

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SUPPLEMENTAL & SWM PLAN
3	LANDSCAPE, SOILS, GRADING & SEDIMENT CONTROL PLAN
4	BETHANY LANE WIDENING - STA 4+50 TO 7+43
5	SWM DETAILS
6	SEDIMENT & EROSION CONTROL NOTES & DETAILS

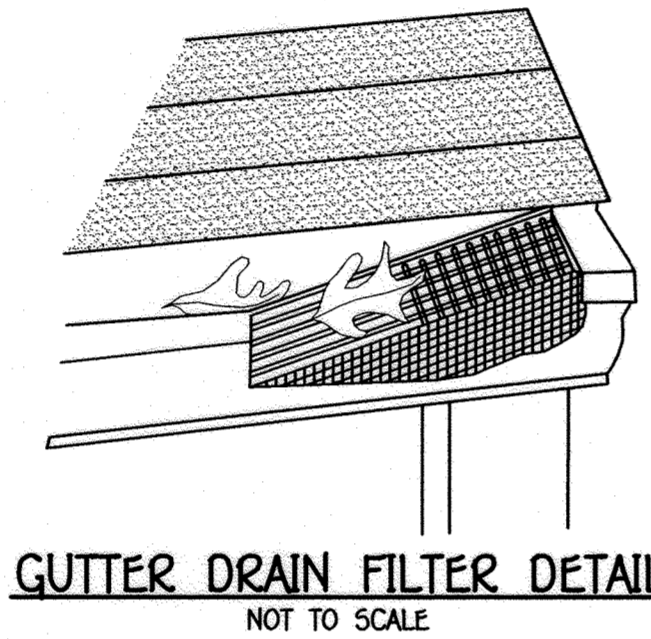
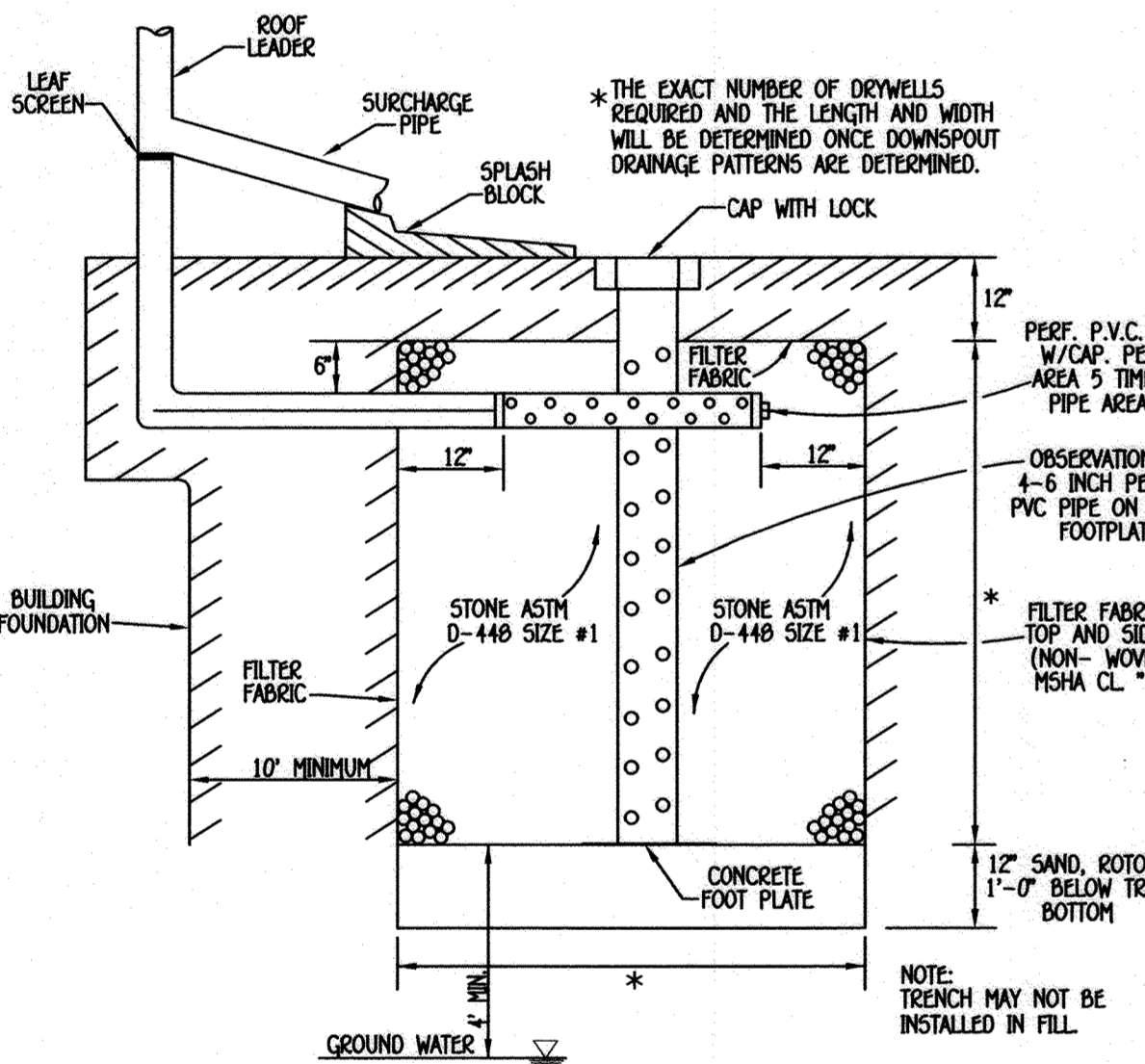
SOIL	NAME	CLASS	K FACTOR
MAC	Major loam, 0 to 15 percent slopes	B	0.24
MAD	Major loam, 15 to 25 percent slopes	B	0.24

Soil Map Number: 13 (ELLIOTT CITY, SW)

AREA ID.	ESDy REQUIRED CU.FT.	ESDy PROVIDED CU.FT.	REMARKS
SITE	2,051	4,606	DRYWELLS (M-5) & MICRO-BIORETENTION (M-6) & INFILTRATION / STONE TRENCHES
TOTAL	1,654	4,606	

LOT NO.	DRY WELLS (M-5) Y/N, NUMBER	MICRO-BIORETENTION/NON-ROOFTOP DISCONNECTION (M-6) Y/N, NUMBER	ROOFTOP DISCONNECTION (N-1) Y/N	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 = 1.54 ACRES
RCN = 55
TARGET $P_e = 1.4"$



STORMWATER MANAGEMENT NOTES

- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
- MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
- DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5% THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.

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

Material	Specification	Size	Notes
Planting soil (2" to 4" deep)	see Appendix A, Table A.4 loamy sand 60-65% compost 35-40% sandy loam 30% coarse sand 30% compost 40%	n/a	additions are site-specific USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)	n/a	
Mulch	shredded hardwood	aged 6 months, minimum	
Pea gravel diaphragm	pea gravel: ASTM-D-446	No. 8 or No. 9 (1/8" to 3/8")	
Curbside drain	ornamental stone: washed cobbles	size: 2" to 3"	
Geotextile	n/a	n/a	FC Type 1 nonwoven
Gravel (underdrains and infiltration berms)	ASHTO N-43	No. 57 or No. 59 (3/8" to 3/4")	
Underdrain piping	F 750, Type PS 2B or ASHTO N-276	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" part, 6" on center, 4 holes per row; minimum of 3" of gravel over pipe; no necessary underdrain pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth.
Poured in place concrete (if required)	MSEA Mix No. 3; f = 3500 psi at 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required; 20-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 308.2R/89; vertical holding 10-10 or 10-20; allowable horizontal loading (based on soil pressure); and analysis of potential cracking.
Sand	ASHTO-N-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Dabbase and Gypstone (ASHTO #10 are not acceptable. No calcium carbonate or dolomite sand substitutions are acceptable. No "rock dust" can be used for sand.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 9/27/18
DATE

[Signature] 9-24-18
DATE

Chief, Development Engineering Division JP

SUPPLEMENTAL, LANDSCAPE, SOILS, GRADING & SEDIMENT CONTROL PLAN

BETHANY RIDGE, LOTS 2 THRU 5

TAX MAP No. 17 GRID No. 20 PARCEL NO. 132
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
---492---	EXISTING 2' CONTOURS	---492---	PROPOSED CONTOUR
---490---	EXISTING 10' CONTOURS	---492---	SPOT ELEVATION
GgS	SOILS LINES AND TYPE	LOD	LIMITS OF DISTURBANCE
GgC	EXISTING TRENCHLINE	---5F---	DRAINAGE AREA DIVIDE
○	INDIVIDUAL TREES & SHRUBS	---SF---	SILT FENCE
---	EXISTING FENCE LINE	---	FLOW ARROWS
---	EXISTING & PROPOSED PAVING	---	STABILIZES CONSTRUCTION ENTRANCE

GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY (P&S UTILITY) AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 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 SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. IN MARCH 2017 AND SUPERSEDES WITH TOWN AND COUNTY GIS TOPOGRAPHY AT 5' CONTOUR INTERVAL INTERPOLATED FOR 2' CONTOUR INTERVAL.
- 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. 17211 AND 17263 WERE USED FOR THIS PROJECT.
- PREVIOUS DPZ FILE NUMBERS: VP-83-82, F-83-037, F-86-269, 5-96-07, P-98-017, F-96-112, WP-96-77, F-99-044, WP-17-129, ECP-18-003, F-18-010.
- STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES 1 & 11, 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 & 71-W.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE COVERED AT THE DEVELOPER'S EXPENSE.
- THE SUBJECT PROPERTY ZONED R-20 PER 10/06/2013 COMPREHENSIVE ZONING PLAN.
- NO 100 YEAR FLOODPLAIN, WETLANDS, STREAM(S) AND/OR THEIR BUFFERS, NOR STEEP SLOPES EXIST ON-SITE.
- NO FOREST STANDS EXIST ON-SITE - SEE ENVIRONMENTAL FINDINGS LETTER PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED SEPTEMBER 2017.
- THIS PROJECT IS SUBJECT TO FOREST CONSERVATION REQUIREMENTS. FOREVER A FARM (50P-14-020) WILL BE UTILIZED TO MEET THE REFORESTATION OBLIGATION OF 0.32 ACRES.
- SOIL BORINGS WERE CONDUCTED FOR THIS PROJECT SINCE DRYWELLS, A MICRO-BIORETENTION, AND STONE TRENCHES ARE BEING UTILIZED.
- SOILS SHOWN HEREON ARE BASED ON THE NRCS WEBSOIL SURVEY AND HOWARD COUNTY SOIL MAP #13.
- THERE ARE NO CEMETERIES ON SITE.
- SUBJECT PROPERTY ZONED R-20 PER 10/06/2013 COMPREHENSIVE ZONING PLAN.
- ALL AREAS ARE MORE OR LESS (±).
- DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO HAD "AS GRAD MEASUREMENT.
- 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:
 - WIDTH - 12 FEET (16 FEET SERVING HOUSING UNIT RESIDENCES).
 - SURFACE - SIX (6) INCHES OF COMPACTED GRANULAR BASE WITH TAR AND CHIP COATING.
 - (1-1/2" MINIMUM);
 - C. GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE FLOOD AND 45-FOOT TURNING RADIUS;
 - D. STRUCTURES (COLLECTORS/BOXES) - CAPABLE OF SUPPORTING 25 GROSS TONS (SAFE-LOADING);
 - E. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD AND NO MORE THAN 1 FOOT DEPTH OVER SURFACE;
 - F. STRUCTURE CLEARANCE - MINIMUM 12 FEET;
 - G. MAINTENANCE - SUITABLE TO ENSURE ALL WEATHER USE.
- THERE ARE NO FOREST STANDS EXISTING ON-SITE. SEE ENVIRONMENTAL FINDINGS LETTER PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED SEPTEMBER 2017.
- SITE IS NOT ADJACENT TO A SCENIC ROAD.
- WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 16.122B OF THE HOWARD COUNTY CODE.
- PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR 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.
- ARTICLES OF INCORPORATION FOR THE BETHANY RIDGE HOMEOWNERS ASSOCIATION, INC. IS FILED WITH THE MARYLAND STATE DEPARTMENT OF ASSESSMENTS AND TAXATION ON AUGUST 1, 2018 AS ACCOUNT NO. 100020211439993.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURVEY FOR THE REQUIRED PERIMETER LANDSCAPING WILL BE PROVIDED UNDER THE SITE DEVELOPMENT PLAN FOR THE AMOUNT \$3,750 BASED ON (11) SHRUB TREES @ \$300.00 EACH AND (11) EVERGREENS @ \$150.00 EACH.
- 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.
- THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH SECTION 16.127 - RESIDENTIAL INFILL DEVELOPMENT OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE DEVELOPER SHALL CREATE COMPATIBILITY WITH THE EXISTING NEIGHBORHOOD THROUGH THE USE OF ENHANCED PERIMETER LANDSCAPING, BEEMS, FENCES, SIMILAR HOUSING UNIT TYPES AND THE DIRECTIONAL ORIENTATION OF THE PROPOSED HOUSE.
- THERE ARE NO WETLANDS ON THIS SITE, AS STATED IN A LETTER OF FINDINGS DATED SEPTEMBER, 2017 PREPARED BY ECO-SCIENCE.
- 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.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND WILL BE SERVED BY PUBLIC WATER AND SEWER.
- SUBDIVISION IS SUBJECT TO SECTION 104.0.P. 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 AND COMMUNITY DEVELOPMENT 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 PLAN 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.)
 - a. M.I.H.U. REQUIRED = (4 LOTS X 10%) = 0.4 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.
 - c. AN EXECUTED M.I.H.U. AGREEMENT WITH THE HOWARD COUNTY HOUSING DEPARTMENT HAS BEEN COMPLETED AND RECORDED SIMULTANEOUSLY WITH THIS PLAN.
- NO NOISE STUDY IS REQUIRED BECAUSE THE PROJECT DOES NOT FALL WITHIN THE GUIDELINES OF DESIGN MANUAL, VOLUME III, ROADS, BRIDGES, SECTION 5.2.F.2.
- 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 (SECTION 16.127).
- THE LOTS CREATED BY THIS SUBDIVISION PLAN ARE SUBJECT TO A FEE OR A ASSESSMENT TO COVER OR DEFRAY ALL OR PART OF THE DEVELOPER'S COST OF THE INSTALLATION OF THE WATER AND SEWER FACILITIES, PURSUANT TO THE HOWARD COUNTY CODE SECTION 16.112. 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.
 - a. AN EXECUTED M.I.H.U. AGREEMENT WITH THE HOWARD COUNTY HOUSING DEPARTMENT HAS BEEN COMPLETED AND RECORDED SIMULTANEOUSLY WITH THIS PLAN.
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DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L	W	D
2A	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
2B	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
2C	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
2D	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
3A	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
3B	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
3C	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
3D	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
4A	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
4B	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
4C	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
4D	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
5A	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
5B	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
5C	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'
5D	750 SQ. FT.	84 C.F.	128 C.F.	100%	8'	8'	5'

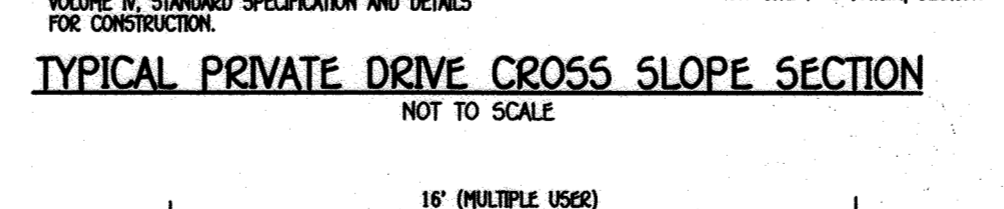
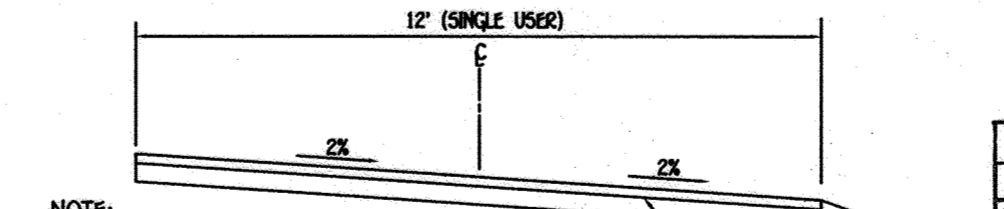
* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 2.04 AC.
- LIMIT OF DISTURBED AREA = 109,997 SQ.FT. OR 2.58 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.
- H. TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 AC.
- I. TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0.00 AC.
- J. TOTAL AREA OF EXISTING FOREST = 0.00 AC.
- K. TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC.
- L. TOTAL AREA OF LOTS / BUILDABLE PARCELS = 2.04 AC.
- M. TOTAL GREEN OPEN AREA = 1.49 AC.
- N. TOTAL IMPERVIOUS AREA = 0.91 AC.
- O. TOTAL AREA OF ERODIBLE SOILS = 0.00 AC.
- P. TOTAL AREA OF ROAD DEDICATION = 0.00 AC.

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

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILT UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE DATE AT WHICH THE FACILITY DRAINS.
- 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.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- 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.



Lot No.	Gross Area	Pipe/Stream Area	Minimum Lot Size
2	23,775 Sq. Ft.	1,241 Sq. Ft.	22,534 Sq. Ft.
3	21,862 Sq. Ft.	1,585 Sq. Ft.	20,277 Sq. Ft.
4	22,241 Sq. Ft.	2,168 Sq. Ft.	20,073 Sq. Ft.
5	24,633 Sq. Ft.	4,736 Sq. Ft.	20,897 Sq. Ft.

PROFESSIONAL CERTIFICATION

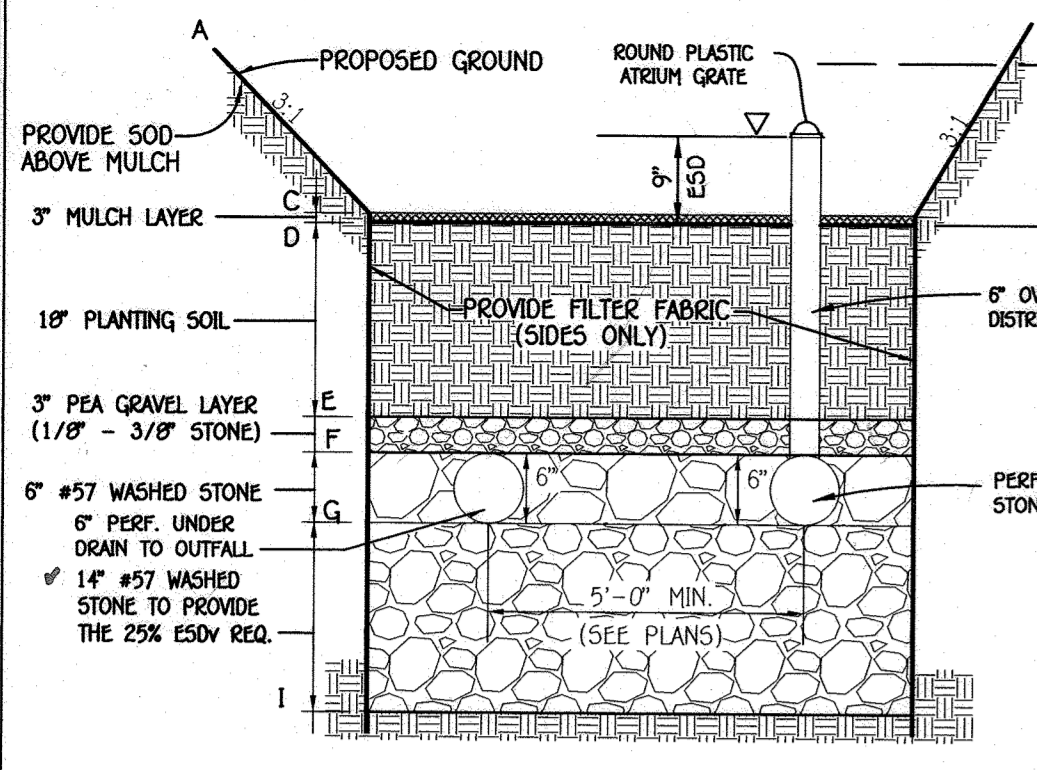
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 36306, EXPIRATION DATE: 01/12/2020.

[Signature] 8/2/18
Professional Engineer DATE



TITLE SHEET
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 1 OF 6



MICRO BIORETENTION (M-6) SECTION WITH 6" OVERFLOW DISTRIBUTION PIPE
NO SCALE

MICRO-BIORETENTION									
MICRO-BIO FILTER	A	B	C	D	E	F	G	H	I
1	416.00	416.00	415.00	414.75	412.75	412.50	412.00	409.94	410.03

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED FOR MICRO-BIORETENTION (M-6)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.1.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TREAT DISEASED TREES AND SHRUBS AND REPLACE ALL DEFICIENT TREES AND WIRDS.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

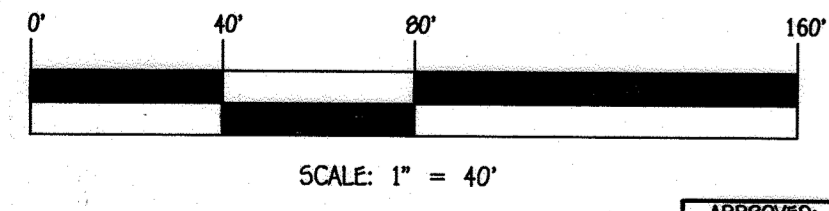
NOTE: FOR LOCATIONS OF EXISTING STRUCTURES, PAVING, AND TREES TO BE REMOVED SEE SHEET 3.

PIPE SCHEDULE		
SIZE	CLASS	LENGTH
6"	PVC, SCH. 40	52 LF.
6"	PERFORATED PVC, SCH. 40	160 LF.
15"	RCCP, CL. IV	202 LF.
14" x 23"	RCCP, CL. IV	81 LF.
15"	HOPE	28 LF.

NO.	REVISION	DATE
2	REVISE ROAD IMPROVEMENTS AND PROPOSE CULVERT	10/14/20
1	REVISE MINOR GRADING CHANGES, FFE & BSE	3/27/19

STRUCTURE SCHEDULE					
STR #	STATION & OFFSET OR COORDINATES	TOP ELEV	TYPE	INV IN	INV OUT
I-1	N 590,109.254 E 1,352,549.449	420.69	A-5	417.60	417.50
I-2	N 590,319.976 E 1,352,587.285	421.97	A-5	-	419.62
MH-1	N 590,061.268 E 1,352,544.459	418.15	4" DIA. MANHOLE	415.51	415.26

NOTE: * LOCATION OF INLET IS TO CENTER FACE OF INLET AT TOP OF CURB.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development

12/4/20 Date

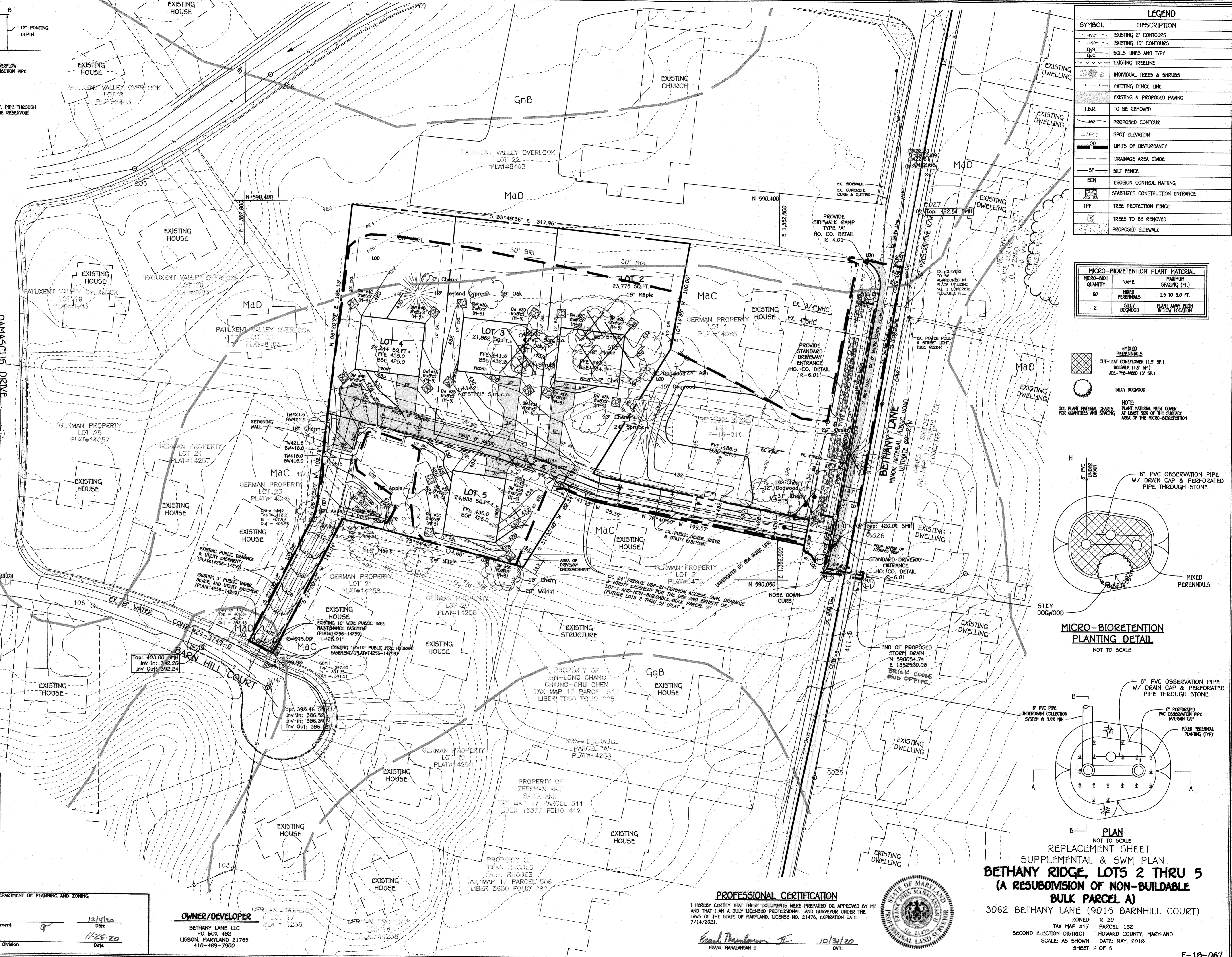
1/25/20 Date

Chief, Development Engineering Division

OWNER/DEVELOPER

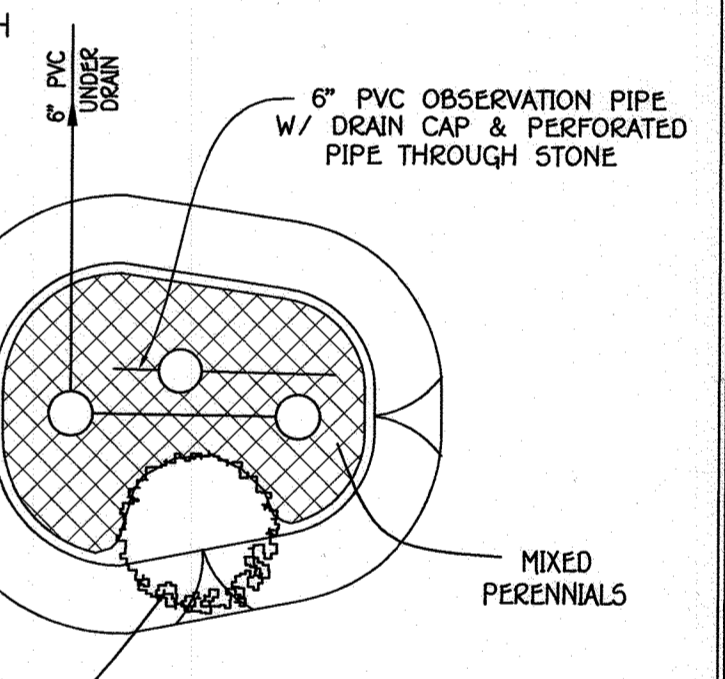
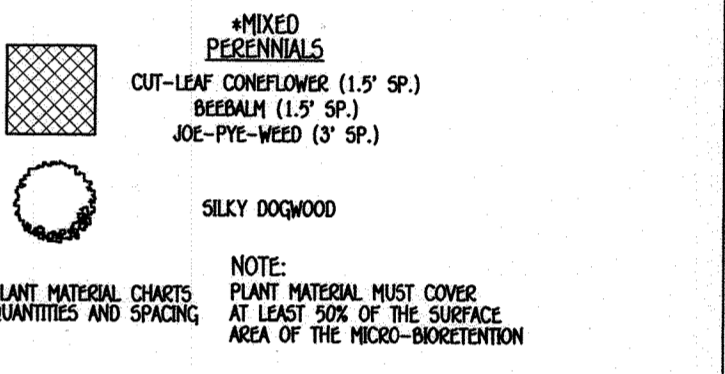
BETHANY LANE LLC
PO BOX 482
LUSKON, MARYLAND 21765
410-469-7900

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING, CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELKLOTT CITY, MARYLAND 21042
(410) 461-2992

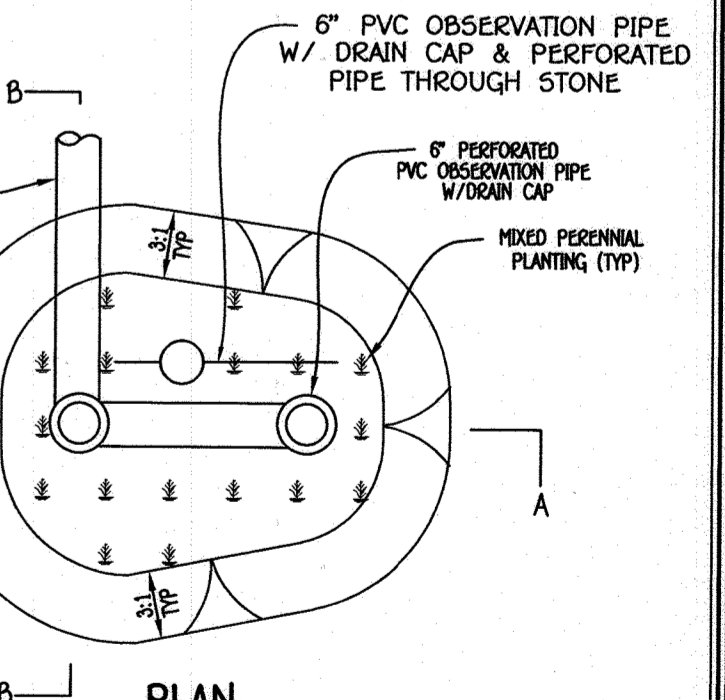


LEGEND	
SYMBOL	DESCRIPTION
-492-	EXISTING 2' CONTOURS
-490-	EXISTING 10' CONTOURS
GpB	SOILS LINES AND TYPE
GpC	EXISTING TREELINE
(Symbol)	INDIVIDUAL TREES & SHRUBS
(Symbol)	EXISTING FENCE LINE
(Symbol)	EXISTING & PROPOSED PAVING
T.B.R.	TO BE REMOVED
(Symbol)	PROPOSED CONTOUR
+362.5	SPOT ELEVATION
(Symbol)	LIMITS OF DISTURBANCE
(Symbol)	DRAINAGE AREA DIVIDE
(Symbol)	SILT FENCE
(Symbol)	EROSION CONTROL MATTING
(Symbol)	STABILIZES CONSTRUCTION ENTRANCE
(Symbol)	TREE PROTECTION FENCE
(Symbol)	TREES TO BE REMOVED
(Symbol)	PROPOSED SIDEWALK

MICRO-BIORETENTION PLANT MATERIAL		
MICRO-BIO QUANTITY	NAME	MAXIMUM SPACING (FT.)
60	MIXED PERENNIALS	1.5 TO 3.0 FT.
2	SILKY DOGWOOD	PLANT FROM DOWNFLOW LOCATION



MICRO-BIORETENTION PLANTING DETAIL
NOT TO SCALE



PLAN
NOT TO SCALE

REPLACEMENT SHEET SUPPLEMENTAL & SWM PLAN 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 2 OF 6

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/2021.

Frank Mawlanian Jr. 10/31/20
DATE

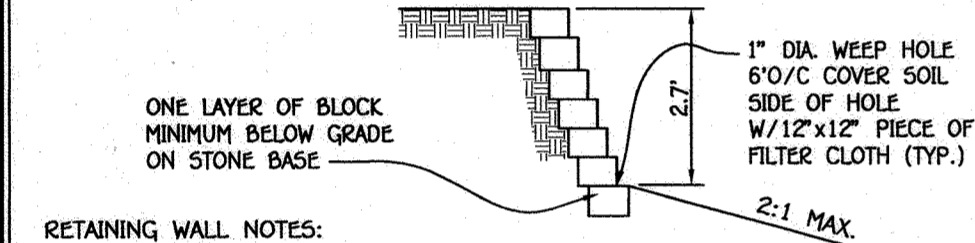


SCHEDULE A - PERIMETER LANDSCAPE EDGE				
PERIMETER	P-1	P-2	P-3	P-4
CATEGORY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	A	B	N/A	B
LINEAR FEET OF PERIMETER	82 L.F.	175 L.F.	301 L.F.	226 L.F.
NUMBER OF PLANTS REQUIRED	1	4/4	0	6/7
SHADE TREES	(82'/60' = 1.4 OR 1)	(175'/50' = 3.5 OR 4)	0	(226'/50' = 4.5 OR 5)
EVERGREEN TREES	(82'/140' = 0.6 OR 0)	(175'/140' = 1.2 OR 1)	0	(226'/140' = 1.6 OR 2)
CREDIT FOR EXISTING VEGETATION	0	1	0	0
SHADE TREES	0	0	0	0
SMALL/MEDIUM DECIDUOUS TREES (2:1 SUBSTITUTION)	0	0	0	0
NUMBER OF PLANTS PROVIDED	1	3	0	6
SHADE TREES	0	4	0	7
EVERGREEN TREES	0	0	0	0
PERIMETER	P-5	P-6	TOTAL	
CATEGORY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES		
LANDSCAPE TYPE	A	A		
LINEAR FEET OF PERIMETER	318 L.F.	100 L.F.		
NUMBER OF PLANTS REQUIRED	5	2		
SHADE TREES	(318'/60' = 5.3 OR 5)	(100'/60' = 1.7 OR 2)		
EVERGREEN TREES	0	0		
CREDIT FOR EXISTING VEGETATION	0	0	1	
SHADE TREES	0	0	0	
SMALL/MEDIUM DECIDUOUS TREES (2:1 SUBSTITUTION)	0	0	0	
NUMBER OF PLANTS PROVIDED	5	2	17	
SHADE TREES	0	0	11	
EVERGREEN TREES	0	0	6	

NOTE: CREDIT IS BEING TAKEN FOR AN EXISTING 18" APPLE TREE ALONG PERIMETER 2. PERIMETER 3 IS EXISTING PIPESTEM AREA (INTERIOR TO PREVIOUS SUBDIVISION OF THE PROPERTY WITH NO CHANGE IN USE / CONDITION, THEREFORE, NO LANDSCAPING HAS BEEN PROPOSED).

LANDSCAPING PLANT LIST			
QTY.	KEY	NAME	SIZE
8		ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2 1/2" - 3" CALIPER FULL CROWN, B&B
9		PRUNUS SARGENTII (SARGENT CHERRY)	2 1/2" - 3" CALIPER FULL CROWN, B&B
11		THUJA STANDISHII X PULICATA (GREEN GIANT ARBORVITAE)	5'-6" HT. B&B

TOTAL: 17 SHADE TREES, 11 EVERGREEN TREES



RETAINING WALL NOTES:
1. ANY HARDWARE SHALL BE HOT DIPPED GALVANIZED.
2. WEEP HOLES WITH OR WITHOUT GRAVEL DRAIN ARE REQUIRED AT MINIMUM

RETAINING WALL DETAIL
NOT TO SCALE

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, A LETTER OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

BUILDER/DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SCOUR AND EROSION CONTROL, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CONTRACT OF ATTENDANCE AS A REQUIREMENT OF THE ENVIRONMENTAL TRAINING PROGRAM FOR THE CONTROL OF SCOUR AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

PROFESSIONAL CERTIFICATION
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/19.

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NO.	REVISION	DATE
2	REVISE ROAD IMPROVEMENTS AND PROPOSE CULVERT	1/31/20
1	REVISE GRADING, FFE & BSE, & LOD	3/27/19

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

John P. Blanton 10/14/20
Date

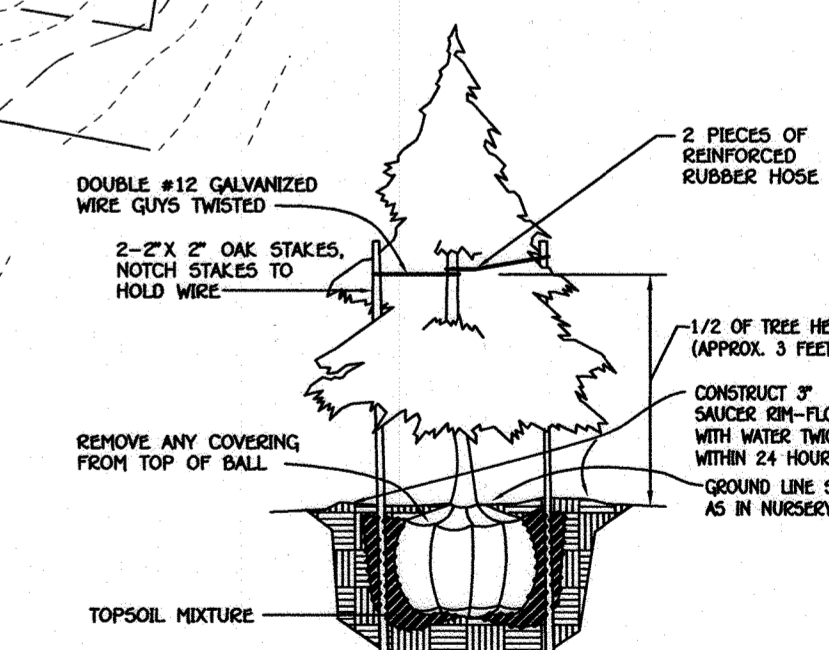
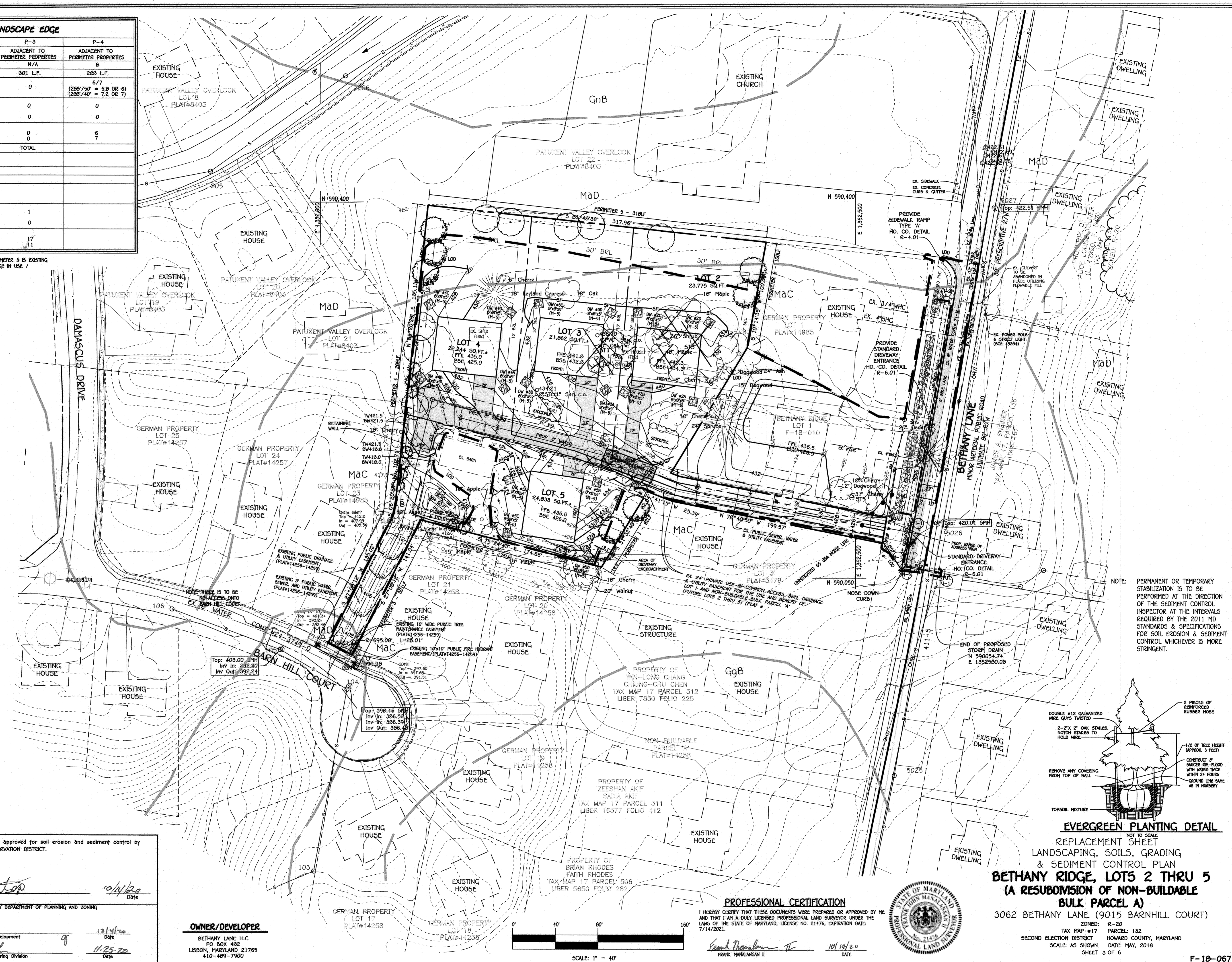
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FLEET
ELLCOTT CITY, MARYLAND 21042
(410) 461-2299

OWNER/DEVELOPER
BETHANY LANE LLC
PO BOX 482
LISBON, MARYLAND 21765
410-499-7900

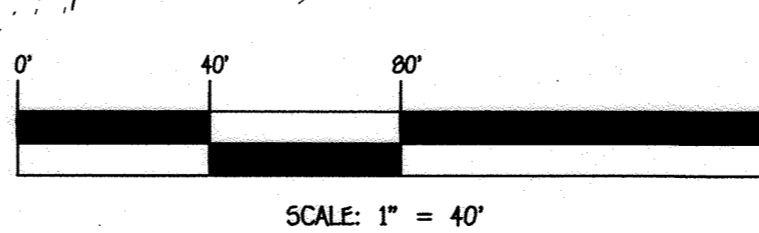
Chief, Division of Land Development 12/14/20
Date

Chief, Development Engineering Division 11/25/20
Date



EVERGREEN PLANTING DETAIL
NOT TO SCALE
REPLACEMENT SHEET
LANDSCAPING, SOILS, GRADING & SEDIMENT CONTROL PLAN
BETHANY RIDGE, LOTS 2 THRU 5
(A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL A)
3062 BETHANY LANE (9015 BARNHILL COURT)

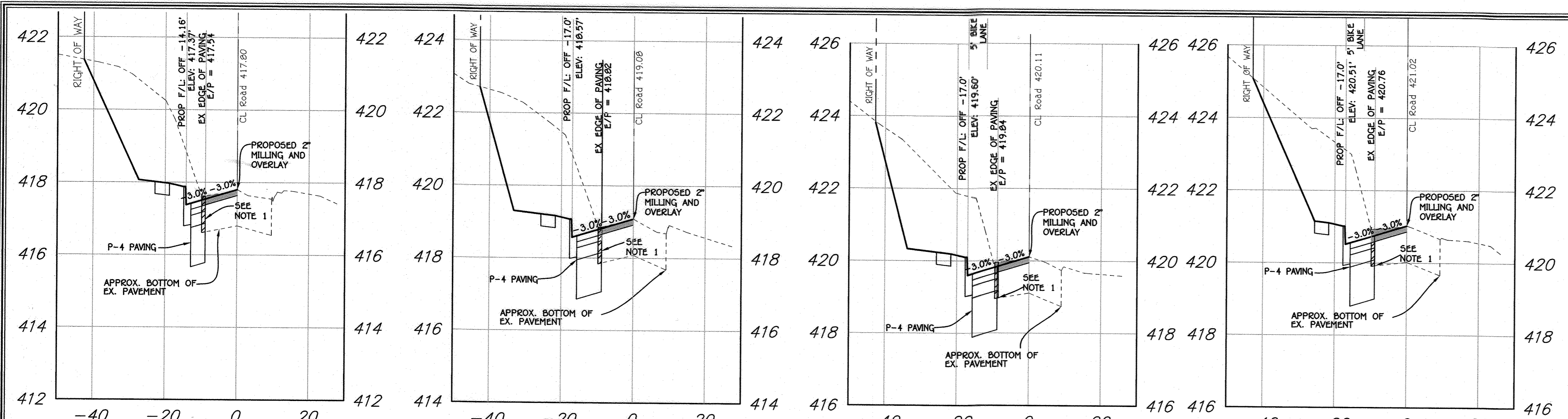
ZONED: R-20
TAX MAP #17 PARCEL: 132
SECOND ELECTION DISTRICT: HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY, 2018
SHEET 3 OF 6



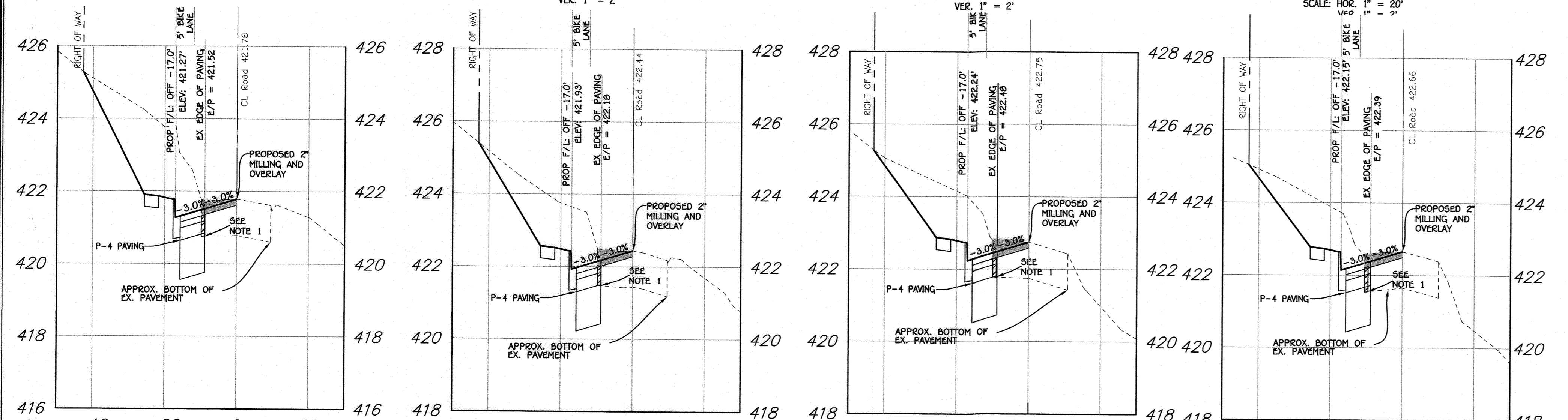
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Frank M. Mullaney II 10/14/20
Date

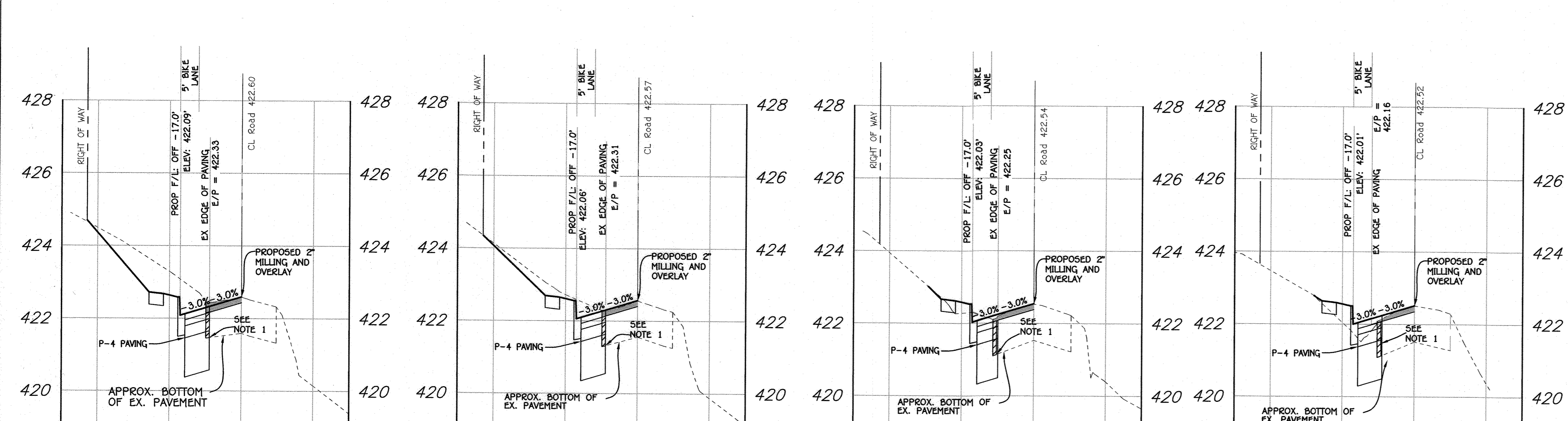




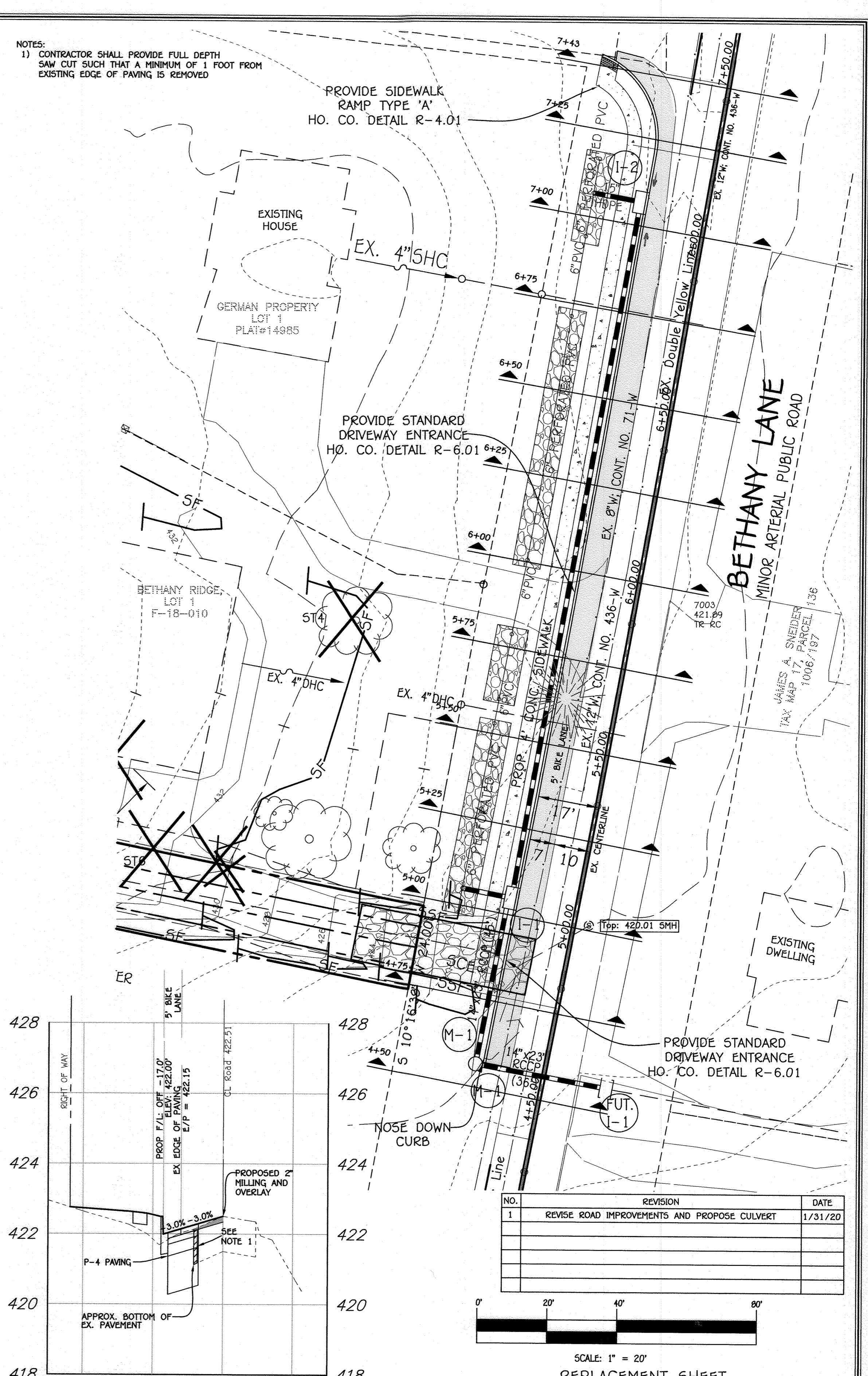
CROSS SECTIONS STA 4+50 CROSS SECTIONS STA 4+75 CROSS SECTIONS STA 5+00 CROSS SECTIONS STA 5+25



CROSS SECTIONS STA 5+50 CROSS SECTIONS STA 5+75 CROSS SECTIONS STA 6+00 CROSS SECTIONS STA 6+25

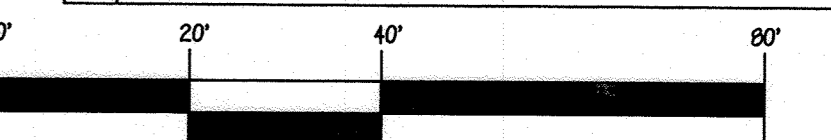


CROSS SECTIONS STA 6+50 CROSS SECTIONS STA 6+75 CROSS SECTIONS STA 7+00 CROSS SECTIONS STA 7+25



NOTES:
1) CONTRACTOR SHALL PROVIDE FULL DEPTH SAW CUT SUCH THAT A MINIMUM OF 1 FOOT FROM EXISTING EDGE OF PAVING IS REMOVED

NO.	REVISION	DATE
1	REVISE ROAD IMPROVEMENTS AND PROPOSE CULVERT	1/31/20



SCALE: 1" = 20'
REPLACEMENT SHEET
BETHANY LANE WIDENING
CROSS SECTIONS STA 4+50 TO 7+43

**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 4 OF 6

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELKROTT CITY, MARYLAND 21042
(410) 461-2899

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Division of Land Development
Date: 12/14/20
Chief, Development Engineering Division
Date: 11-25-20

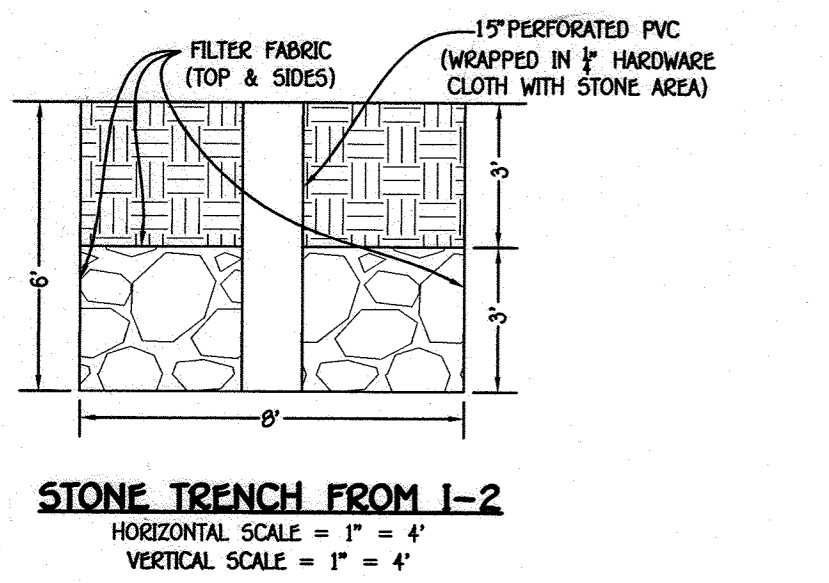
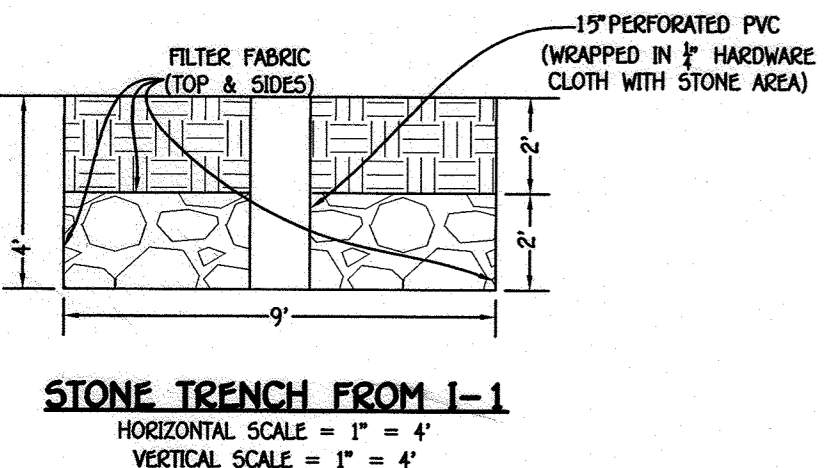
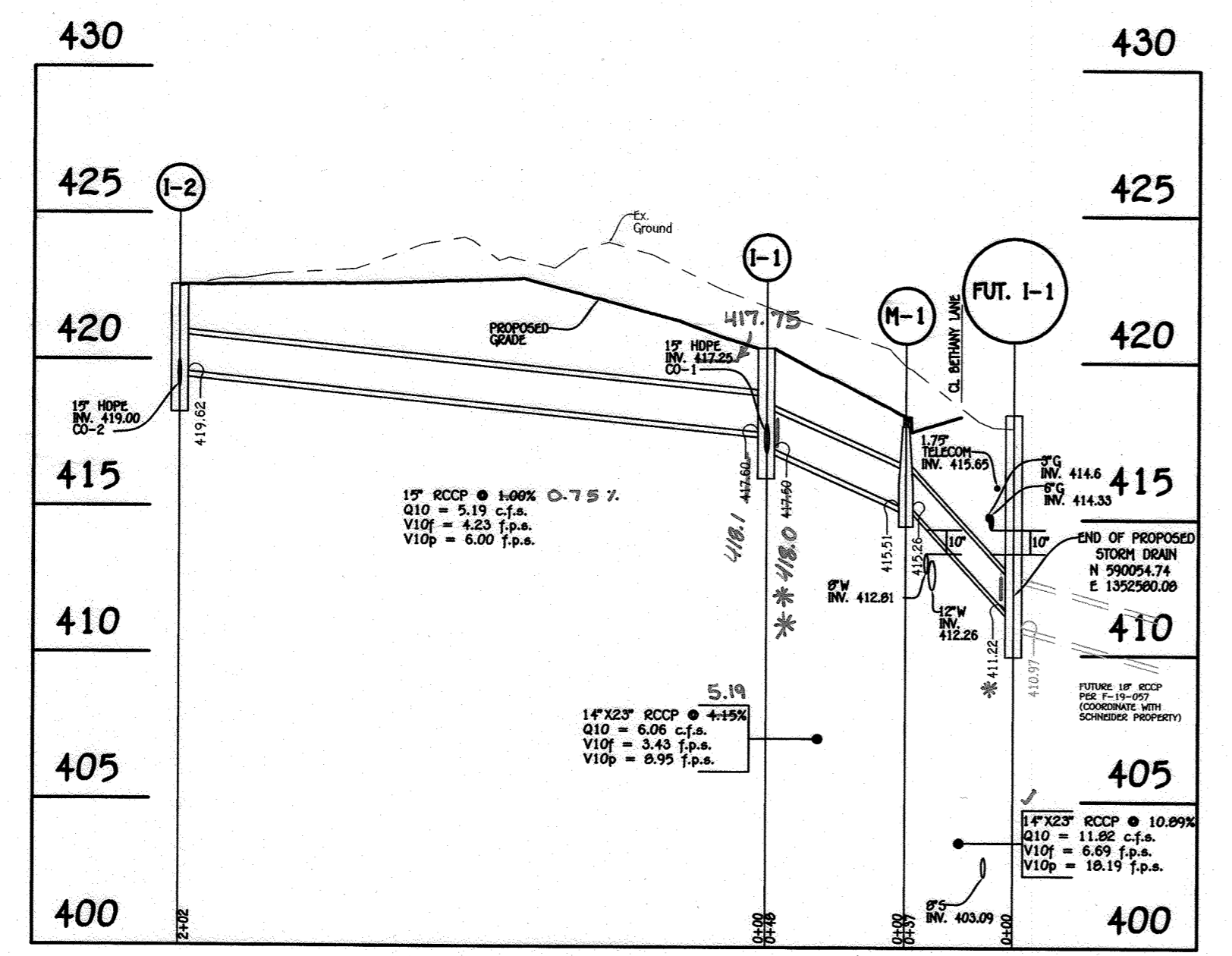
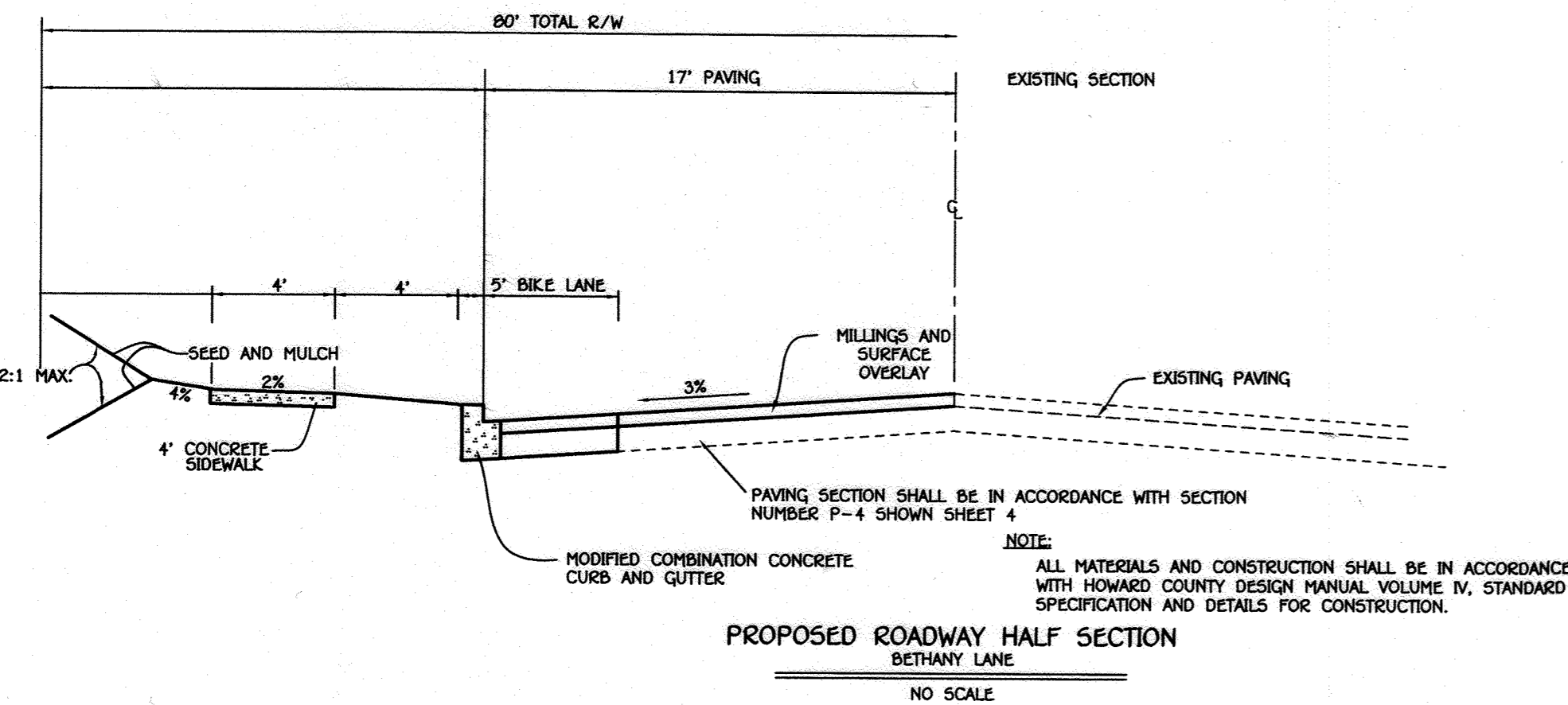
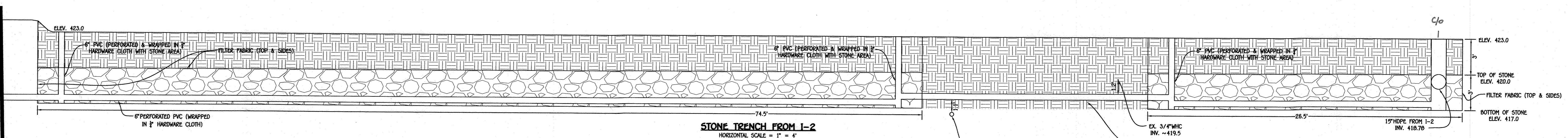
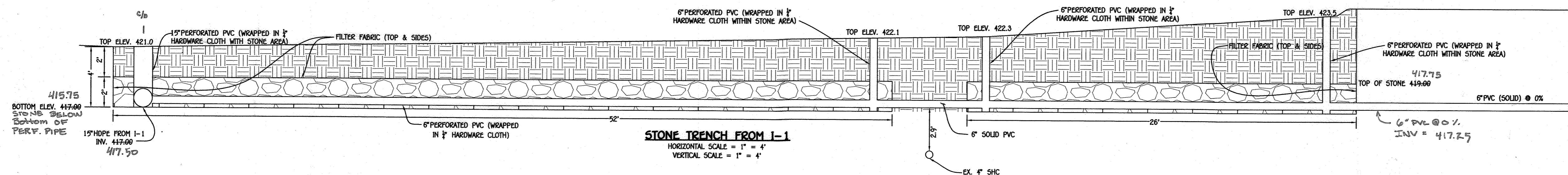
OWNER/DEVELOPER
BETHANY LANE LLC
PO BOX 482
LISBON, MARYLAND 21765
410-489-7900

P-4	MINOR COLLECTORS: NON-RESIDENTIAL MAJOR COLLECTORS	SUPERPAVE ASPHALT MIX FINIAL SURFACE 12.5 MM, PG 64-225, LEVEL 2 (LOW ESAL)					
		2.0	2.0	2.0	2.0	2.0	2.0
		SUPERPAVE ASPHALT MIX INTERMEDIATE SURFACE 12.5 MM, PG 64-225, LEVEL 2 (LOW ESAL)					
		2.0	2.0	2.0	2.0	2.0	2.0
		SUPERPAVE ASPHALT MIX BASE 19.0 MM, PG 64-225, LEVEL 2 (LOW ESAL)					
		4.0	4.0	3.0	6.0	5.0	3.0
		GRADED AGGREGATE BASE (GAB)					
		13.0	7.0	4.0	6.0	6.0	6.0

PROFESSIONAL CERTIFICATION
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Frank Donaldson II
FRANK DONALDSON II
DATE: 10/31/20



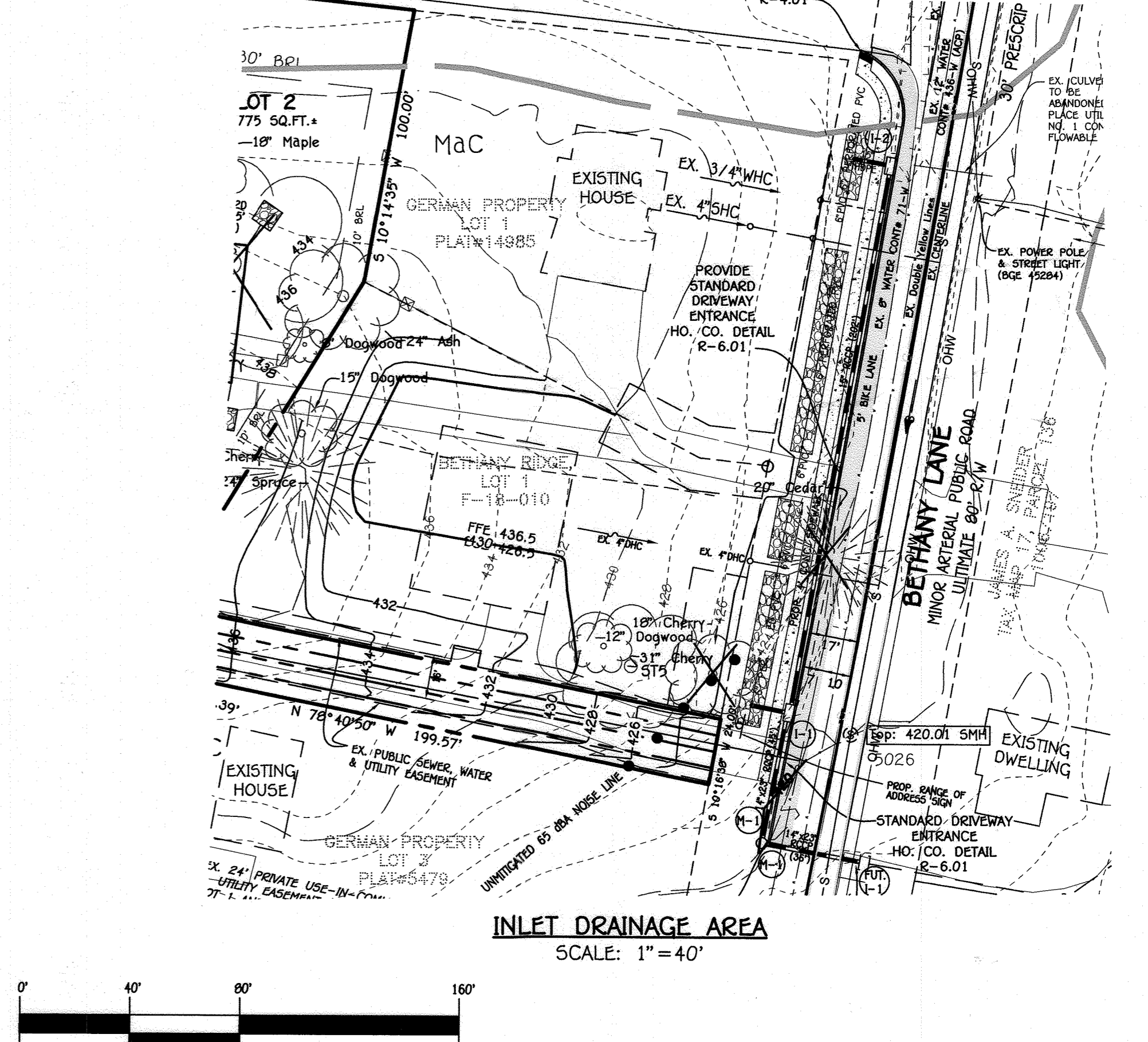
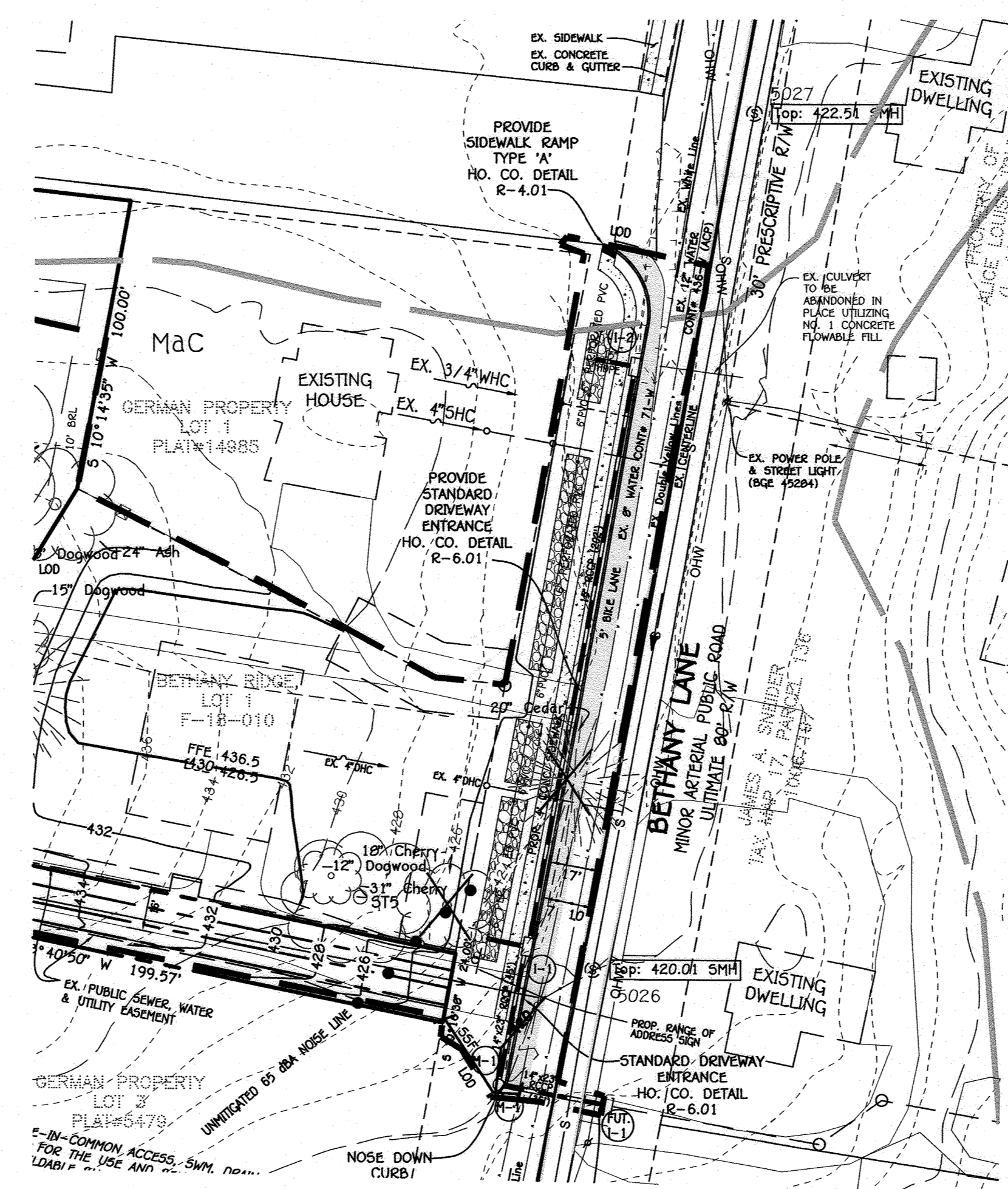
NO.	REVISION	DATE
1	REVISE ROAD IMPROVEMENTS AND PROPOSE CULVERT	1/31/20



PROFILE STORM DRAIN
 SCALE HORZ. 1" = 50'
 VERT. 1" = 5'

* Brick close end of 14" x 23" LINTIL FUTURE INLET IS INSTALLED.

** BRICK CLOSE SOUTH OUTLET PIPE AT I-1 LINTIL FUTURE INLET IS INSTALLED. RUN OFF WILL OVERFLOW INTO BETHANY LANE



GRADING & SEDIMENT CONTROL (ROAD IMPROVEMENT)
 SCALE: 1" = 40'

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Frank Mamalansan II 10/31/20
 FRANK MAMALANSAN II DATE



REPLACEMENT SHEET
 SWM 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 5 OF 6

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLSWORTH CITY, MARYLAND 21142
 (410) 461-2295

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development
 Chief, Development Engineering Division

Date: 12/14/20
 Date: 11/25/20

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

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

A. Soil Preparation

- 1. Temporary Stabilization
2. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment...
3. Apply fertilizer and lime as prescribed on the plans.

B. Topsoiling

- 1. Topsoil to be placed over prepared subsoil prior to establishment of permanent vegetation...
2. Topsoil salvaged from an existing site may be used provided it meets the aesthetic standards as set forth in these specifications...
3. Topsoiling is limited to areas having 2:1 or flatter slopes where:

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...
2. Fertilizer must be applied uniformly to construction, free flowing and suitable for accurate application by appropriate equipment...
3. Lime materials must be ground limestone (hydrated or burnt lime) must be substituted except when specifically noted...

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

- 1. General Use
2. Turfgrass Mixtures
a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance...
b. Select one or more of the species or mixtures listed below based on the site conditions or purpose...
c. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management...
d. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance...

- 1. WOVN is to be dyed green or certain green dye in the package that will provide an appropriate color to facilitate visual inspection...
2. Application
a. Apply mulch to all seeded areas immediately after seeding...
3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water...
b. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface...

TEMPORARY SEEDING NOTES (B-4-4)

- 1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone...
2. For sites having soil tests performed, use and show the recommended rates by the testing agency...
3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-3-A.1.1 and maintain until the next seeding season.

Table with columns: Hardiness Zone, Species, Application Rate (lb/ac), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), Lime Rate (2 tons/ac or 90 lb/1000 sf)

PERMANENT SEEDING NOTES (B-4-5)

- 1. General Use
2. Turfgrass Mixtures
a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance...
b. Select one or more of the species or mixtures listed below based on the site conditions or purpose...
c. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management...
d. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance...

Table with columns: Hardiness Zone, No., Species, Application Rate (lb/ac), Seeding Dates, Seeding Depths, N, P2O5, K2O, Fertilizer Rate (10-20-20), Lime Rate (2 tons/ac or 90 lb/1000 sf)

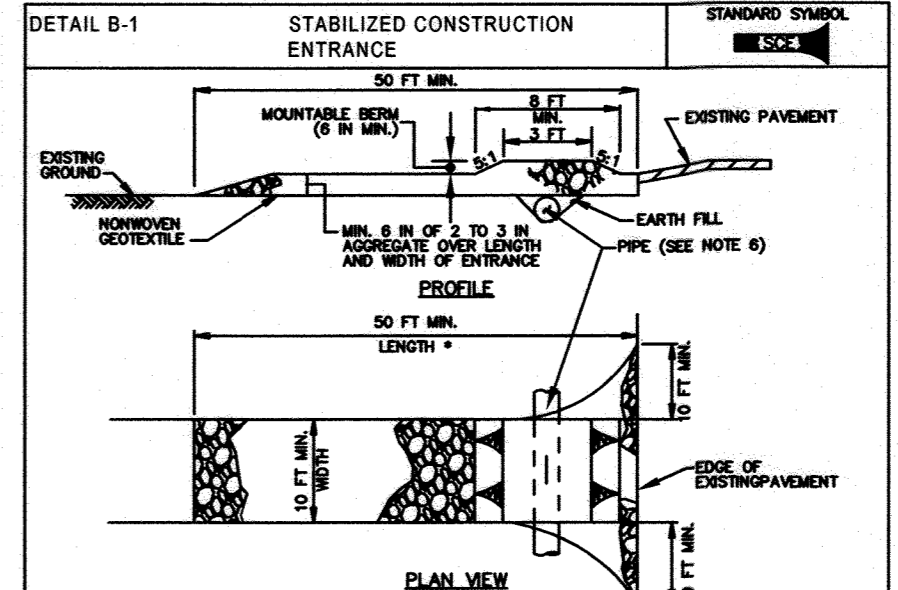
- 1. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).
General Specifications
a. Classes of turfgrass sod must be Maryland State Certified...
b. Sod must be machine cut to a uniform soil thickness of 3/4 inch, plus or minus 1/4 inch...
c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape...
d. Sod must be harvested, delivered, and installed within a period of 36 hours...
2. Sod Installation
a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod...
b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other...
c. Sod must be well watered, delivered, and installed within a period of 36 hours...
3. Sod Maintenance
a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches...
b. After the first week, soil watering is required as necessary to maintain adequate moisture content...
c. No more than 1/2 of the grass leaf of the grass leaf must be removed by the initial cutting or subsequent cuttings...
4. Grass Height of at least 3 inches unless otherwise specified.

B-4-6 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

- 1. A mound or pile of soil protected by appropriate designed erosion and sediment control measures.
2. To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.
3. Conditions Where Practice Applies
Stockpile areas are utilized when it is necessary to salvage and store soil for later use.
4. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan...
5. 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...
6. Runoff from the stockpile area must drain to a suitable sediment control practice...
7. 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...
8. Where runoff concentrates along the toe of the stockpile, an appropriate erosion/sediment control practice must be used to intercept the discharge.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

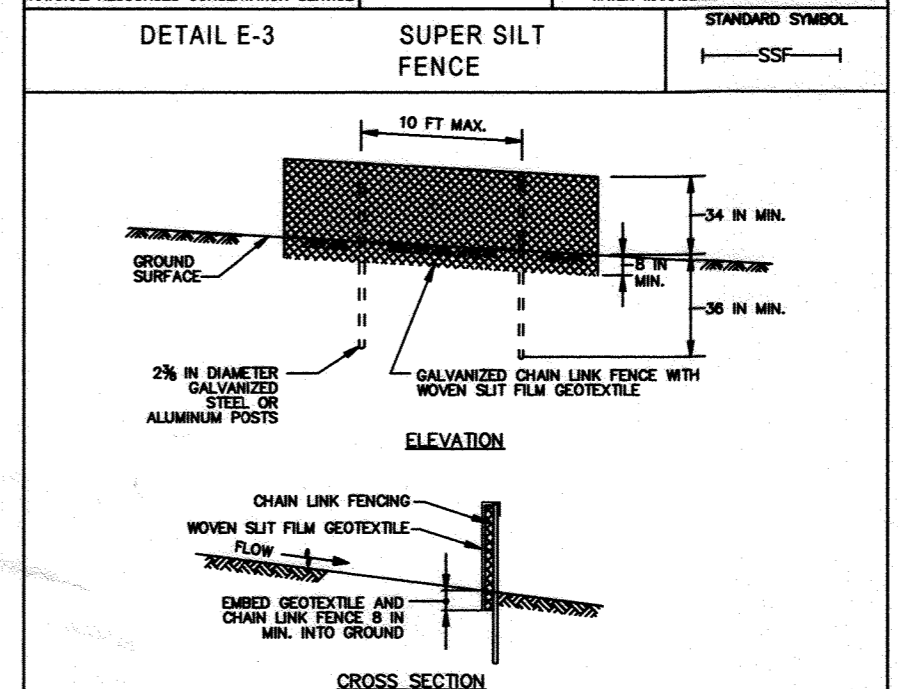
- 1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1955 after the figure L00 and protected areas are marked clearly in the field...
2. Vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL...
3. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting...
4. For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency...
5. 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...
6. Additional sediment control must be provided, if deemed necessary by the CID...
7. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction...
8. A written report by the contractor, made available upon request, is part of every inspection and should include:
a. Inspection date
b. Inspection type (routine, pre-storm event, during rain event)
c. Name and title of inspector
d. Whether information (current conditions as well as time and amount of rain recorded precipitation)
e. Brief description of project status (e.g., percent completed and/or current activities)
f. Evidence of sediment discharges
g. Identification of plan deficiencies
h. Identification of sediment control that requires maintenance
i. Identification of missing or improperly installed sediment controls
j. Compliance either regarding the sequence of construction and stabilization requirements
k. Photographs
l. Maintenance and/or corrective action performed
m. Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, HDCR)
9. Trenches for the construction of utilities are limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday...
10. A written report by the contractor, made available upon request, is part of every inspection and should include:
a. Written report by the contractor, made available upon request, is part of every inspection and should include:
i. Discharge description of project status (e.g., percent completed and/or current activities)
ii. Name and title of inspector
iii. Whether information (current conditions as well as time and amount of rain recorded precipitation)
iv. Brief description of project status (e.g., percent completed and/or current activities)
v. Evidence of sediment discharges
vi. Identification of plan deficiencies
vii. Identification of sediment control that requires maintenance
viii. Identification of missing or improperly installed sediment controls
ix. Compliance either regarding the sequence of construction and stabilization requirements
x. Photographs
xi. Maintenance and/or corrective action performed
xii. Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, HDCR)
11. Discharge shall not occur outside the L.O.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...
12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved water treatment device...
13. Storm channels must not be disturbed during the following restricted time periods (inclusive):
Use II and III: March 1 - June 15
Use II and III: October 1 - April 30
Use II and III: May 31 - May 31
14. 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 is active.



- 1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN...
2. PIPE ALL SURFACE WATER FLOWING TO OR OVERFLOWED TOWARD THE SITE UNDER THE ENTRANCE...
3. PREPARE SURROUND AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION B-1 MATERIALS...
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE...
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, AND STONE OR MAKE OTHER ARRANGEMENTS AS NECESSARY TO MAINTAIN CLEAR SURFACE, STABLE BED, AND SLOPED CHANNELS...
6. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, AND STONE OR MAKE OTHER ARRANGEMENTS AS NECESSARY TO MAINTAIN CLEAR SURFACE, STABLE BED, AND SLOPED CHANNELS...
7. 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...
8. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

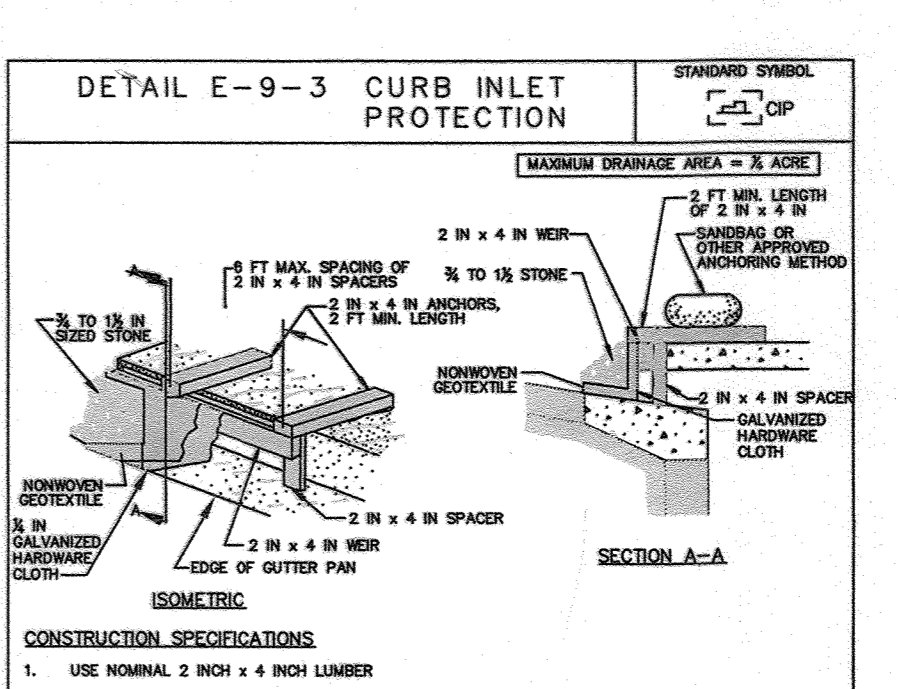
DETAIL E-3 SUPER SILT FENCE



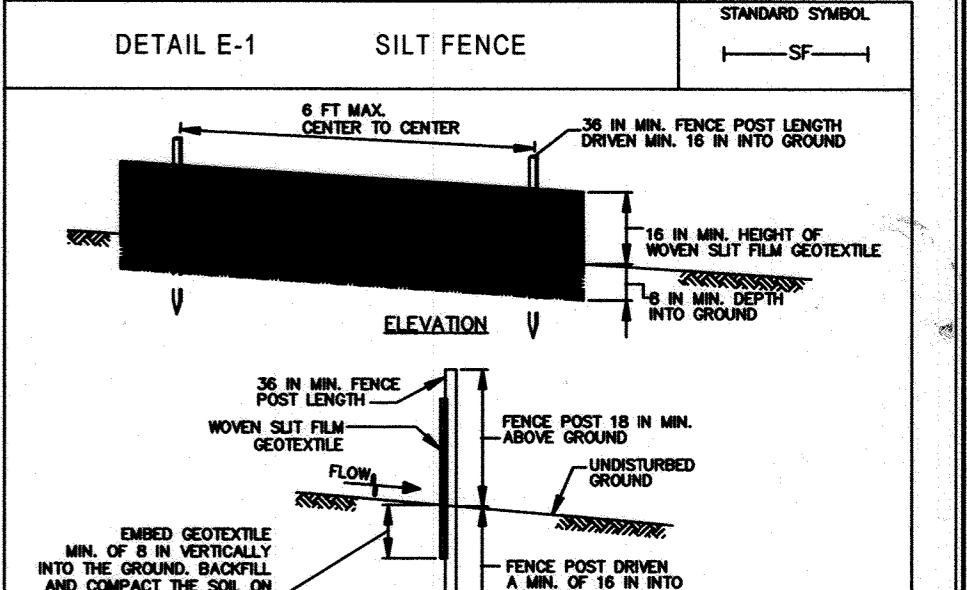
- 1. INSTALL 10 IN. DIAMETER GALVANIZED STEEL POSTS OF 1/2 IN. WALL THICKNESS AND 36 IN. POST LENGTH SPACED NO FURTHER THAN 10 FEET APART...
2. FASTEN 8 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 IN. MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE NIPS OR HUG RINGS...
3. FASTEN WOVEN SILT FENCE GEOTEXTILE TO THE SUPER SILT FENCE...
4. WARE ENDS OF THE GEOTEXTILE CLOSURE TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES...
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSTREAM AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT...
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USE MEETS THE REQUIREMENTS IN SECTION B-1 MATERIALS...
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT...
8. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USE MEETS THE REQUIREMENTS IN SECTION B-1 MATERIALS...
9. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT...
10. REMOVE CHAIN LINK FENCING AND GEOTEXTILE WHEN NOT NECESSARY FOR EROSION CONTROL.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

DETAIL E-9-3 CURB INLET PROTECTION



- 1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION B-1 MATERIALS...
2. HAIL THE 2x4 WIRE TO 8 INCH VERTICAL SPACERS (MAXIMUM 6 FEET APART)...
3. ATTACH A CONTINUOUS PIECE OF 3/8 INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF A FEET LONGER THAN THE STRAIGHT OPENING...
4. 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 WIRE...
5. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4s AND/OR ANCHORS (A FEET LENGTH) EXTENDING BEYOND THE INLET TYPICAL TO BE PLACED BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD...
6. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING...
7. FORM THE HARDWARE CLOTH AND GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO BRUSH THE INLET OPENING...
8. AT NON-SAMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BEAM TO PREVENT INLET BYPASS...
9. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE...
10. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS GEOTEXTILE AND STONE.



- 1. USE WOOD POSTS 1 1/2 X 1 1/2 X 3/4 INCH (MINIMUM) SQUARE CUT SOUND QUALITY HARDWOOD...
2. USE 36 INCH MINIMUM POSTS OR 18 INCH MINIMUM INCH OR MORE THAN 8 FEET APART...
3. USE WOVEN SILT FENCE GEOTEXTILE AS SPECIFIED IN SECTION B-1 MATERIALS...
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USE MEETS THE REQUIREMENTS IN SECTION B-1 MATERIALS...
5. EMBED GEOTEXTILE A MINIMUM OF 6 INCHES VERTICALLY INTO THE GROUND...
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN, OVERLAP, TWIST, AND STAPLE TO STAPLERS IN ACCORDANCE WITH THE DETAIL...
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSTREAM AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT...
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT...
9. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USE MEETS THE REQUIREMENTS IN SECTION B-1 MATERIALS...
10. REMOVE CHAIN LINK FENCING AND GEOTEXTILE WHEN NOT NECESSARY FOR EROSION CONTROL.

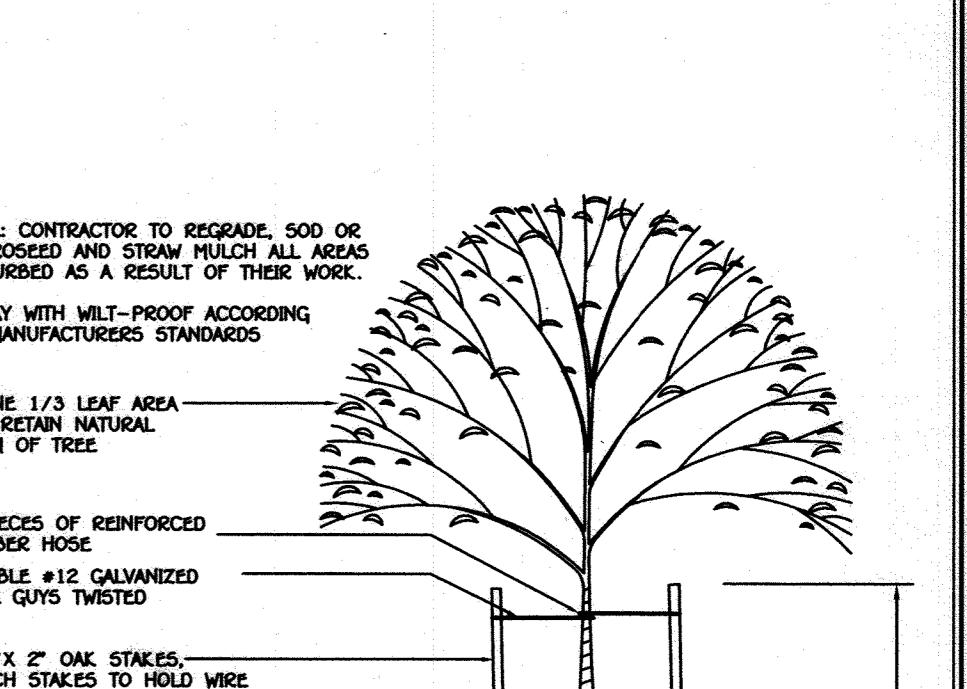
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

SEQUENCE OF CONSTRUCTION FOR ROAD IMPROVEMENTS

- 1. OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY ENGINEER (2 WEEKS)...
2. NOTIFY "HEAVY UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777...
3. INSTALL TEMPORARY SEEDING AS NECESSARY (1 DAY)...
4. INSTALL INLET PROTECTION...
5. INSTALL CURB AND GUTTER AND PAVING...
6. INSTALL GEOTEXTILES AND ASSOCIATED PIPING...
7. INSTALL PERMANENT SEEDING WITH CONSTRUCTION (1 DAY)...
8. ALL FINAL GRADING AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS...
9. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A DAILY BASIS.

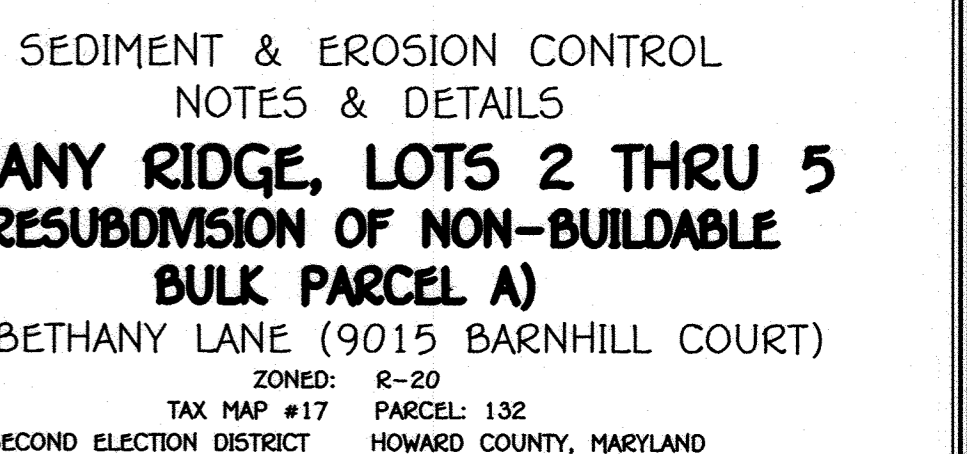
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

DETAIL E-9-3 CURB INLET PROTECTION



- 1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION B-1 MATERIALS...
2. HAIL THE 2x4 WIRE TO 8 INCH VERTICAL SPACERS (MAXIMUM 6 FEET APART)...
3. ATTACH A CONTINUOUS PIECE OF 3/8 INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF A FEET LONGER THAN THE STRAIGHT OPENING...
4. 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 WIRE...
5. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4s AND/OR ANCHORS (A FEET LENGTH) EXTENDING BEYOND THE INLET TYPICAL TO BE PLACED BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD...
6. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING...
7. FORM THE HARDWARE CLOTH AND GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO BRUSH THE INLET OPENING...
8. AT NON-SAMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BEAM TO PREVENT INLET BYPASS...
9. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE...
10. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS GEOTEXTILE AND STONE.

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
PARCEL: 132
SECOND ELECTION DISTRICT: HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN
DATE: MAY, 2018
SHEET 6 OF 6

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Builder/Developer's Certificate section with signature of John R. Roberts, dated 9/19/18, and approval by Howard SCD.

Owner/Developer section with signature of Bethany Lane LLC, dated 9/27/18.

BUILDER/DEVELOPER'S CERTIFICATE

I, THE SIGNER, CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SOIL EROSION AND SEDIMENT CONTROL...
DATE: 9/19/18

OWNER/DEVELOPER

BETHANY LANE LLC
PO BOX 492
LISBON, MARYLAND 21765
410-489-7900
DATE: 9/27/18

ENGINEER'S CERTIFICATE

I, THE SIGNER, CERTIFY THAT THIS PLAN FOR SOIL EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT...
DATE: 8/21/18

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. 30398, EXPIRATION DATE: 01/10/2022...
DATE: 8/21/18

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. 30398, EXPIRATION DATE: 01/10/2022...
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