

GENERAL NOTES

- THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS ALTERNATIVE COMPLIANCE(S) HAVE BEEN SUBMITTED AND APPROVED.
- THE SUBJECT PROPERTY IS ZONED R-SC PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NO. 35F1 AND 35FA WERE USED FOR THIS PROJECT.
- TRACT BOUNDARIES ARE BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. ON OR ABOUT AUGUST, 2018.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD SURVEY BY BENCHMARK ENGINEERING, INC. IN SEPTEMBER, 2018. EXISTING UTILITIES SHOWN ARE BASED ON A FIELD SURVEY BY BENCHMARK ENGINEERING, INC. IN SEPTEMBER, 2018 AND HOWARD COUNTY GIS.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT AS IT DOES NOT MEET ANY OF THE REQUIREMENTS FOR A NOISE STUDY AS DEFINED IN SECTION 5.2.F.2 OF DESIGN MANUAL VOLUME III.
- THE TRAFFIC STUDY WAS PREPARED BY MARS GROUP AND APPROVED UNDER THE SKETCH PLAN (S-19-006) ON 3-14-2019.
- THE FOREST STAND DELINEATION AND WETLAND DELINEATION WAS PREPARED BY J. CHRIS OGLE ON NOVEMBER 30, 2018.
- THE GEOTECHNICAL REPORT WAS PREPARED BY GEOTECHNICAL LABORATORIES, INC. ON DECEMBER 20, 2018.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. THE WATER AND SEWER IS PUBLIC. THE WATER/SEWER UTILITIES HAVE BEEN APPROVED THROUGH AN ADVANCE DEPOSIT ORDER (ADO). THE DRAINAGE AREA IS THE MIDDLE PATUXENT.
- THIS SUBDIVISION IS SUBJECT TO SECTION 18.122B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND/OR SEWER SERVICE HAS BEEN GRANTED UNDER THE TERMS AND PROVISIONS, THEREOF. EFFECTIVE DATE TO BE DETERMINED, ON WHICH DATE, DEVELOPERS AGREEMENT NUMBER F-19-049 WAS FILED AND ACCEPTED.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON-SITE.
- THERE ARE NO HISTORIC SITES/STRUCTURES LOCATED ON THIS SITE.
- THERE ARE NO WETLANDS, WETLANDS BUFFERS, STREAMS, 100-YR FLOODPLAIN, OR STEEP SLOPES 25% AND GREATER THAT ARE MORE THAN 20,000 SF OF CONTIGUOUS AREA LOCATED ON THIS SITE.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE).
 - SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.)
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45' TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY.
- THE PRIVATE USE-IN-COMMON MAINTENANCE ACCESS AGREEMENT FOR LOTS 1 thru 5 SHALL BE RECORDED SIMULTANEOUSLY WITH THE RECORDATION OF THE SUBDIVISION PLAT.
- PER SECTION 18.121.a.2, THIS PROJECT IS SUBJECT TO 25% OPEN SPACE OR 10,890 sq. ft. A FEE-IN-LIEU PAYMENT IN THE AMOUNT OF \$8,000.00 SHALL BE MADE AS PART OF THE DEVELOPERS AGREEMENT FOR OPEN SPACE BASED ON SECTION 18.121.a.2 SINCE, THIS PROJECT DOES NOT USE OPTIONAL LOT SIZE METHOD, SINCE THE SIZE OF THE REQUIRED AREA IS LESS THAN ONE-HALF ACRE, AND SINCE THE OPEN SPACE WOULD HAVE LITTLE ENVIRONMENTAL OR RECREATIONAL PURPOSE. HOWEVER, A SMALL OPEN SPACE LOT IS BEING ESTABLISHED TO ENCOMPASS THE STORMWATER MANAGEMENT DEVICE NEEDED TO TREAT THE USE-IN-COMMON DRIVEWAY. ACCESS AND FRONTAGE FOR THIS OPEN SPACE IS IN CONFORMANCE WITH SECTION 18.121.a.2.iv.
- THE ARTICLES OF INCORPORATION FOR THE HOMEOWNERS ASSOCIATION WILL BE ACCEPTED BY THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION PRIOR TO RECORDATION OF THE PLAT.
- THE RECREATIONAL OPEN SPACE REQUIREMENT FOR THIS PROJECT IS NOT REQUIRED SINCE THERE ARE LESS THAN 10 LOTS PER SECTION 18.121(a)(4)(i) OF THE SUBDIVISION REGULATIONS.
- STORMWATER MANAGEMENT ENVIRONMENTAL SITE DESIGN (ESD) HAS BEEN PROVIDED IN ACCORDANCE WITH THE "MARYLAND DEPARTMENT OF THE ENVIRONMENT STORMWATER MANAGEMENT ACT OF 2007" AND THE "HOWARD COUNTY DESIGN MANUAL VOLUME I, CHAPTER 5" TO THE MAXIMUM EXTENT PRACTICAL (MEP) VIA ONE (M-6) MICRO BIO-RETENTION PRACTICE, EIGHT (M-5) DRY WELLS, AND ONE AREA OF (N-2) DISCONNECTION OF NON-ROOFTOP RUNOFF. THE MICRO BIO-RETENTION SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. THE DRY WELLS SHALL BE PRIVATELY OWNED AND MAINTAINED BY THE OWNER OF THE LOT ON WHICH THEY RESIDE.
- LANDSCAPING IS PROVIDED WITH A CERTIFIED LANDSCAPE PLAN IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$5,100.00 FOR THE REQUIRED 15 PERIMETER SHADE TREES AND ADDITIONAL 2 SHADE TREES PER APPROVAL OF WP-19-050 SHALL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.
- THE FOREST CONSERVATION OBLIGATION AMOUNT OF 0.2 ACRES SHALL BE MET BY A FEE-IN-LIEU PAYMENT IN THE AMOUNT OF \$6,534.00.
- THE REQUIRED COMMUNITY MEETING FOR THIS PROJECT, PER SECTION 16.128 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WAS HELD ON DECEMBER 4, 2018.
- THIS PROJECT IS SUBJECT TO SECTION 13.402 OF THE COUNTY CODE FOR MODERATE INCOME HOUSING UNITS (MIHU). PER SECTION 13.402.c., THIS REQUIREMENT SHALL MET BY A FEE-IN-LIEU PAYMENT IN AN AMOUNT THAT IS TO BE CALCULATED BY THE DEPARTMENT OF INSPECTIONS LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT. THE FEE-IN-LIEU SHALL BE PAID FOR ALL LOTS/RESIDENTIAL UNITS WITHIN THIS SUBDIVISION AT TIME OF BUILDING PERMIT ISSUANCE.
- THE EXISTING WELL AND SEPTIC WAS PROPERLY ABANDONED ON 9-26-2018 AND 10-19-2018, RESPECTIVELY BY A LICENSED WELL DRILLER. THE ABANDONMENT LETTERS HAVE BEEN PROVIDED.
- A PRIVATE RANGE OF ADDRESS SIGN 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.
- UTILIZE HO. CO. STD. R-6.03 FOR DRIVEWAY APRON.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410)-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (1 1/2" DIA) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (1 1/2" DIA) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- PREVIOUS HOWARD COUNTY FILE REFERENCES: ECP-19-023, WP-19-050, S-19-006
- WP-19-050, A REQUEST FOR AN ALTERNATIVE COMPLIANCE TO SECTION 16.1205(a)(7) WAS APPROVED ON JANUARY 4, 2019 SUBJECT TO THE FOLLOWING CONDITIONS:
 - PROVIDE TWO (2) 3" MINIMUM CALIPER NATIVE TREES AS MITIGATION TO BE PROVIDED AS LANDSCAPING TREES ON THE FINAL PLAN.
 - ADD THE ALTERNATIVE COMPLIANCE WP-19-050 AS A GENERAL NOTE STATING THE REQUEST, THE APPROVAL DATE AND CONDITIONS IN WHICH IT WAS APPROVED UNDER THE ECP AND ALL FUTURE PLANS.

HILLTOP LANDING II

LOTS 1 thru 4 and OPEN SPACE LOT 5

A RESUBDIVISION OF CEDAR ACRES BLOCK B, LOT 16

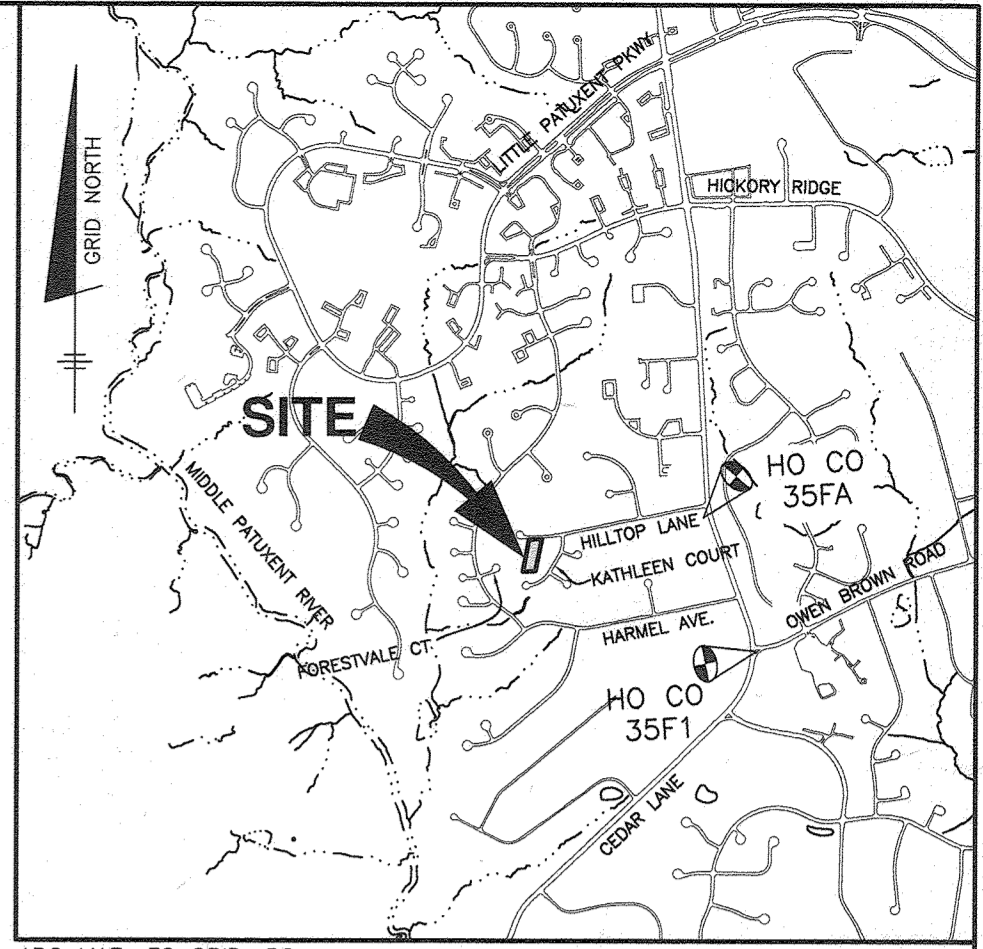
PLAT BOOK 24, FOLIO 19

CONSTRUCTION PLANS

BENCHMARK NAD'83 HORIZONTAL

HO. CO. #35FA
STAMPED BRASS DISK SET ON TOP OF
CONCRETE BASE.
N 559266.1334' E 1344682.6389'
ELEVATION: 410.329'

HO. CO. #35F1
STAMPED BRASS DISK SET ON TOP OF
CONCRETE BASE
N 557787.3788' E 1345217.2645'
ELEVATION: 400.439'



ADC MAP: 32 GRID: D2

VICINITY MAP
SCALE: 1" = 2000'

MODERATE INCOME HOUSING UNIT (MIHU) APPLICATION EXEMPTIONS TRACKING	
Total Number of Lots/Units Proposed	4
Total Number of MIHUs Required	1
Number of MIHUs Provided Onsite (Exempt from APFO allocations)	0
Number of APFO Allocations Required (Remaining Lots/Units)	3
MIHU Fee-in-Lieu (Indicate Lot/Unit numbers)	1,3,4

AS-BUILT NOTES:

- HORIZONTAL DATUM FOR THIS AS-BUILT IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD 83 / ADU 07 AS PROJECTED FROM HO. CO. GEODETIC CONTROL STATIONS 35FA AND 35F1. VERTICAL DATUM FOR THIS AS-BUILT IS NORTH AMERICAN VERTICAL DATUM NGVD 88 AS PROJECTED FROM THE ABOVE MENTIONED HOWARD COUNTY GEODETIC CONTROL STATIONS.
- THE INSTRUMENTS USED IN PERFORMING THE AS-BUILT WERE A 5" TOTAL STATION AND PRISM.
- THIS AS-BUILT WAS PERFORMED BY BENCHMARK ENGINEERING, INC.

* Previously existing house on proposed Lot 2 is exempt from APFO.

R/W P.T. NO.	DESCRIPTION	ELEVATION
101	REBAR & CAP	397.42'
102	REBAR & CAP	395.71'

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- STREET LIGHT PLACEMENT AND TYPE OF FIXTURES AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III (DECEMBER 2017) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.

FOREST CONSERVATION WORKSHEET
VERSION 1.0
(Enter in Yellow Cells)

NET TRACT AREA:	
A. Total tract area	1.00
B. Area within 100 year floodplain	0.00
C. Area to remain in agricultural production	0.00
D. Net tract area	1.00

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

ARA	MDR	IDA	HDR	MPD	CIA
0	0	0	1	0	0

E. Afforestation Threshold	15% x D =	0.2
F. Conservation Threshold	20% x D =	0.2

EXISTING FOREST COVER:

G. Existing forest cover (excluding floodplain)	0.0
H. Area of forest above afforestation threshold	0.0
I. Area of forest above conservation threshold	0.0

BREAK EVEN POINT (BEP):

J. Forest retention above threshold with no mitigation (BEP)	0.0
K. Clearing permitted without mitigation	0.0

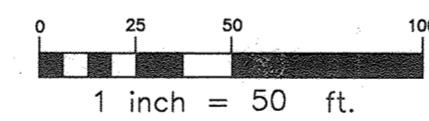
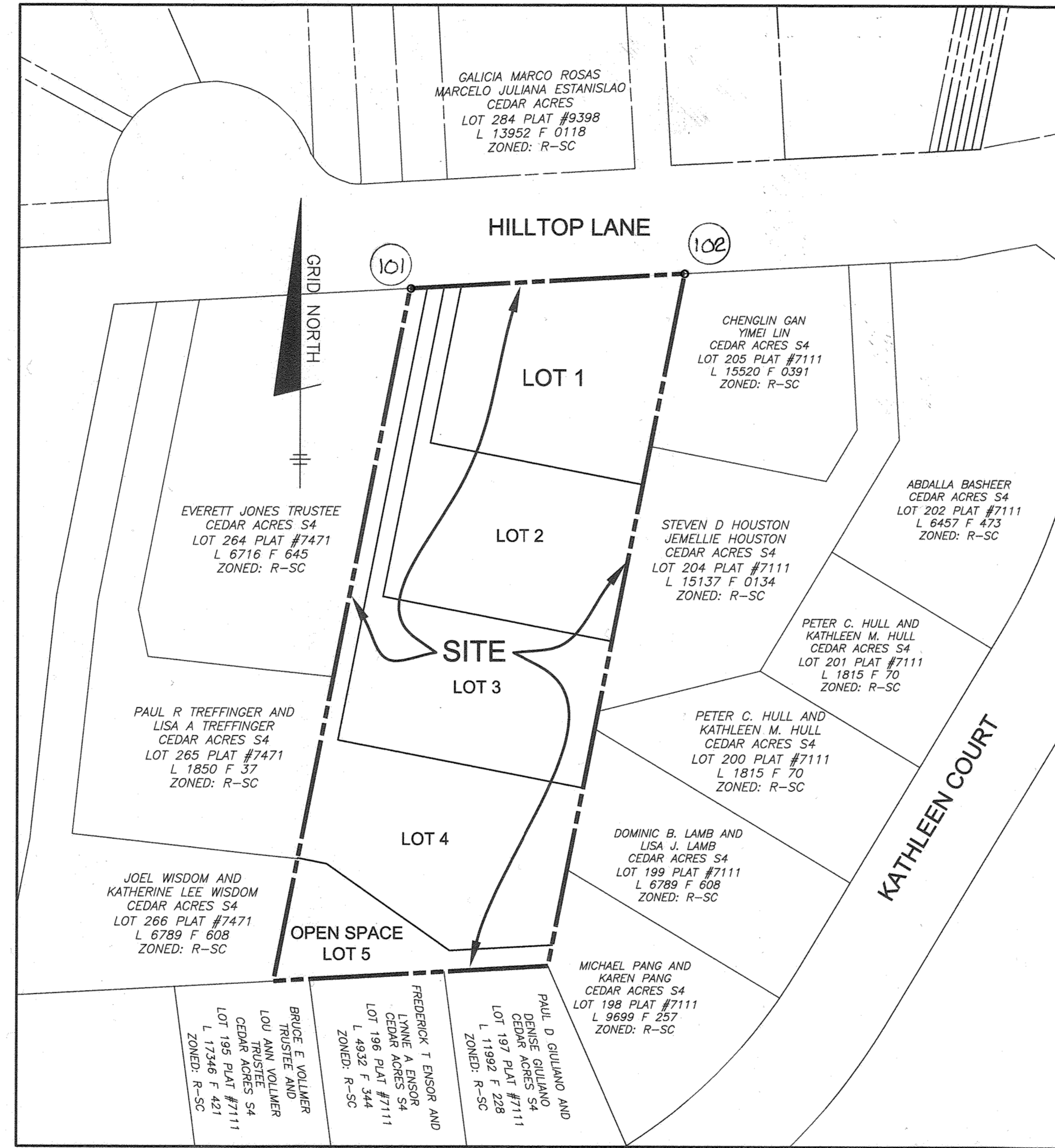
PROPOSED FOREST CLEARING:

L. Total area of forest to be cleared	0.0
M. Total area of forest to be retained	0.0

PLANTING REQUIREMENTS:

N. Reforestation for clearing above conservation threshold	0.0
P. Reforestation for clearing below conservation threshold	0.0
Q. Credit for retention above conservation threshold	0.0
R. Total reforestation required	0.0
S. Total afforestation required	0.2
T. Total reforestation and afforestation required	0.2

SPECIMEN TREE CHART				
KEY	SPECIES	SIZE (IN DBH)	SPZ (FT RADIUS)	COMMENTS
ST-1	PINE	36"	54"+/-	POOR CONDITION - TO BE REMOVED SEE GENERAL NOTE 34



STORMWATER MANAGEMENT SUMMARY TABLE									
Total Site Pe:		1.7							
Total Site ESDv:		2264 cf							
Lot	Street Address	Practice	ESDv REQ:	ESDv Prov:	Rev		Ownership	ESDv REQ:	ESDv Prov:
					Required (cf)	Provided (cf)			
Lot 1	10949 Hilltop Lane	(M-5) Drywell #1	128	132	307	340	Private	128	132
		(M-5) Drywell #2	128	132					
Lot 2	10953 Hilltop Lane	(M-5) Drywell #3	128	132	307	340	Private	128	132
		(M-5) Drywell #4	128	132					
Lot 3	10957 Hilltop Lane	(M-5) Drywell #5	128	132	307	340	Private	128	132
		(M-5) Drywell #6	128	132					
Lot 4	10961 Hilltop Lane	(M-5) Drywell #7	128	132	307	340	Private	128	132
		(M-5) Drywell #8	128	132					
OS Lot 5	N/A	(M-6) Micro Bio-Retention #1	906	1,211			Private	906	1,211
ROW	N/A	(N-2) Disconn Non-Rooftop #1	30	30			Private	30	30
Totals per individual Drainage Area			1,961		2,296				
Totals per Overall Site			2,264						

- Notes:
- Total Site Pe and Total Site ESDv numbers are based on the project boundary
 - Total ESDv provided exceeds total ESDv required.
 - All on-site impervious areas are being treated via ESD practices

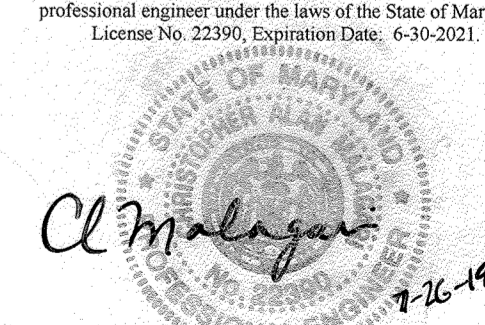
AS-BUILT CERTIFICATION
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

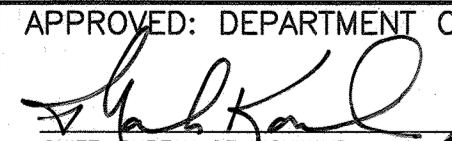
Donald Mason, P.E.

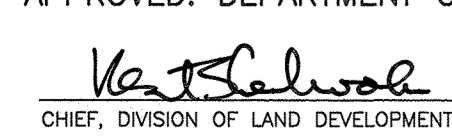
Date: 4/11/22


SHEET INDEX	
NO.	TITLE
1	COVER SHEET
2	SITE GRADING, UTILITY, AND ROAD IMPROVEMENT PLAN
3	STORMWATER MANAGEMENT DETAILS: MICRO BIO-RETENTION
4	STORMWATER MANAGEMENT DETAILS: DRY WELLS AND SOIL BORING LOGS
5	ESD TO THE MEP STORMWATER MANAGEMENT MAP
6	STORM DRAIN DRAINAGE MAP, PROFILES, DETAILS, AND SOILS MAP
7	LANDSCAPE PLAN
8	SEDIMENT AND EROSION CONTROL PLAN
9	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

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. 21443, Expiration Date: 12-21-22

NO.	DATE	REVISION
<p>BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE, SUITE 315A, ELLOTT CITY, MARYLAND 21043 (7) 410-465-8100 (F) 410-465-8644 WWW.BE-CALCENGINEERING.COM</p>		
<p>Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22390, Expiration Date: 6-30-2021</p> 		
<p>OWNER: DEVELOPMENT PARTNERS LLC 9693 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565</p>		<p>HILLTOP LANDING II LOTS 1 thru 4 and OPEN SPACE LOT 5 A RESUBDIVISION OF LOT 16 BLOCK B OF CEDAR ACRES PREVIOUSLY RECORDED AS PB 24 FOLIO 19</p>
<p>DEVELOPER: DEVELOPMENT PARTNERS LLC 9693 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565</p>		<p>TAX MAP: 35 - GRID: 17 - PARCEL: 284 ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND</p>
<p>COVER SHEET</p>		
DESIGN: DBT	DRAFT: DBT	DATE: JULY 25, 2019
SCALE: AS SHOWN	BEI PROJECT NO. 2921	SHEET 1 OF 9

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS
DATE: 8/13/19

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 9/30/19


CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 8/30/19

CONSTRUCTION SPECIFICATIONS

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

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

B.4.7 Supp. 1

OPERATION AND MAINTENANCE SCHEDULE 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.4.1 and 2.
- The Owner shall perform a plant inspection 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 stakes and wires.
- 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 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.

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. 21443 Expiration Date: 12-21-22

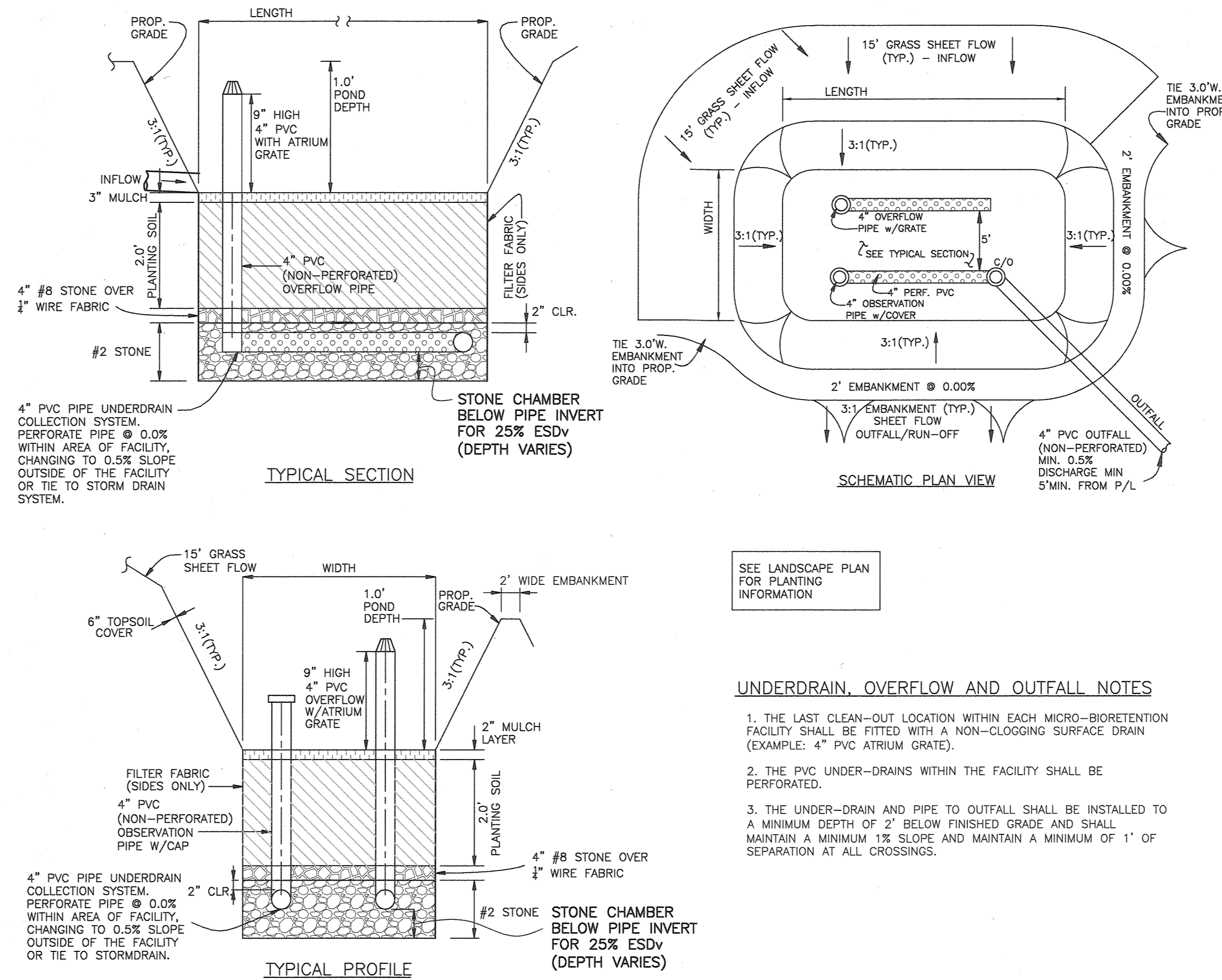
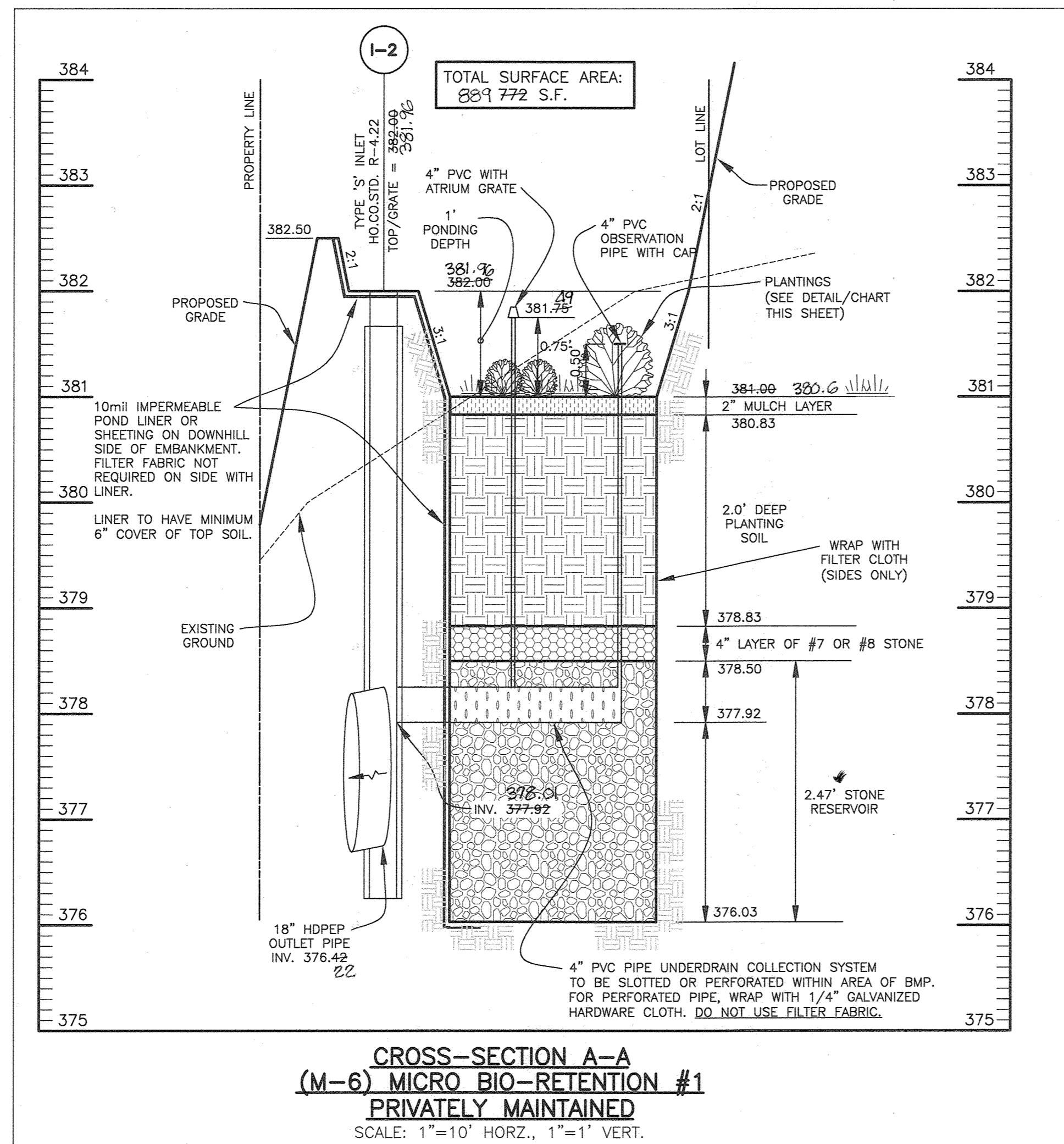


AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications
 Donald Mason, P.E. Date: 4/11/22

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 8/13/19
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 9/3/19
 CHIEF, DIVISION OF LAND DEVELOPMENT

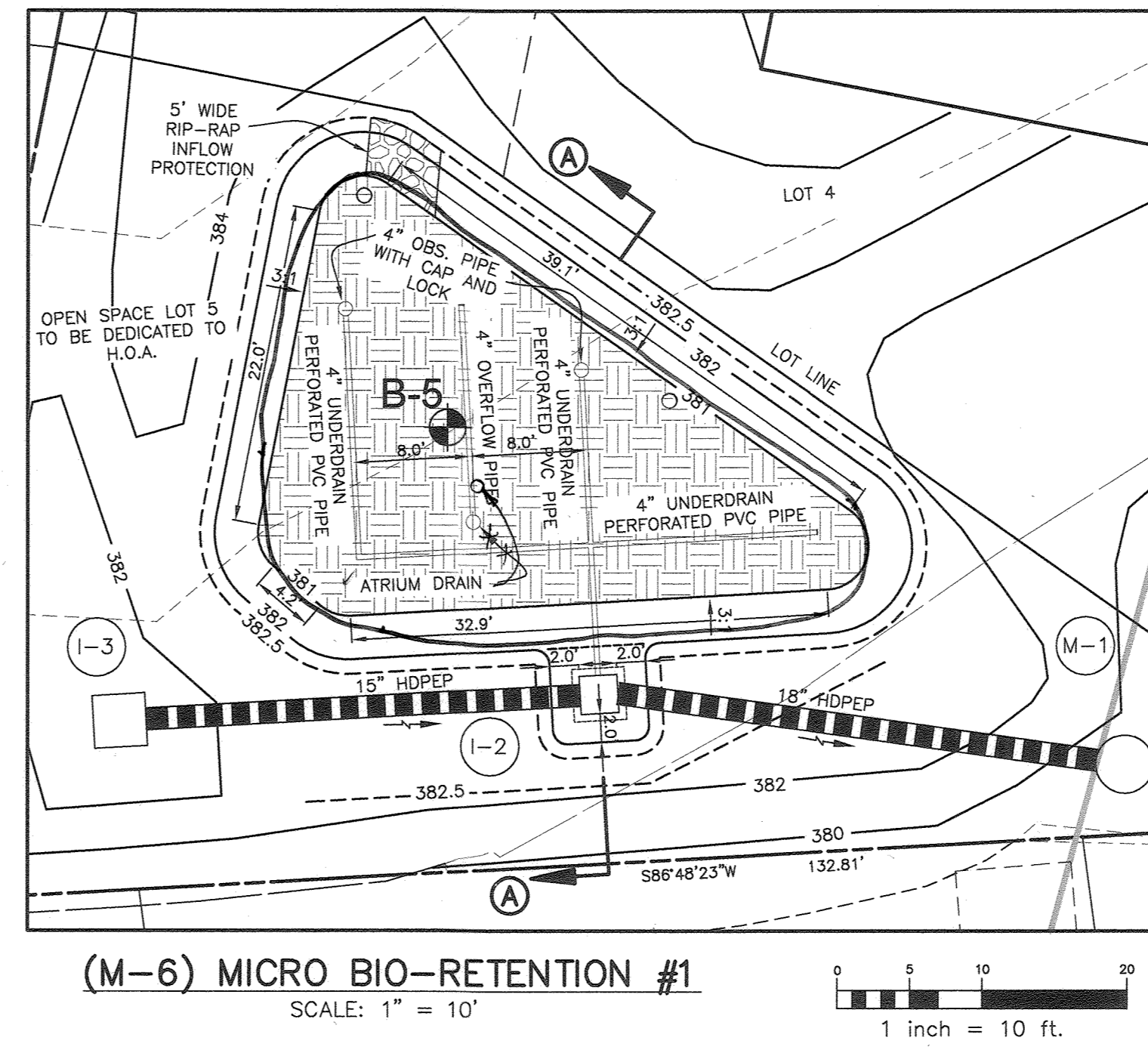
[Signature] 8-30-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



UNDERDRAIN, OVERFLOW AND OUTFALL NOTES

- THE LAST CLEAN-OUT LOCATION WITHIN EACH MICRO-BIORETENTION FACILITY SHALL BE FITTED WITH A NON-CLOGGING SURFACE DRAIN (EXAMPLE: 4" PVC ATRIUM GRATE).
- THE PVC UNDER-DRAINS WITHIN THE FACILITY SHALL BE PERFORATED.
- THE UNDER-DRAIN AND PIPE TO OUTFALL SHALL BE INSTALLED TO A MINIMUM DEPTH OF 2' BELOW FINISHED GRADE AND SHALL MAINTAIN A MINIMUM 1% SLOPE AND MAINTAIN A MINIMUM OF 1' OF SEPARATION AT ALL CROSSINGS.

NOTE: SEE SHEET 7 FOR MICRO BIO-RETENTION PLANTING.



B.4.C Specifications for Micro-Bioretenion, Rain Gardens, Landscape Infiltration & Infiltration Berms

- Material Specifications:**
 The allowable materials to be used in these practices are detailed in Table B.4.1.
- Filtering Media or Planting Soil:**
 The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretenion practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05. The planting soil shall be tested and shall meet the following criteria:
 Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)
 Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy and (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).
 Clay Content - Media shall have a clay content of less than 5%.
 pH Range - Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.
 There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textual analysis is required from the soil stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.
- Compaction:**
 It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoses to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.
 Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.
 Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.
 When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.
 When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

- Plant Material:**
 Recommended plant material for micro-bioretenion practices can be found in Appendix A, Section A.2.3.
- Plant Installation:**
 Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2' to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.
 Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.
 Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.
 Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

- Underdrains:**
 Underdrains should meet the following criteria:
 - Pipe - Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM F 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
 - Perforations - If perforated pipe is used, perforations should be 3/4" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" (No. 4 or 4x4) galvanized hardware cloth.
 - Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
 - The main collector pipe shall be at a minimum 0.5% slope.
 - A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.
 - A 4" layer of pea gravel (1/4" to 3/4" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".
 The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).
- Miscellaneous:**
 These practices may not be constructed until all contributing drainage area has been stabilized.

NO. DATE REVISION		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. 22390 Expiration Date: 6-30-2021	
 8480 BALTIMORE NATIONAL PIKE SUITE 3154 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CVLENGINEERING.COM			
OWNER: DEVELOPMENT PARTNERS LLC 9693 GERMIC LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565		HILLTOP LANDING II LOTS 1 thru 4 and OPEN SPACE LOT 5 A RESUBDIVISION OF LOT 16 BLOCK B OF CEDAR ACRES PREVIOUSLY RECORDED AS PB 24 FOLIO 19	
DEVELOPER: DEVELOPMENT PARTNERS LLC 9693 GERMIC LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565		TAX MAP: 35 - GRID: 17 - PARCEL: 284 ZONED: R-SC ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND	
DESIGN: DBT		DATE: JULY 25, 2019	
DRAFT: DBT		BEI PROJECT NO. 2921	
SCALE: AS SHOWN		SHEET 3 OF 9	

BORING LOG **GEOLAB INC.** Date: 12/18/2018

Client: Development Partners, LLC Project No: 118-187
 Project: Hilltop Landing II: 10949 Hilltop Lane, Columbia
 Boring No: B-1 (1 of 1) Total Depth: 12.25 Elev: 390.2 Location: See Boring Location Plan
 Type of Boring: Hand Auger Started: 12/12/2018 Completed: 12/12/2018 Driller: D. Rockwood

Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	Sample Bore	Sample Depth (Feet)	Moisture Content	REMARKS
390.2	0.0	Grass with topsoil and root matter				Groundwater was encountered at a depth of 11.9 feet. The following day the water level was at 11.42 feet. Proposed bottom of drywell: 383.0
388.7	1.5	Brown silty fine to medium SAND with some gravel, wet. (USCS: SM, USDA: Loam)				
386.7	3.5	Light tan to gray-brown fine to medium micaceous SAND with some silt and clay, wet to saturated. (USCS: SM, USDA: Sandy Loam)				
385.7	4.5			4.5	26.8	
				5		
383.7	6.5			6.5	27.1	
				9		
378.45	11.75			11.75	35.0	
377.45	12.75	End of Boring		12.25		

BORING LOG **GEOLAB INC.** Date: 12/18/2018

Client: Development Partners, LLC Project No: 118-187
 Project: Hilltop Landing II: 10949 Hilltop Lane, Columbia
 Boring No: B-2 (1 of 1) Total Depth: 10 Elev: 386.0 Location: See Boring Location Plan
 Type of Boring: Hand Auger Started: 11/30/2018 Completed: 11/30/2018 Driller: D. Rockwood

Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	Sample Bore	Sample Depth (Feet)	Moisture Content	REMARKS
388.0	0.0	Grass with topsoil and root matter				Groundwater was not encountered during drilling or at completion. Proposed bottom of drywell: 381.0
386.47	1.53	Orange-brown silty fine micaceous SAND, moist. (USCS: SM, USDA: Loam)				
383.0	5.0			3.0	20.9	
				3.5		
381.0	7.0			7.0	17.1	
				7.5		
378.0	10.0	Orange-brown to gray fine to medium SAND with little silt and little clay, moist. (USCS: SM, USDA: Sandy Loam)				
376.5	11.5			9.5	24.8	
374.0	14.0	End of Boring		10		

BORING LOG **GEOLAB INC.** Date: 12/18/2018

Client: Development Partners, LLC Project No: 118-187
 Project: Hilltop Landing II: 10949 Hilltop Lane, Columbia
 Boring No: B-3 (1 of 1) Total Depth: 10.5 Elev: 384.4 Location: See Boring Location Plan
 Type of Boring: Hand Auger Started: 12/12/2018 Completed: 12/12/2018 Driller: D. Rockwood

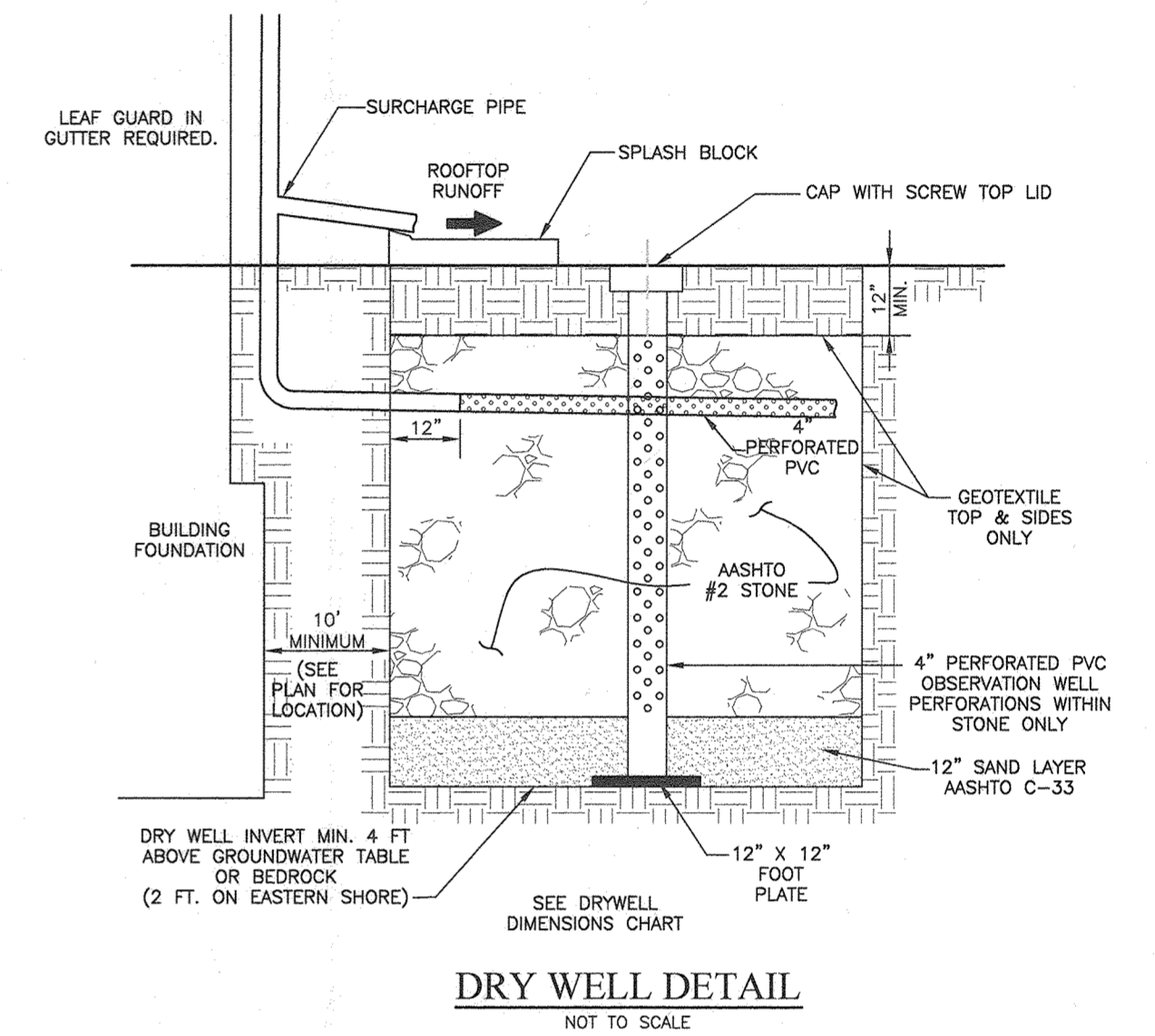
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	Sample Bore	Sample Depth (Feet)	Moisture Content	REMARKS
384.4	0.0	Grass with topsoil and root matter				Groundwater was not encountered during drilling or at completion. Proposed bottom of drywell: 379.0
383.9	0.5	Brown silty fine to medium SAND with some gravel, moist. (USCS: SM, USDA: Loam)				
381.7	2.7	Brown to tan micaceous fine to medium SAND with some silt, moist. (USCS: SM, USDA: Sandy Loam)				
				2.5	15.0	
				3		
378.4	6.0	Off-white to light gray fine to medium SAND with little silt and clay, moist. (USCS: SM, USDA: Loamy Sand)				
377.9	6.5			6.5	11.4	
				7		
374.9	9.5			9.5	12.3	
373.9	10.5	End of Boring		10		

MATERIALS & SPECIFICATIONS FOR DRY WELLS

MATERIAL	SPECIFICATION	SIZE	NOTES:
GEOTEXTILE (CLASS "C")	AASHTO M 43	N/A	PE TYPE 1 NONWOVEN
GRAVEL	F758, TYPE PS28 OR AASHTO M-278	1 1/2" TO 2 1/2"	3/8" PERF. @ 6" O/C, 4 HOLES PER ROW; MINIMUM OF 2" OF GRAVEL OVER PIPES.
UNDERDRAIN PIPING	F758, TYPE PS28 OR AASHTO M-278	4" TO 6" RIGID SCH.40 PVC, SDR35 OR HDPE	
SAND	AASHTO M-6 OR ASTM-C-33	.02" TO .04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRAYSTONE (AASHTO) #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATE OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NT ROCK DUST CAN BE USED FOR SAND.

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

- The monitoring wells and structures shall be inspected on a quarterly basis and after every large storm event.
- Water levels and sediment build up in the monitoring wells shall be recorded over a period of several days to insure trench drainage.
- A log book shall be maintained to determine the rate at which the facility drains.
- When the facility becomes clogged so that it does not drain down within the 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.



BORING LOG **GEOLAB INC.** Date: 12/18/2018

Client: Development Partners, LLC Project No: 118-187
 Project: Hilltop Landing II: 10949 Hilltop Lane, Columbia
 Boring No: B-4 (1 of 1) Total Depth: 10 Elev: 380.4 Location: See Boring Location Plan
 Type of Boring: Hand Auger Started: 12/11/2018 Completed: 12/11/2018 Driller: D. Rockwood

Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	Sample Bore	Sample Depth (Feet)	Moisture Content	REMARKS
380.4	0.0	Grass with topsoil and root matter				Groundwater was encountered at a depth of 9.0 feet. The following day the water level was at 7.75 feet. Proposed bottom of drywell: 374.0 Infiltration pipe set at 375.37
378.4	2.0	Orange-brown to brown fine to medium SAND with little silt, little clay and little fine gravel, moist. (USCS: SM, USDA: Sandy Loam)				
376.9	3.5	Orange-brown to brown fine to medium SAND with little silt and little clay, moist to saturated. (USCS: SM, USDA: Sandy Loam)				
376.15	4.25			4.25	11.1	
				4.75		
374.45	6.75			6.75	17.9	
				7.25		
371.4	9.0	Brown gravelly micaceous fine to coarse SAND with some silt, saturated. (USCS: SM, USDA: Sandy Loam)				
370.5	9.5			9.5	29.0	
370.4	10.0	End of Boring - Boring terminated due to groundwater		10		

BORING LOG **GEOLAB INC.** Date: 12/18/2018

Client: Development Partners, LLC Project No: 118-187
 Project: Hilltop Landing II: 10949 Hilltop Lane, Columbia
 Boring No: B-5 (1 of 1) Total Depth: 9.75 Elev: 382.0 Location: See Boring Location Plan
 Type of Boring: Hand Auger Started: 12/11/2018 Completed: 12/11/2018 Driller: D. Rockwood

Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	Sample Bore	Sample Depth (Feet)	Moisture Content	REMARKS
382.0	0.0	Grass with topsoil and root matter				Groundwater was not encountered during drilling or at completion. Proposed bottom of micro-boretention facility: 377.0
381.5	0.5	Brown fine to medium SAND with some silt and little fine gravel, moist. (USCS: SM, USDA: Sandy Loam)				
379.75	2.25			2.25	14.0	
				2.75		
379.0	3.0	Gray-brown fine to medium SAND with some silt and clay, moist. (USCS: SM, USDA: Sandy Loam)				
376.4	5.6			7.25	17.2	
				7.75		
374.75	7.25			7.25	13.1	
				7.75		
373.0	9.0	Brown gravelly micaceous fine to coarse SAND with trace silt and trace clay, moist. (USCS: SM, USDA: Loamy Sand)				
372.75	9.25			9.25	13.1	
372.25	9.75	End of Boring - Auger Refusal		9.75		

Dry Well Dimension Chart

Dry Well	Lot	Width (ft)	Length (ft)	Depth of Stone (ft)	Ground Elevation	Top of Storage Elevation	Bottom of Stone Elevation	Bottom of Sand Elevation
#1	Lot 1	6.0	11.0	5.0	389.00	388.00	384.00	383.00
#2	Lot 1	6.0	11.0	5.0	389.00	388.00	384.00	383.00
#3	Lot 2	6.0	11.0	5.0	387.00	386.00	382.00	381.00
#4	Lot 2	6.0	11.0	5.0	387.00	386.00	382.00	381.00
#5	Lot 3	6.0	11.0	5.0	383.50	382.50	378.50	377.50
#6	Lot 3	6.0	11.0	5.0	383.50	382.50	378.50	377.50
#7	Lot 4	6.0	11.0	5.0	381.00	380.00	376.00	375.00
#8	Lot 4	6.0	11.0	5.0	380.00	379.00	375.00	374.00

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 8/13/19 DATE
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 9/3/19 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 8/30/19 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET"

AS-BUILT 4/18/22

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. 21443 Expiration Date: 12-21-22

NO. DATE REVISION

BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 3154 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 22386 Expiration Date: 6-30-2021.

OWNER: DEVELOPMENT PARTNERS LLC 9693 GERWIC LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565

DEVELOPER: DEVELOPMENT PARTNERS LLC 9693 GERWIC LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565

DESIGN: DBT DRAFT: DBT

HILLTOP LANDING II
 LOTS 1 thru 4 and OPEN SPACE LOT 5
 A RESUBDIVISION OF LOT 16 BLOCK B OF CEDAR ACRES PREVIOUSLY RECORDED AS PB 24 FOLIO 19

TAX MAP: 35 - GRID: 17 - PARCEL: 284
 ZONED: R-SC
 ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

STORMWATER MANAGEMENT DETAILS: DRY WELLS AND SOIL BORING LOGS

DATE: JULY 25, 2019 BEI PROJECT NO. 2921
 SCALE: AS SHOWN SHEET 4 OF 9



LEGEND

- EXISTING CONTOURS
- SOILS DELINEATION LINE
- GfB** SOILS TYPE
- PROJECT BOUNDARY
- PROPOSED STORM DRAIN
- PROPOSED SEWER
- PROPOSED DRYWELL
- INDICATES WALK-OUT BASEMENT
- DRAINAGE AREA
- PROPOSED ON-SITE IMPERVIOUS AREA
- (N-2) DISCONNECTION OF NON-ROOFTOP RUNOFF

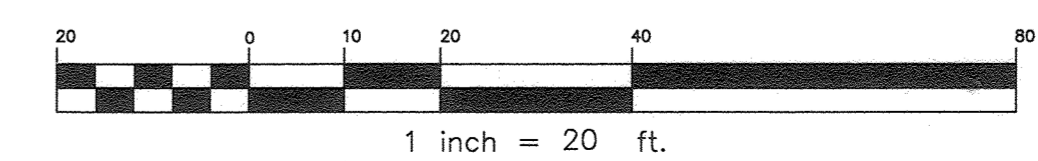
SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND				
SYMBOL	HYDRIC	GROUP	NAME	K-VALUE
GfB	NO	B	GLADSTONE-URBAN LAND COMPLEX 0 TO 8 PERCENT SLOPES	0.32
Gub	NO	C	GLENVILLE-URBAN LAND-UDORTHEMIS COMPLEX 0 TO 8 PERCENT SLO	0.49

NO.		DATE		REVISION	
<p align="center">BENCHMARK ENGINEERING, INC.</p> <p align="center">ENGINEERS & LAND SURVEYORS & PLANNERS</p> <p align="center">8480 BALTIMORE NATIONAL PIKE SUITE 315A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BE-CIVILENGINEERING.COM</p>					
<p>Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 22380, Expiration Date: 6-30-2021.</p>					
OWNER:			<p align="center">HILLTOP LANDING II LOTS 1 thru 4 and OPEN SPACE LOT 5 A RESUBDIVISION OF LOT 16 BLOCK B OF CEDAR ACRES PREVIOUSLY RECORDED AS PB 24 FOLIO 19</p>		
DEVELOPER:			<p align="center">TAX MAP: 35 - GRID: 17 - PARCEL: 284 ZONED: R-SC ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND</p>		
<p align="center">ESD TO THE MEP STORMWATER MANAGEMENT MAP</p>					
DATE: JULY 25, 2019		BEI PROJECT NO. 2921			
DESIGN: DBT		DRAFT: DBT		SCALE: AS SHOWN SHEET 5 OF 9	

"NO AS BUILT INFORMATION IS PROVIDED ON THIS SHEET"

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. 21443, Expiration Date: 12-21-22

NOTE:
SEE SHEET 1 FOR STORMWATER MANAGEMENT SUMMARY TABLE



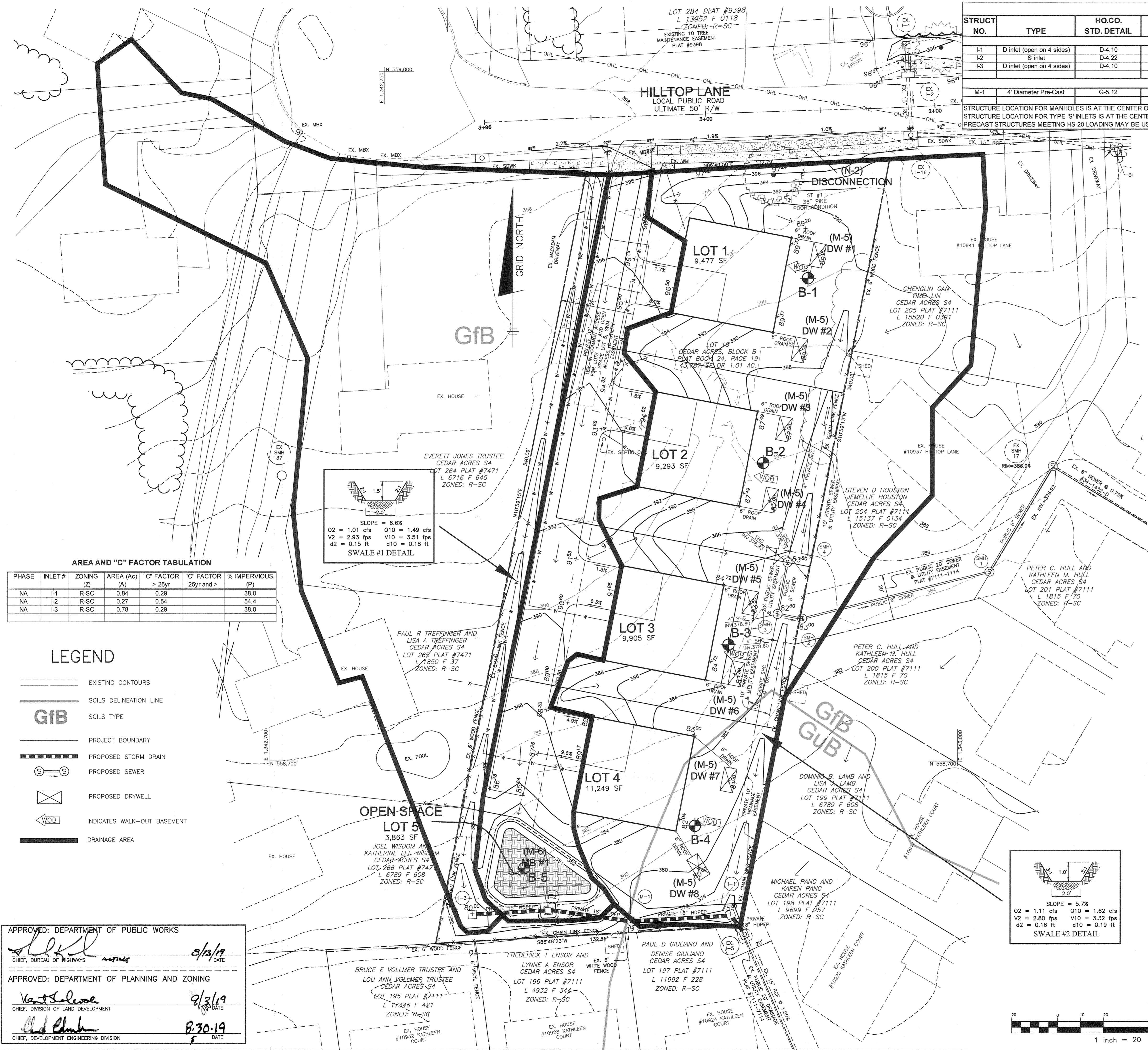
APPROVED: DEPARTMENT OF PUBLIC WORKS

 CHIEF, BUREAU OF HIGHWAYS
 DATE: 8/13/19

APPROVED: DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 9/3/19

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 8/30/19



STORM DRAIN STRUCTURE SCHEDULE

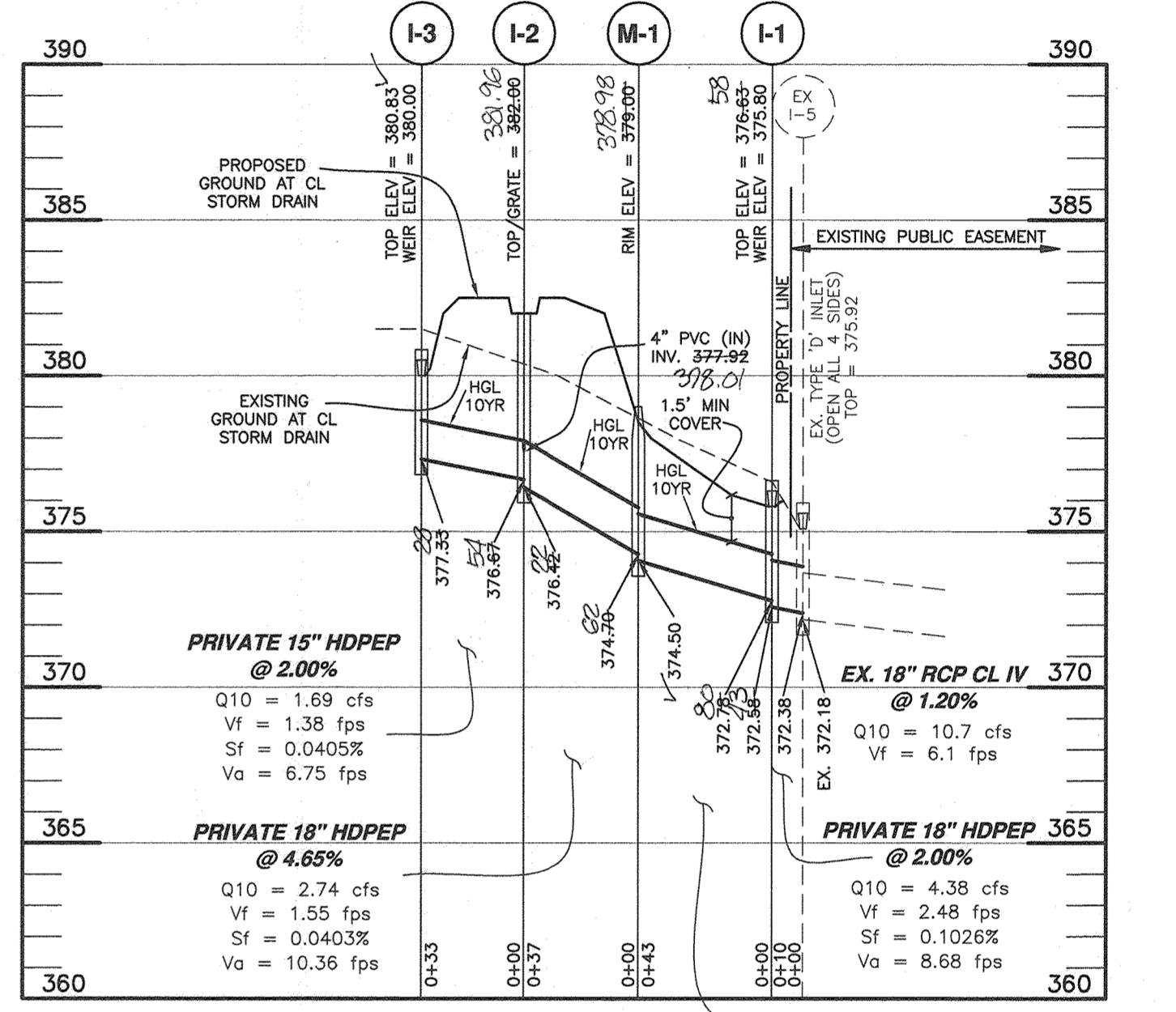
STRUCT NO.	TYPE	HO.CO. STD. DETAIL	LOCATION	INVERT IN	INVERT OUT	TOP ELEVATION	THROAT ELEVATION	MAINT.
INLETS								
I-1	D inlet (open on 4 sides)	D-4.10	N 558633.29 E 1342801.25	372.78 (18")	372.01	372.58 (18")	376.83	PRIVATE
I-2	S inlet	D-4.22	N 558635.14 E 1342821.73	376.67 (15")	377.92 (4")	376.42 (18")	382.99	PRIVATE
I-3	D inlet (open on 4 sides)	D-4.10	N 558633.29 E 1342788.69	374.28 (15")	377.33 (15")	380.83	380.00	PRIVATE
MANHOLES								
M-1	4' Diameter Pre-Cast	G-5.12	N 558630.31 E 1342858.01	374.79 (18")	374.50 (18")	379.99	372.78	PRIVATE

STRUCTURE LOCATION FOR MANHOLES IS AT THE CENTER OF THE MANHOLE
 STRUCTURE LOCATION FOR TYPE 'S' INLETS IS AT THE CENTER OF THE GRATE.
 PRECAST STRUCTURES MEETING HS-20 LOADING MAY BE USED.

STORM DRAIN PIPE SCHEDULE

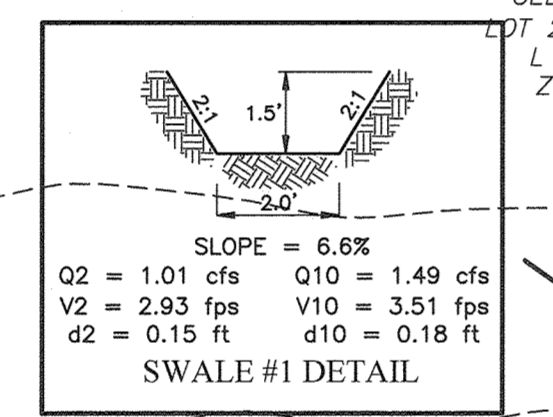
SIZE	TYPE	LENGTH (L.F.)	MAINTENANCE
15"	HDPEP	33	PRIVATE
18"	HDPEP	90	PRIVATE

All HDPE pipes shall have smooth interior. No interior corrugations.



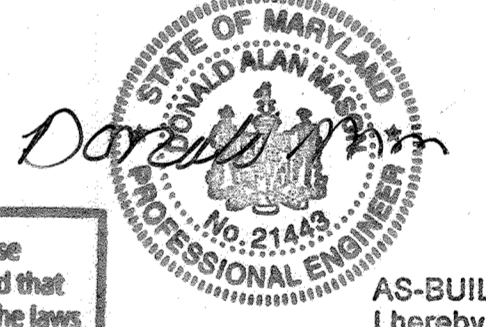
AREA AND "C" FACTOR TABULATION

PHASE	INLET #	ZONING (Z)	AREA (A)	"C" FACTOR > 25yr	"C" FACTOR 25yr and >	% IMPERVIOUS (P)
NA	I-1	R-SC	0.84	0.29		38.0
NA	I-2	R-SC	0.27	0.54		54.4
NA	I-3	R-SC	0.78	0.29		38.0



- ### LEGEND
- EXISTING CONTOURS
 - SOILS DELINEATION LINE
 - GfB SOILS TYPE
 - PROJECT BOUNDARY
 - PROPOSED STORM DRAIN
 - PROPOSED SEWER
 - PROPOSED DRYWELL
 - WOB INDICATES WALK-OUT BASEMENT
 - DRAINAGE AREA

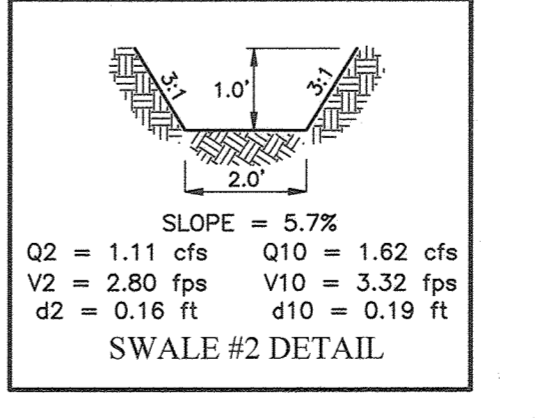
Professional Certification, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21443 Expiration Date: 12-21-22



AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications
 Donald Mason, P.E. Date: 11/22

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND

SYMBOL	HYDRIC	GROUP	NAME	K-VALUE
GfB	NO	B	GLADSTONE-URBAN LAND COMPLEX 0 TO 8 PERCENT SLOPES	0.32
GfB	NO	C	GLENVILLE-URBAN LAND-UDORTMENTS COMPLEX 0 TO 8 PERCENT SLO	0.49



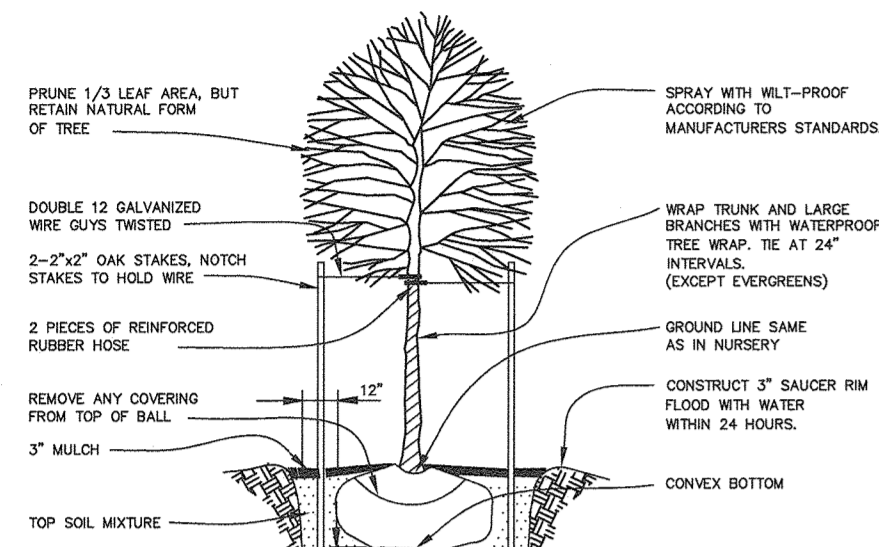
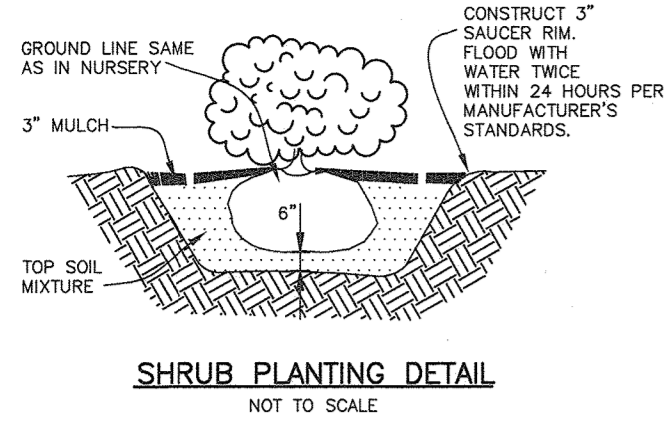
APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 5/13/19 DATE
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 9/3/19 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 8:30.19 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

BENCHMARK ENGINEERS, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 3154 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVLENGINEERING.COM		Professional Certification, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 22380 Expiration Date: 6-30-2021.
OWNER: DEVELOPMENT PARTNERS LLC 9693 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565	DEVELOPER: DEVELOPMENT PARTNERS LLC 9693 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565	HILLTOP LANDING II LOTS 1 thru 4 and OPEN SPACE LOT 5 A RESUBDIVISION OF LOT 16 BLOCK B OF CEDAR ACRES PREVIOUSLY RECORDED AS PB 24 FOLIO 19 TAX MAP: 35 - GRID: 17 - PARCEL: 284 ZONED: R-SC ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND STORM DRAIN DRAINAGE AREA MAP, PROFILES, DETAILS, AND SOILS MAP DATE: JULY 25, 2019 BEI PROJECT NO. 2921 SCALE: AS SHOWN SHEET 6 OF 9

STREET TREE SCHEDULE	
	HILLTOP LANE
LINEAR FEET OF RIGHT-OF-WAY	133'
LINEAR FEET OF CREDIT	0
LINEAR FEET OF REQUIRED PLANTING	133'
REQUIREMENT	LARGE (2.5" cal) 1:40 LF
NUMBER OF TREES REQUIRED	4
NUMBER OF TREES PROVIDED	4



(M-6) Micro Bio-Retention Landscaping Chart				
PLANT NAME	COMMON NAME	Surface Area	SIZE	MB #1 QUANTITY
Cornus Amomum	Silky Dogwood	deciduous shrub	18-24" ht. #3 CAN	8
Echinacea Purpurea	Purple Coneflower	perennial	2 gal. container	257
Juncus Effusus	Common Rush	perennial	1 qt.	257

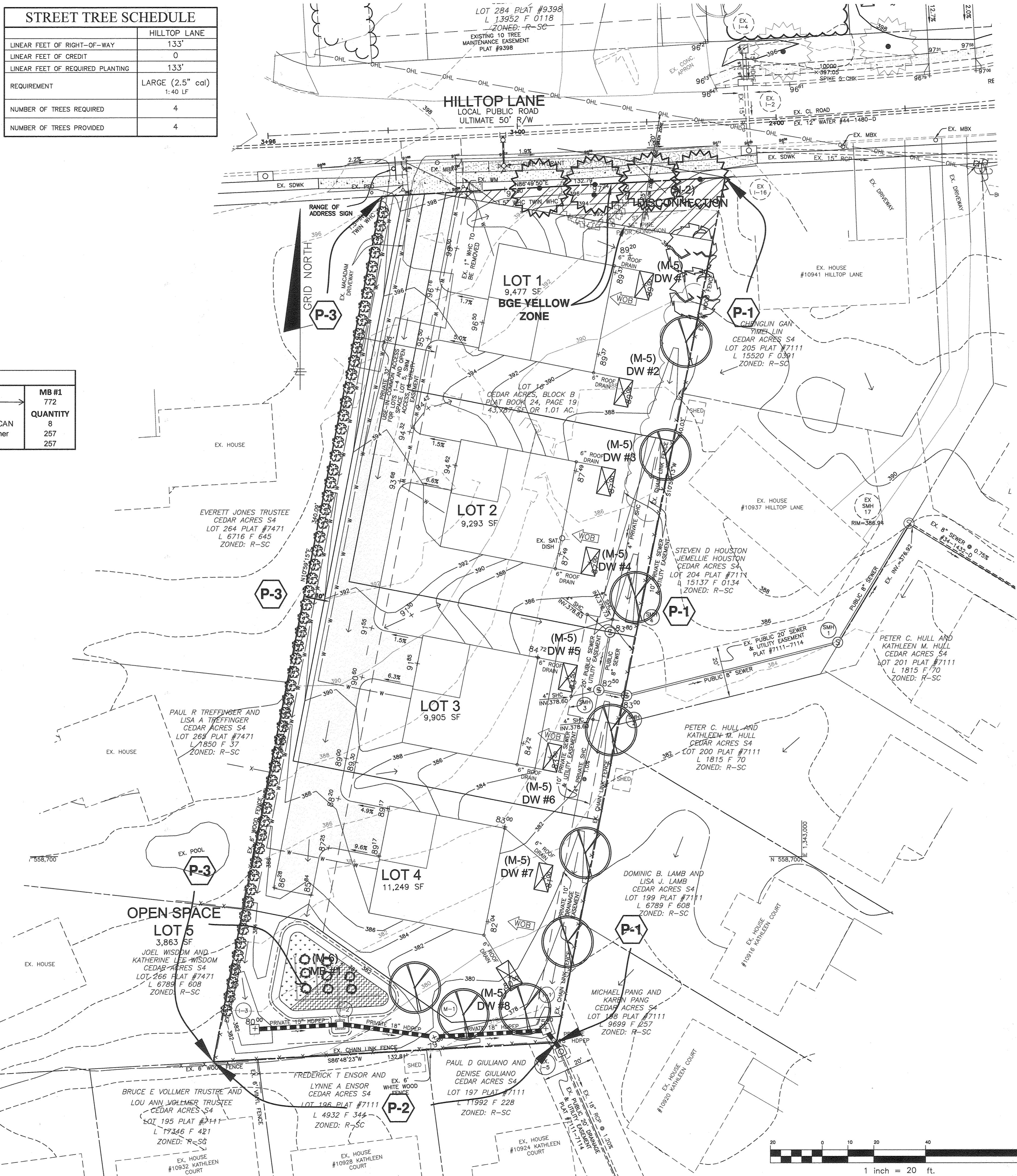
LANDSCAPE NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- STREET TREE LOCATIONS:
 - WHEN THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS 6 FEET OR GREATER, THE TREES SHALL BE LOCATED WITHIN THE RIGHT-OF-WAY AND SHALL BE CENTERED BETWEEN THE CURB AND SIDEWALK.
 - WHEN THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS LESS THAN 6 FEET, TREES MAY BE PLANTED 3 FEET FROM THE SIDEWALK IN THE DIRECTION AWAY FROM THE ROAD. A 10-FOOT WIDE TREE MAINTENANCE EASEMENT SHALL BE REQUIRED IF THE RIGHT-OF-WAY IS LIMITED.
 - TREES SHALL BE PLANTED 6 FEET BEHIND CURB WHEN THERE ARE NO SIDEWALKS.
 - TREES TO BE PLANTED MINIMUM 30 FEET FROM SIGNS AND INTERSECTIONS WHEN PLANTED BETWEEN SIDEWALK AND CURB. TREES MAY NOT BE PLANTED WITHIN 5 FEET OF A STORM DRAIN INLET, OPEN SPACE ACCESS STRIP, OR 10 FEET OF A DRIVEWAY.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HERWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.
- THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- FINANCIAL SURETY IN THE AMOUNT OF \$5,100.00 FOR THE REQUIRED 15 PERIMETER SHADE TREES AND 2 ADDITIONAL SHADE TREES WP-19-050 APPROVAL SHALL BE POSTED AS PART OF THE DEVELOPERS AGREEMENT.

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 SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF 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.
 JUSTIN M. BOY
 DEVELOPMENT PARTNERS, LLC
 7.25.2019
 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 8/13/19
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 8/30/19
 DATE



CATEGORY	SCHEDULE A PERIMETER LANDSCAPE EDGE			TOTALS
	ADJACENT TO PERIMETER PROPERTY ①	ADJACENT TO PERIMETER PROPERTY ②	ADJACENT TO PERIMETER PROPERTY ③	
LANDSCAPE TYPE	A - LIGHT 1:60 shade	A - LIGHT 1:60 shade	A - LIGHT 1:60 shade	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	340 LF	133 LF	340 LF	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	
NUMBER OF PLANTS REQUIRED	340 LF	133 LF	340 LF	
SHADE TREES	6	3	6	15
EVERGREEN TREES	0	0	0	0
OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0
SHRUBS	0	0	0	0
NUMBER OF PLANTS PROVIDED	6	3	0	11
SHADE TREES	0	0	0	0
EVERGREEN TREES	0	0	0	0
OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0
SHRUBS (2:1 SUBSTITUTE)	0	0	60*	60

* SHRUBS HAVE BEEN SUBSTITUTED AT A 10:1 RATIO.
 ~ ADDITIONAL SHADE TREES ABOVE THE PERIMETER REQUIREMENT HAVE BEEN PROVIDED AS A CONDITION OF APPROVAL OF WP-19-050. (SEE PLAN VIEW FOR THESE LOCATIONS)

LANDSCAPE LEGEND				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
(Symbol)	9	TILIA CORDATA 'GREENSPIRE' (Greenspire Littleleaf Linden)	2.5" - 3" cal.	SHADE TREES ALONG PERIMETER EDGES TO BE PROVIDED BY THE BUILDER.
(Symbol)	2	QUERCUS PHELLOS (Willow Oak)	3" min. dbh	SHADE TREES AS REQUIRED BY THE APPROVAL OF WP-19-050
(Symbol)	4	ACER CAMPESTRE (Hedge/Field Maple)	2.5" - 3" cal.	STREET TREES TO BE PLANTED ALONG HILLTOP LANE BY THE DEVELOPER
(Symbol)	60	JUNIPERUS CHINENSIS (Pfizerana Compacta) Compact Pfizer Juniper	2' - 2.5' hgt.	NEEDLE EVERGREEN SHRUBS PLANTED AROUND REFUSE PAD AND USE-IN-COMMON DRIVE TO BE PROVIDED BY THE BUILDER.
(Symbol)	8	CORNUS AMOMUM (Silky Dogwood)	18"-24"	DECIDUOUS SHRUB TO BE PLANTED IN MICRO BIO-RETENTION TO BE PROVIDED BY THE DEVELOPER.
(Symbol)	257	ECHINACEA PURPUREA (Purple Coneflower)	2 gal.	PERENNIAL TO BE PLANTED IN MICRO BIO-RETENTION TO BE PROVIDED BY THE DEVELOPER.
(Symbol)	257	JUNCUS EFFUSUS (Common Rush)	1 qt.	PERENNIAL TO BE PLANTED IN MICRO BIO-RETENTION TO BE PROVIDED BY THE DEVELOPER.

NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET

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. 21443, Expiration Date: 12-21-22
 AS-BUILT 4/12/22

BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 315A ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 WWW.BE-CIVILENGINEERING.COM

OWNER:
 DEVELOPMENT PARTNERS LLC
 9693 GERWIC LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565

DEVELOPER:
 DEVELOPMENT PARTNERS LLC
 9693 GERWIC LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565

HILLTOP LANDING II
 LOTS 1 thru 4 and OPEN SPACE LOT 5
 A RESUBDIVISION OF LOT 16 BLOCK B OF CEDAR ACRES PREVIOUSLY RECORDED AS PB 24 FOLIO 19

TAX MAP: 35 - GRID: 17 - PARCEL: 284
 ZONED: R-SC
 ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

LANDSCAPE PLAN

DATE: JULY 25, 2019
 BEI PROJECT NO. 2921
 SCALE: AS SHOWN
 SHEET 7 OF 9

DESIGN: DBT DRAFT: DBT

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), 410-3133-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must be given at the following stages:
 - a. Prior to the start of earth disturbance.
 - b. Upon completion of the installation of perimeter erosion and sediment controls, but before 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 practices.
2. 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.
3. 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.
4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, for 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 feet must be benchmarked with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).
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. Site Analysis:

Total Area of Site:	1.00 Acres	
Area Disturbed:	1.17 Acres	*CUT/FILL NUMBERS ARE ESTIMATES FOR SEDIMENT CONTROL PURPOSES ONLY. CONTRACTOR TO VERIFY.
Area to be roofed or paved:	0.38 Acres	
Area to be vegetatively stabilized:	0.79 Acres	
Total cut:	30,240 [±] Cu Yds	
Total fill:	30,240 [±] Cu Yds	
Off-site waste/borrow area location:	SITE WITH AN ACTIVE GRADING PERMIT	
7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
8. 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 date
 - Inspection type (routine, pre-storm event, during rain event)
 - Name and title of inspector
 - Weather information (current conditions as well as time and amount of last recorded precipitation)
 - 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 requirements
 - Photographs
 - Monitoring/sampling
 - Maintenance and/or corrective action performed
 - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
9. 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 work day, whichever is shorter.
10. 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. Minor revisions may be allowed by the CID per the list of HSCD-approved field changes.
11. Disturbance 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. 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 CID. Unless otherwise specified and approved by the HSCD, no more than 20 acres cumulatively may be disturbed at a given time.
12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
14. All silt fence and super silt fence shall be placed on-the-contour, and be impregnated at 25' minimum intervals, with lower ends curbed uphill by 2' in elevation.
15. Stream channels must not be disturbed during the following restricted time periods (inclusive):
 - Use I and IP March 1 - June 15
 - Use II and IIP October 1 - April 30
 - Use IV March 1 - May 31
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 is active.

Permanent Seeding Summary

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth (inches)	Fertilizer Rate (lb/20-20)			Lime Rate
					N	P2O5	K2O	
9	Fescue, Tall	60	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	45 pounds per acre	90 lb/acre (21b/1000 ft)	90 lb/acre (21b/1000 ft)	2 tons/acre (90b/1000 ft)
	Bluegrass, Kentucky	40	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	(1.0b/1000 ft)	(1.0b/1000 ft)	(1.0b/1000 ft)	

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate 1/ (lb/acre)	Seeding Depth 2/ (inches)	Recommended Seeding Dates by Plant Hardiness Zone 3/	
			5b and 6a	6b
Cool-Season Grasses				
Kentucky Bluegrass (Lolium perenne ssp.)	40	1.0	Mar 1 to May 15	Aug 1 to Oct 15
Perennial Ryegrass (Lolium perenne ssp.)	56	2.2	Mar 1 to May 15	Aug 1 to Oct 15
Barley (Hordeum vulgare)	72	1.7	Mar 1 to May 15	Aug 1 to Oct 15
Oats (Avena sativa)	130	2.8	Mar 1 to May 15	Aug 1 to Oct 15
Wheat (Triticum aestivum)	112	2.8	Mar 1 to May 15	Aug 1 to Oct 15
Warm-Season Grasses				
Forage Millet (Serraria italica)	30	0.7	May 16 to Jul 31	
Pearl Millet (Pennisetum glaucum)	20	0.5	May 16 to Jul 31	

Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.

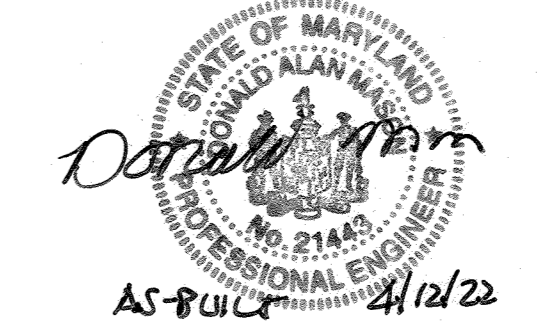
Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller seeded grasses (annual ryegrass, pearl millet, forage millet), do not exceed more than 50% by weight of the overall permanent seeding mix. Control ryegrass generally should not be used as a nurse crop, unless planting will occur very late fall beyond the seeding dates for other temporary seedings. Control ryegrass has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

Use the recommended nurse crop for warm-season grasses.

For sandy soils, plant seeds at twice the depth listed above.

The planting dates listed are averages for the hardiness zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

"NO A.S.-BUILT INFORMATION IS PROVIDED ON THIS SHEET"

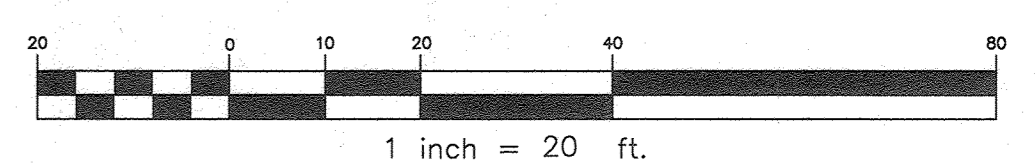


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443 Expiration Date: 12-22-22

LEGEND

- EXISTING CONTOURS
- SOILS DELINEATION LINE
- SOILS TYPE
- PROJECT BOUNDARY
- PROPOSED STORM DRAIN
- PROPOSED SEWER
- PROPOSED WATER
- PROPOSED DRYWELL
- LIMIT OF DISTURBANCE
- SSSF SUPER SILT FENCE
- DF DIVERSION FENCE
- DRAINAGE AREA
- PERMANENT SOIL STABILIZATION MATTING

THIS PLAN IS FOR SEDIMENT AND EROSION CONTROL ONLY



SEQUENCE OF CONSTRUCTION

- NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF WORK
1. Obtain grading permit. (day 1)
 2. Hold on-site pre-construction meeting. (day 2)
 3. Clear and Grub as necessary to install stabilized construction entrance and perimeter controls including diversion fencing and clean water diversion pipe. (day 3)
 4. Upon approval from the Howard County sediment control inspector, construct water house connections up to right-of-way and install fire hydrant (day 5-6).
 5. Install curb and gutter. (day 7-8).
 6. Saw cut, mill, and pave roadway. (day 9-10)
 7. Install sidewalk, driveway apron, trash pad, and mailbox pad. (day 11-12)
 8. Install the storm drain system and swale #1. (day 12-15)
 9. Once storm drain is constructed, the temporary diversion pipe can be removed. Utilize inlet protection. (day 16)
 10. Install the sewer mains and house connections up to the easement line. Once the sewer is constructed up to SMH 3, immediately sod/seed and stabilize the area on adjacent Lots 201 and 204. Remove the sediment control devices on adjacent Lots 201 and 204. (day 17-20)
 11. Install base paving of the use-in-common driveway. (day 21-22)
 12. Install Micro Bio-Retention #1. (day 23-28).
 13. Stabilize site in accordance with the temporary seeded notes. (day 29-30)

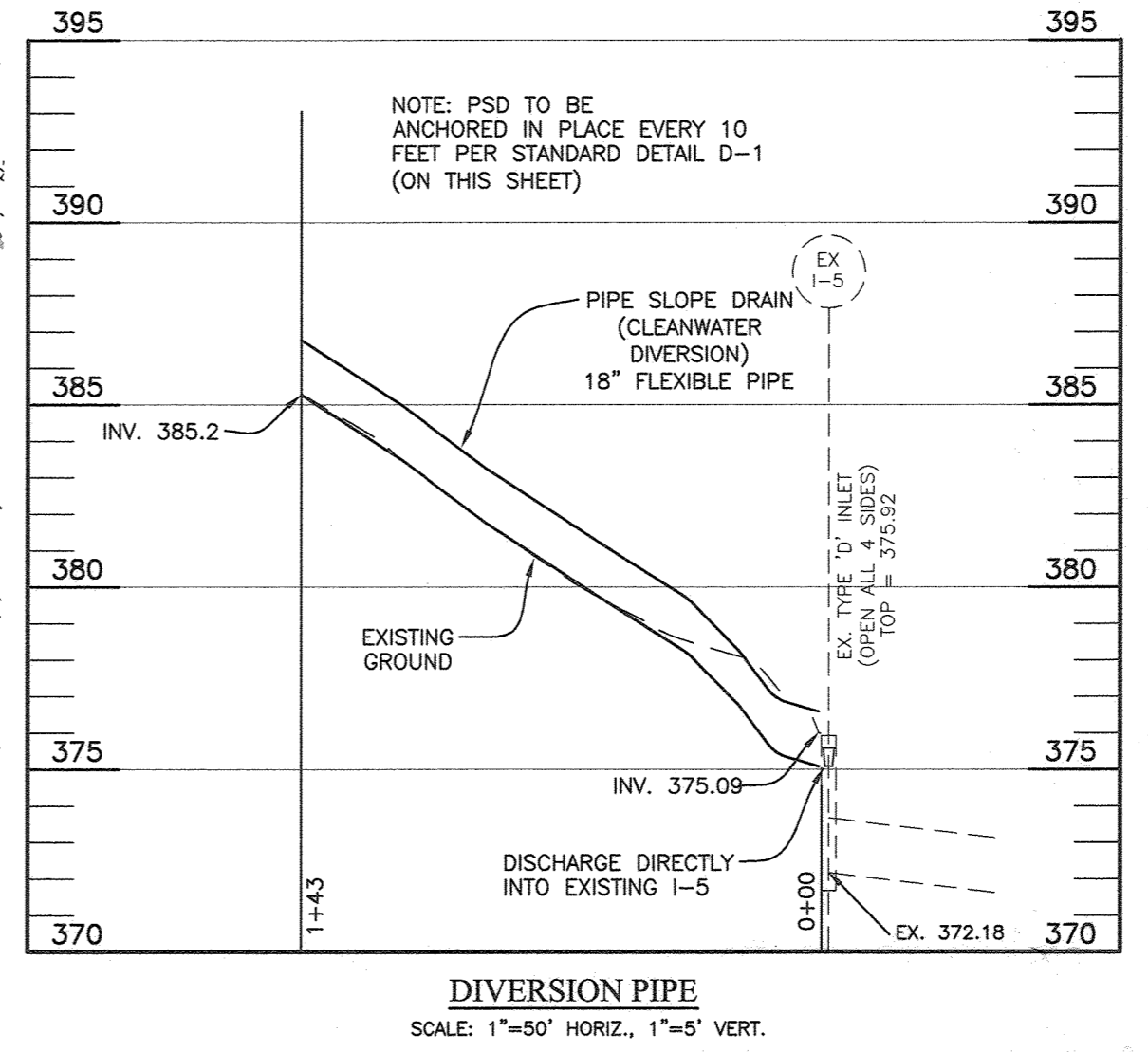
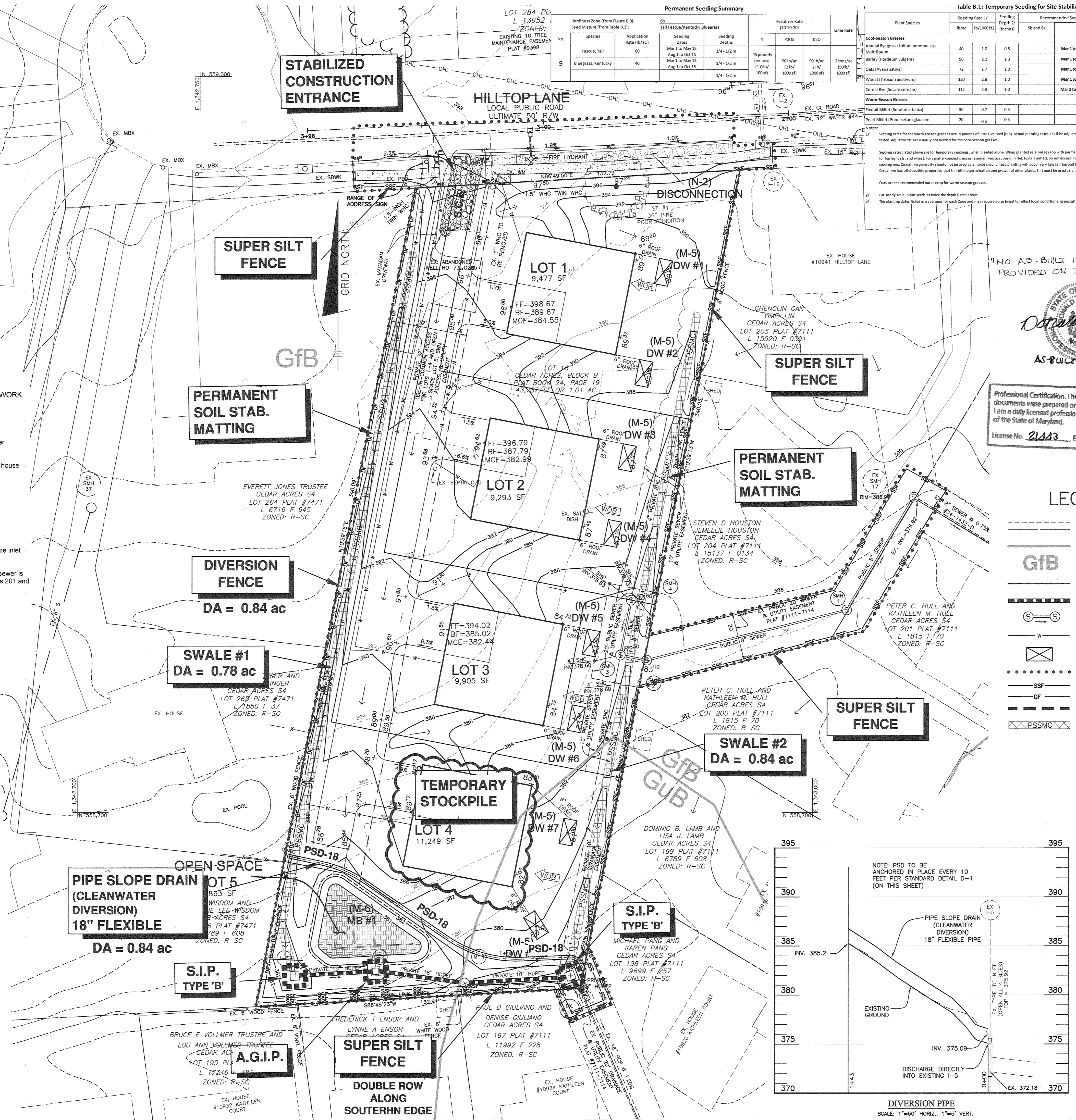
- NOTES:**
1. PSD-18 IS TO BE REPAIRED IMMEDIATELY SHOULD IT BE DAMAGED DURING CONSTRUCTION.
 2. SEE SHEET 6 FOR SWALE CROSS-SECTION.

ENGINEER'S CERTIFICATE
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Clay Adams, 7-26-19, ENGINEER

DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
John M. By, 7.25.2019, DEVELOPER

APPROVED: DEPARTMENT OF PUBLIC WORKS
John R. Robinson, 7/31/19, HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Vernice Lewis, 9/3/19, CHIEF, DIVISION OF LAND DEVELOPMENT
Chad Clark, 8-30-19, CHIEF, DEVELOPMENT ENGINEERING DIVISION



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HILLTOP LANDING II
LOTS 1 thru 4 and OPEN SPACE LOT 5
A RESUBDIVISION OF LOT 16 BLOCK B OF CEDAR ACRES PREVIOUSLY RECORDED AS PB 24 FOLIO 19

TAX MAP: 35 - GRID: 17 - PARCEL: 284
ZONED: R-SC
ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

SEDIMENT AND EROSION CONTROL PLAN

OWNER: DEVELOPMENT PARTNERS LLC, 9693 GERWIG LANE, SUITE L, COLUMBIA, MARYLAND 21046, 410-792-2565

DEVELOPER: DEVELOPMENT PARTNERS LLC, 9693 GERWIG LANE, SUITE L, COLUMBIA, MARYLAND 21046, 410-792-2565

DATE: JULY 25, 2019 | BEI PROJECT NO. 2921
SCALE: AS SHOWN | SHEET 8 OF 9

