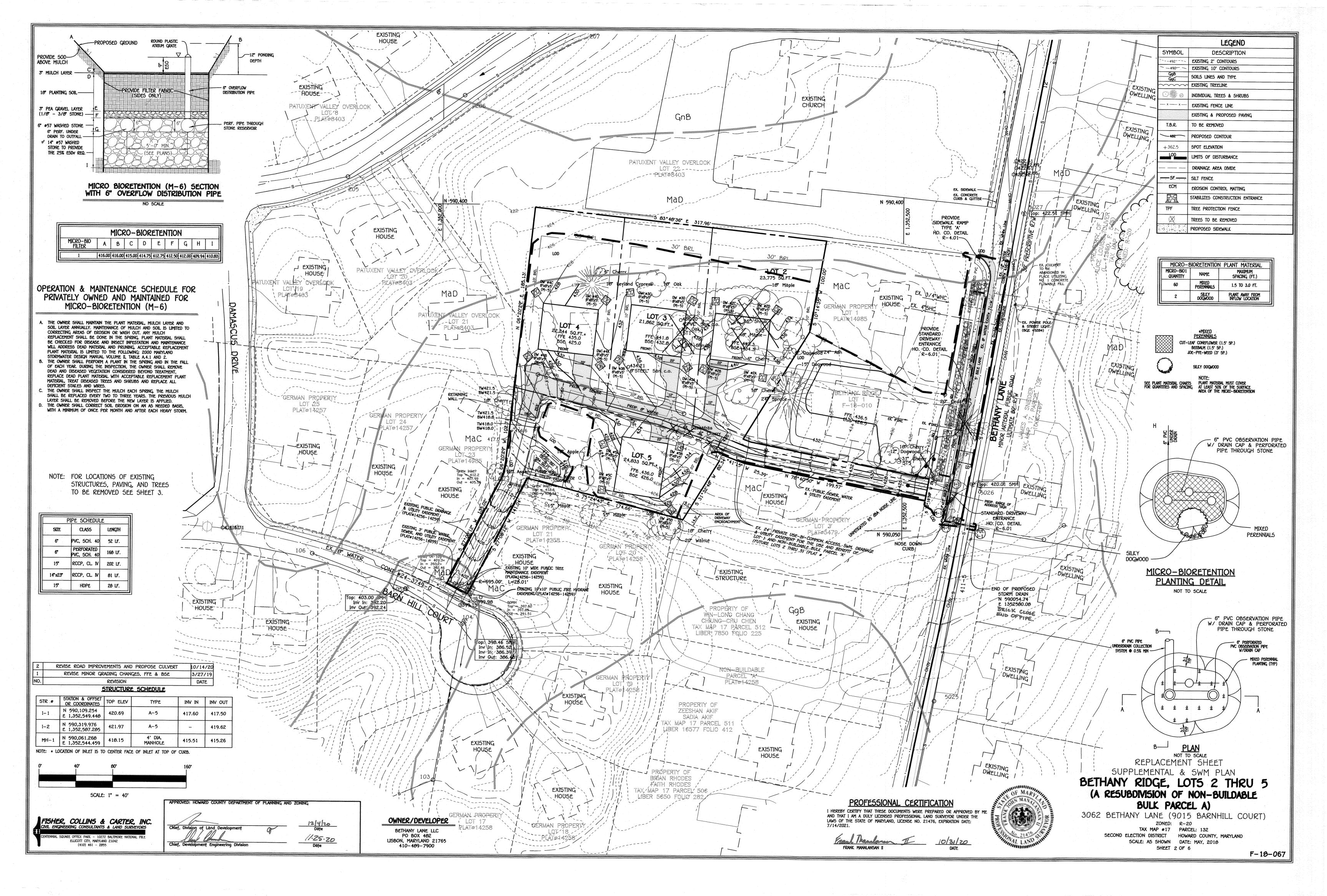
TITLE SHEET

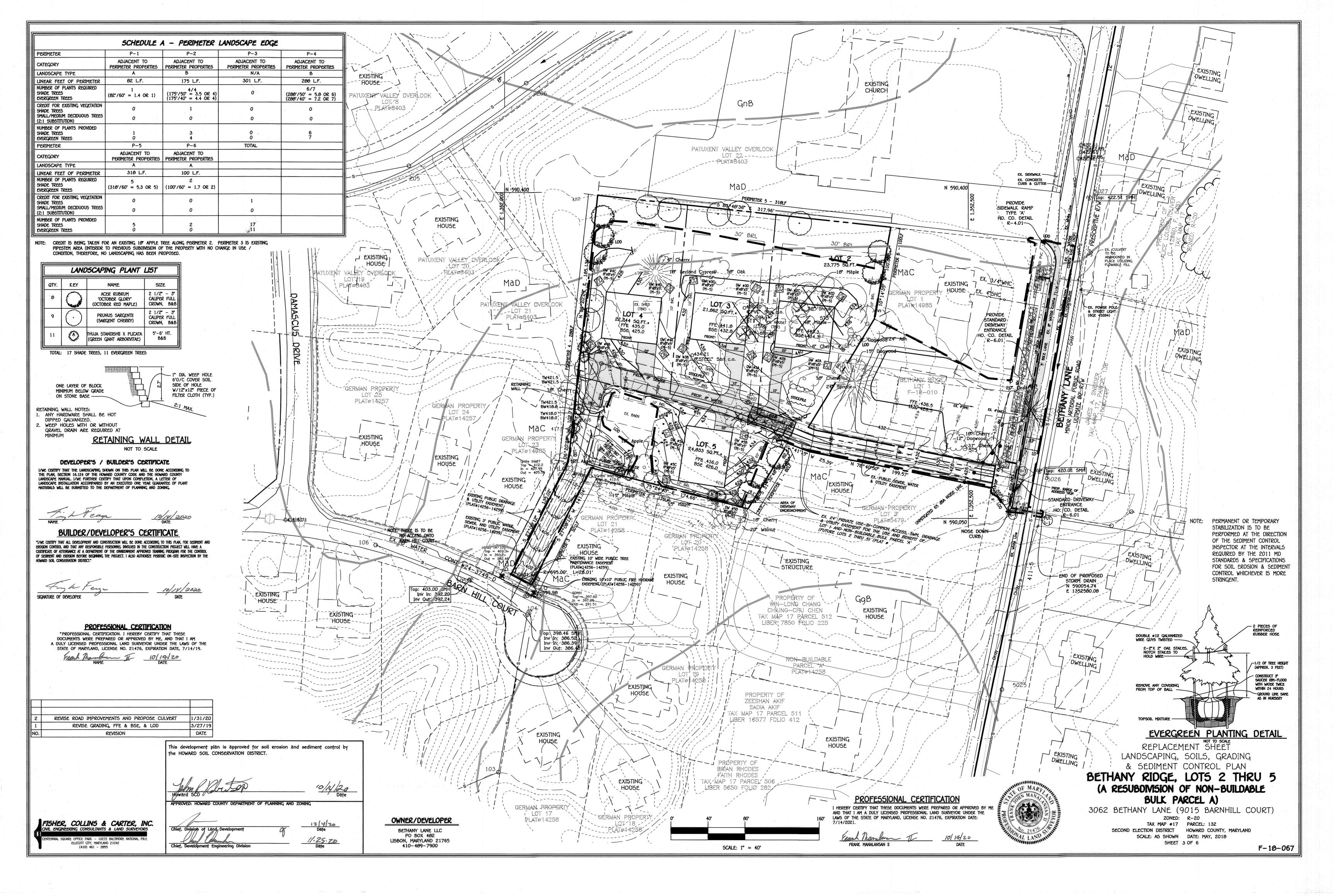
### BETHANY RIDGE, LOTS 2 THRU 5 (A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL A)

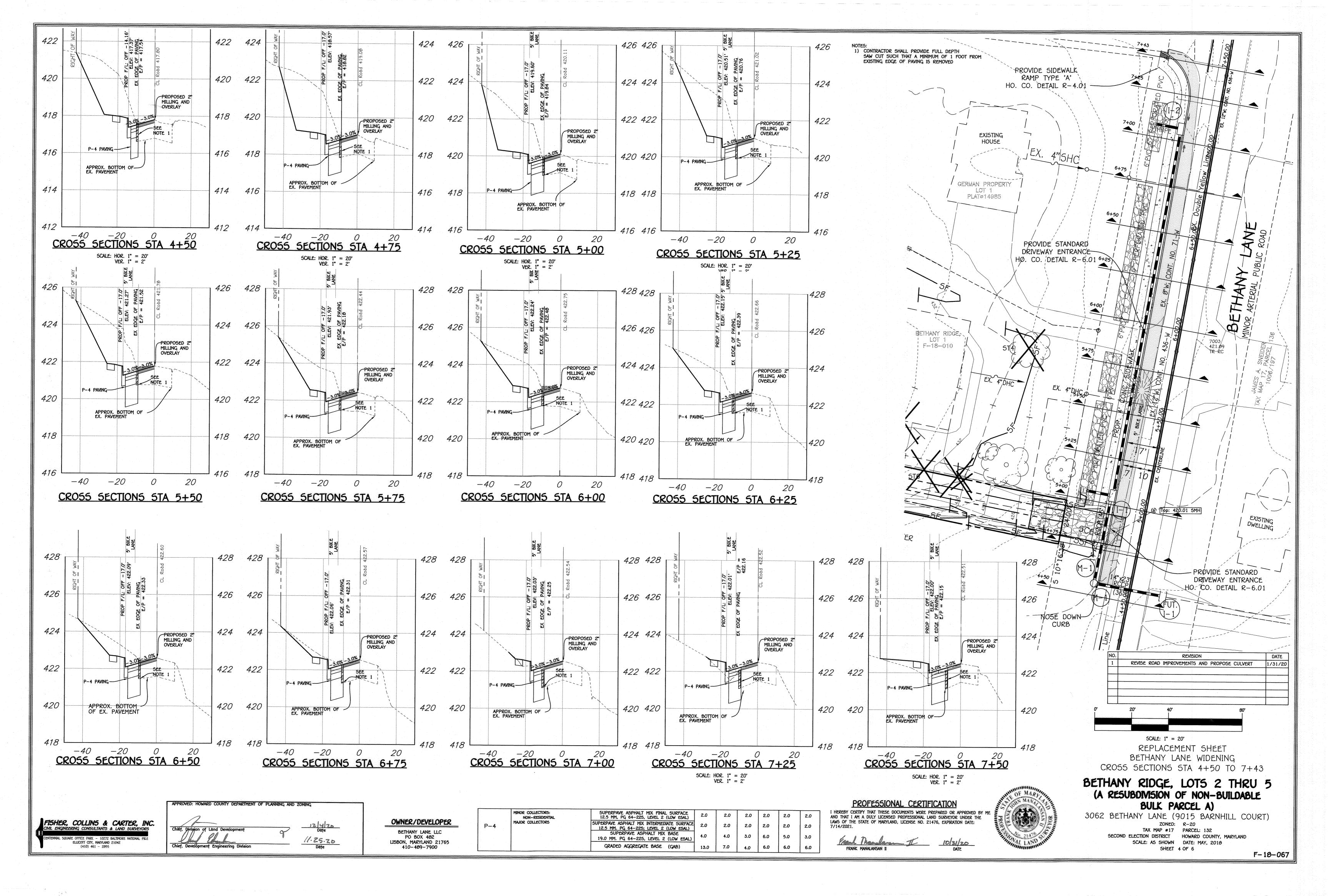
3062 BETHANY LANE (9015 BARNHILL COURT)

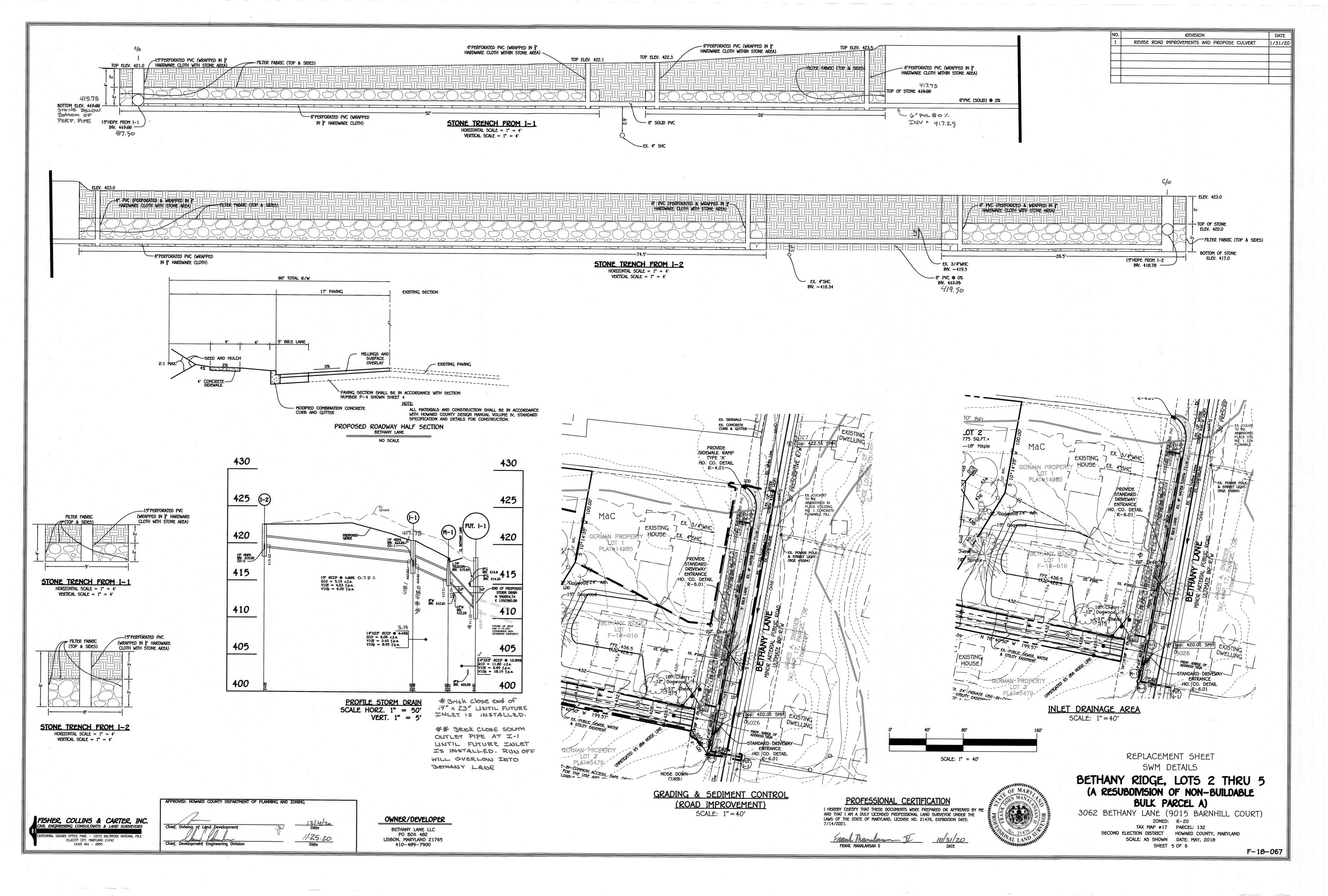
TAX MAP #17 PARCEL: 132 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MAY, 2018 SHEET 1 OF 6

F-18-067









### 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 equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.

c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment

ii. Soluble salts less than 500 parts per million (ppm). iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus

clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable iv. Soil contains 1.5 percent minimum organic matter by weight.

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.

c. Graded areas must be maintained in a true and even grade as specified on the approved plan, ther 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 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 equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to

3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation. 2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of

3. Topsoiling is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant

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.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

4. Areas having slopes steeper than 2:1 require special consideration and design.

5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria

a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate 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 tragments, gravel, sticks, roots, 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 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.

a. Erosion and sediment control practices must be maintained when applying topsoil.

b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that 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 muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation

### C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes ma

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 law and must bear the name, trade name or trademark and warranty of the producer.

3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent

mesh sieve and 90 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

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

To protect disturbed soils from erosion during and at the end of construction

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

a. All seed must meet the requirement 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 8.4 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

. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use

four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.

d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller t provide good seed to soil contact.

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after

i. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction L. Apply seed in two unections, perpendicular to each other application rates should not exceed the following: nitrogen, 100 pounds per acre total of

soluble nitrogen; P O (phosphorus), 200 pounds per acre; K O (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

ry 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.

FISHER. COLLINS & CARTER. INC.

IVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

ELLICOTT CITY, MARYLAND 21042

(410) 461 - 2855

IIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE

B. Mulching1. Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as pecified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas

b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical state.

. WCFM is to be difed green or contain a green dife in the package that will provide an appropriate color to facilitate visual inspection of the

i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate cutor to pacificate visual impression of the uniformly spread stury.

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 stury. The mulch material must form a biotter-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 by phyto-toxic.

v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeters, 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 a mulch anchoring tool, increase the application rate to 2.5 tons per acre. attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

: Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to

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

i. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.

V. Lightweight plastic netting may be stabled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 3,000 feet long.

### TEMPORARY SEEDING NOTES (B-4-4)

To stabilize disturbed soils with vegetation for up to 6 months.

### To use fast growing vegetation that provides cover on disturbed soils

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

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 B.1 plus

2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil

tests are not required for Temporary Seeding. 3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section 8-4-3.A.1.b and maintain until the next seeding season.

		Temporary Seeding	g Summary	,	
Hardiness Zor Seed Mixture	ne (from Figure B.: (from Table B.1):	Fertilizer Rate (10-20-20)	Lime Rate		
Species	Application Rate (lb/ac)	Seeding Dațes	Seeding Depths		-
BARLEY	96	3/1 - 5/15,	1"	436 lb/ac	2 tons/ac
OAT5	72	8/15 - 10/15	1"	(10 lb/ 1000 sf)	(90 lb/ 1000 sf)
RYE	112		1"		

### PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan. b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office

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

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

b. Select one or more of the species or mixtures listed below based on the site conditions or purpose Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed 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 Cultivars 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. 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 each ranging from 10 to 35 percent of the

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 fall 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: 1 1/2 to 3 pounds per 1000 square feet.

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turforass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to

October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 d. 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 1 1/2 inches in diameter The resulting seedbed must be in such condition that future moving of grasses will pose no difficulty. e. 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.

### Permanent Seeding Summary

		e (from Figure B. (from Table B.3):			Fertilizer Rate (10-20-20)			Lime Rate
lo.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> 0	
8	TALL FESCUE	100	Mar. 1-May 15 Aug. 15-Oct. 15	1/4-1/2 in.	45 lbs. per acre	90 lb/ac (2 lb/	90 lb/ac (2 lb/	(90 lb/
					(1.0 lb/ 1000 sf)	1000 sf)	1000 sf)	1000 sf)
			-					

### B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

Complete the operations of laying, tamping, and irrigating for any piece of sod within eight hours.

a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector. b. Sod must be machine cut at a uniform soil thickness to % inch, plus or minus % inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn 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 of 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

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

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. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet.

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 % of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a arass height of at least 3 inches unless otherwise specified.

8-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes

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. 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 8-3 Land Grading.

3. Runoff from the stockpile area must drain to a suitable sediment control practice. 4. Access the stockpile area from the upgrade side. 5. 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.

8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles

6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercep 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section 8-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1

slopes, benching must be provided in accordance with Section 8-3 Land Grading.

HOWARD SOIL CONSERVATION DISTRICT (HSCD)

STANDARD SEDIMENT CONTROL NOTES A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 40 hour notice to CID must be given at the following stages:

a. Prior to the start of earth disturbance,

proceeding with any other earth disturbance or grading,
c. Prior to the start of another phase of construction or opening of another grading unit, d. Prior to the removal or modification of sediment control practice

Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS

FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.

All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMEN CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be

applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15 of cut and/or fill.

Stockpiles (Sec. B-4-8) in excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. 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 CID.

Site Analysis: Total Area of Site: Area Disturbed: 0.46 Acres (ROAD IMPROVEMENTS ONLY) Area to be roofed or paved: Area to be vegetatively stabilized:

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 CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain

event. A written report by the contractor, made available upon request, is part of every inspection and should include: Inspection type (routine, pre-storm event, during rain event)

\* Name and title of inspector Brief description of project's status (e.g., percent complete) and/or current activities

Evidence of sediment discharges
Identification of plan deficiencies Identification of sediment controls that require maintenance Identification of missing or improperly installed sediment controls Compliance status regarding the sequence of construction and stabilization

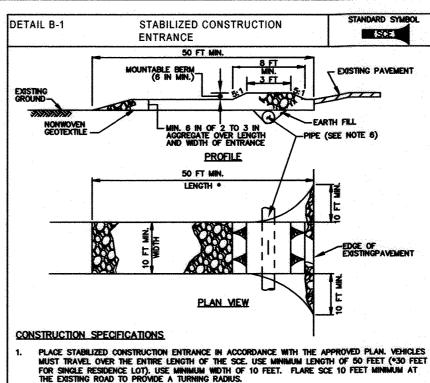
Use I and IP March 1 - June 15

Maintenance and/or corrective action performed . Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE). Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the H5CO prior to proceeding with construction. Minor revisions may allowed by

the CID per the list of HSCD-approved field changes Disturbance shall not occur outside the LO.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. 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 HSCD. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.

Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25 minimum intervals, with lower ends curled uphill by 2'in elevation. 15. Stream channels must not be disturbed during the following restricted time periods (inclusive):

Use III and IIIP October 1 - April 30 16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site



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 MINMUM OF 12 INCHES OF STONE OVER THE PIPE, PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN, WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY, A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.

PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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 SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACULUMING, 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.

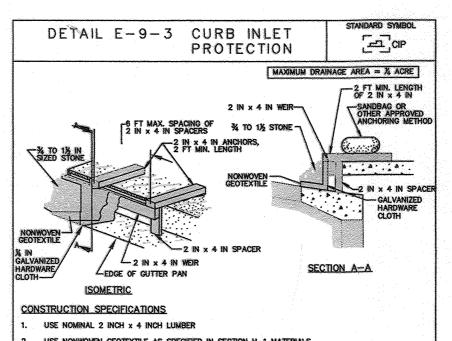
NATURAL RESOURCES CONSERVATION SERVICE	2011	WATER MANAGEMENT ADMINISTRATION
DETAIL E-3	SUPER SILT FENCE	STANDARD SYMBOL
RXXXXX	10 FT MAX.	
Total Caracter of		-34 IN MIN.
		B IN I AMAZARA AMIN.
2% IN DIAMETER GALVANIZED STEEL OR ALLUMINUM POSTS	GALVANIZED CHAIN WOVEN SLIT FILM	LINK FENCE WITH GEOTEXTILE
	ELEVATION	
CHAIN LINK F WOVEN SLIT FILM GEOT FLOW		
EMBED GEOTEXTILI CHAIN LINK FENCI MIN. INTO G	E 8 IN	

CROSS SECTION

WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS 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 AGAINULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SI 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



USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).

ATTACH A CONTINUOUS PIECE OF & INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.

INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING

AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLE

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE 2011 MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION

16 IN MIN. HEIGHT OF WOVEN SLIT FILM GEOTEXTILE B IN MIN. DEPT ELEVATION V FENCE POST 18 IN MIN. W. W. EMBED GEOTEXTILE
MIN. OF 8 IN VERTICALLY
INTO THE GROUND, BACKFILL
AND COMPACT THE SOIL ON
BOTH SIDES OF GEOTEXTILE. CROSS SECTION STAPLE-STAPLE-JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW) U.S. DEPARTMENT OF AGRICULTURE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT 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 MID-SECTION PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE 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.

SILT FENCE

6 FT MAX. CENTER TO CENTER

-----SF-----

\_36 IN MIN. FENCE POST LENGTH DRIVEN MIN. 16 IN INTO GROUND

DETAIL E-1

SEQUENCE OF CONSTRUCTION FOR ROAD IMPROVEMENTS

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.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (2 WEEKS)
NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION

AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK. INSTALL SUPER SILT FENCE (1 DAY)
ROUGH GRADE AREA OF ROAD IMPROVEMENTS. (1 DAY)
INSTALL TEMPORARY SEEDING AS NECESSARY. (1 DAY)

FINE GRADE. INSTALL INLETS, CURB & GUTTER, AND PAVING. INSTALL INLET PROTECTION UPON CONSTRUCTION & BLOCK INLETS WITH SAND BAGS UNTIL SIMM INSTALLED, (I DAY) INSTALL STONE TRENCHES AND ASSOCIATED PIPING. INSTALL PERMANENT SEEDING WITH ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE

SEDIMENT CONTROL DEVICES MAY BE REMOVED. (2 DAYS) NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A DAILY BASIS

SPRAY WITH WILT-PROOF ACCORDING TO MANUFACTURERS STANDARDS BUT RETAIN NATURAL 2 PIECES OF REINFORCED DOUBLE #12 GALVANIZED 3-2"X 2" OAK STAKES,—— NOTCH STAKES TO HOLD WIRE WRAP TRUNK TO SECOND TIER

OF BRANCHES WITH WATERPROOF TREE
WRAP, TIE AT 24" INTERVALS
(EXCEPT EVERGREENS) REMOVE ANY COVERING FROM TOP OF ROOT CROWN WITH WATER TWICE WITHIN 24 HOURS TOP SOIL MIXTURE CONVEX BOTTOM 6" MIN. H TREE PLANTING DETAIL

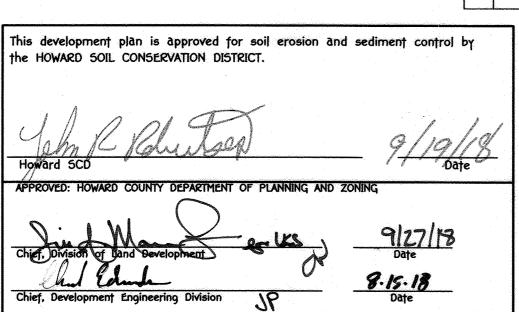
SEDIMENT & EROSION CONTROL NOTES & DETAILS

BETHANY RIDGE, LOTS 2 THRU 5 (A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL A)

3062 BETHANY LANE (9015 BARNHILL COURT) ZONED: R-20

> TAX MAP #17 PARCEL: 132 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MAY, 2018 SHEET 6 OF 6

F-18-067



"LIVIE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND EROSION CONTROL AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE environment approved training program for the control of sediment and erosion before BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL

BUILDER/DEVELOPER'S CERTIFICATE

9/2/0 Suptran Jut 8/2/19 Steren

ENGINEER'S CERTIFICATE

2 before size analysis lov to replect road improvements REVISE SHE ANALYSIS DATA TO REPLECT APPORTION OF LOT I

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."

"I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE

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. 38386, EXPIRATION DATE: 01/12/2020.

LISBON, MARYLAND 21765

OWNER/DEVELOPER

BETHANY LANE LLC

PO BOX 482

410-489-7900

PROFESSIONAL CERTIFICATION