

GENERAL NOTES

- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED APRIL, 2013. OFFSITE TOPOGRAPHY FROM HOWARD COUNTY GIS.
- THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED NOVEMBER 9, 2013.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY 46BE AND 46BF WERE USED FOR THIS PROJECT.
- THE SUBJECT PROPERTY IS ZONED "R-APT" AND "B-1" IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- A 100 YEAR FLOODPLAIN CROSSES THROUGH THE CENTER OF THIS PROJECT.
- THE AREAS OF MODERATE AND STEEP SLOPES HAVE BEEN SHOWN ON THIS PLAN, HOWEVER, THERE ARE NO STEEP SLOPES WITH A CONTIGUOUS AREA OF 20,000SF LOCATED ONSITE.
- SIMPLIFIED FOREST STAND DELINEATION PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED APRIL 14, 2015.
- THIS PROJECT IS EXEMPT FROM THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202(b)(1) OF THE HOWARD COUNTY CODE BECAUSE THE NET TRACT AREA FOR THIS PROPERTY IS LESS THAN 40,000 SF IN SIZE.
- THE TOTAL NET AREA FOR THIS PROJECT IS 1.72 ACRES, AND OCCURS SEVERAL DISTINCT PROPERTIES. THE MAJORITY OF THE LOD (0.79 AC.) OCCURS ON THE BUCH PROPERTY, TAX MAP 46 PARCEL 126. ALL FOREST CONSERVATION REQUIREMENTS FOR THIS PROPERTY WILL BE FULFILLED AS PART OF BUCH PROPERTY (SDP-15-044). THE MIDDLE SECTION (LOD OF 0.57 AC.) OF THIS PROJECT OCCUR ON TAX MAP 46, PARCEL 364. THIS PROPERTY IS OWNED BY PEPCO AND IS UTILIZED AS A UTILITY LINE RIGHT OF WAY. NO FOREST IS PRESENT IN THIS AREA. DEVELOPMENT WITHIN THIS RIGHT OF WAY IS NOT SUBJECT TO THE FOREST CONSERVATION ACT REQUIREMENTS AS PART OF THE MAPLE LAWN FARMS SDP-11-013. A SMALL PORTION OF THE LOD (0.01 AC.) OCCUR ON LOT 496 OF PARCEL 505 ON TAX MAP 46. THIS PROPERTY WAS SUBJECT TO THE FOREST CONSERVATION ACT REQUIREMENTS AS PART OF THE MAPLE LAWN DEVELOPMENT AND THEREFORE NO FURTHER OBLIGATIONS SINCE THE FOREST CONSERVATION EASEMENT AREAS WILL BE IMPACTED BY THE PROJECT. THE REMAINING LOD OF 0.35 AC. (LESS THAN 40,000 SF) OCCURS OVER THE EXISTING ACCESS ROAD AND ADJACENT LAWN AREAS AND IS LOCATED WITHIN SHA ROW. NO FOREST IS PRESENT WITHIN THIS PORTION OF THE LOD.
- WETLANDS AND STREAMS SHOWN ON THIS PLAN ARE BASED ON A FIELD INVESTIGATION AND WETLAND DELINEATION REPORT PERPARED BY ECO-SCIENCE PROFESSIONALS, INC. IN AUGUST 21, 2014.
- A GEOTECHNICAL INVESTIGATIONS WERE COMPLETED FOR THE SITE BY ECS MID-ATLANTIC, LLC DATED JULY 2014.
- NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- PRICE MANOR WAY IS CLASSIFIED AS A LOCAL ROAD. THE PROPOSED DRIVEWAY IS CLASSIFIED AS A PRIVATE ACCESS STREET.
- TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES ON THIS PROPERTY. THERE IS A HISTORIC HOUSE LOCATED ON THIS PROPERTY.
- STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY A GRAVEL TRENCH (M-5). THIS FACILITY SHALL BE PRIVATELY OWNED AND MAINTAINED BY BUCH LLLP.
- THE LIMITS OF DISTURBANCE (LOD) SHOWN ON THE PLAN EXTENDS OFFSITE. LETTERS OF PERMISSION FOR ANY REQUIRED OFFSITE GRADING WILL BE PROVIDED AS PART OF THE SITE DEVELOPMENT PLAN PHASE OF THE PROJECT.
- APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN AND/OR RED-LINE REVISION PLAN. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN AND/OR RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
- APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) BY THE HOWARD COUNTY CONSERVATION DISTRICT DOES NOT GRANT APPROVAL OF THE PROPOSED SEDIMENT CONTROL SCHEME. THE FINAL PLAN SHALL INCLUDE A SEQUENCE OF CONSTRUCTION WHICH SHALL DETAIL SEDIMENT & EROSION CONTROLS AND PHASING AND ADDRESS THE PROJECT TEMPORARY STORMWATER MANAGEMENT REQUIREMENTS.
- IN ACCORDANCE WITH SECTION 16.116 (C) OF THE SUBDIVISION REGULATIONS, NECESSARY DISTURBANCES ARE REQUIRED TO UPGRADE THE EXISTING DRIVEWAY TO CURRENT STANDARDS TO PROVIDE ACCESS TO BUCH PROPERTY (SDP-15-071). THIS UPGRADE ALSO INCORPORATES THE REPLACEMENT OF THE EXISTING CULVERT WITH A BOTTOMLESS BOX CULVERT TO ACCOMMODATE THE INCREASED RUNOFF FROM MAPLE LAWN AND TO PROVIDE A SAFER INGRESS AND EGRESS. THE STREAM, WETLAND AND FLOODPLAIN DISTURBANCES HAVE BEEN PERMITTED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT. THESE ENVIRONMENTAL DISTURBANCES ARE THE MINIMUM REQUIRED AND WOULD BE REQUIRED REGARDLESS OF THE CURRENTLY PROPOSED DEVELOPMENT. WALLS HAVE BEEN UTILIZED ALONG THE DRIVE AND THE LOWER AREAS OF THE SITE TO MINIMIZE AND AVOID ENVIRONMENTAL IMPACTS. THERE IS ALSO A SMALL STREAM BUFFER DISTURBANCE PROPOSED TO ACCOMMODATE STORM DRAIN OUTFALL AND RIPRAP APRON.
- DISTURBANCES SHOWN ON THIS PLAN TO THE WETLANDS, FLOODPLAIN OR THEIR BUFFERS HAVE BEEN APPROVED BY MDE. REFERENCE MDE PERMIT 14-NIT-3329/201461731.

ENVIRONMENTAL SITE DESIGN NARRATIVE:

- ALL NATURAL AREAS OF THIS SITE ARE LOCATED IN THE CENTER OF THE PROPOSED DEVELOPMENT AREA INCLUDING A STREAM, STREAM BUFFER, WETLANDS AND BUFFER, AND FLOODPLAIN. THE EXISTING ROAD CROSSES THE STREAM. THIS DEVELOPMENT PROPOSES TO WIDEN AND EXTEND THE EXISTING ROAD. THE ROAD WIDENING ALSO INCLUDES THE CONSTRUCTION OF A BOTTOMLESS BOX CULVERT AND RETAINING WALLS ON EITHER SIDE OF THE NEW ROAD IN ORDER TO ACCOMMODATE THE STREAM. THERE WILL BE TEMPORARY DISTURBANCES TO THESE NATURAL AREAS DURING THE CONSTRUCTION PROCESS. THE STREAM, WETLAND AND FLOODPLAIN WILL BE PROPERLY STABILIZED DURING AND UPON COMPLETION OF THE ROAD EXTENSION. THERE IS FOREST LOCATED ON BOTH THE EASTERN AND THE WESTERN PORTION OF THIS PROJECT, WHICH SHALL BE PLACED INTO A FOREST CONSERVATION EASEMENT. ANY IMPACTS TO THE ENVIRONMENTAL RESOURCES SHALL BE THE LEAST NECESSARY FOR THE DEVELOPMENT OF THIS PROJECT.
- THE SITE NATURALLY SLOPES TOWARDS THE STREAM WHICH IS LOCATED IN THE CENTER OF THIS DEVELOPMENT. THE SITE HAS BEEN DESIGNED TO MAINTAIN THE NATURAL DRAINAGE PATTERNS, WITH NO DRAMATIC CHANGES TO THE NATURAL DRAINAGE.
- THE CONCEPTUAL REDUCTION IN IMPERVIOUS AREA THROUGH BETTER SITE DESIGN IS ACHIEVED THROUGH THE ENVIRONMENTAL SITE DESIGN (ESD) FOR THE PROJECT TO THE MAXIMUM EXTENT PRACTICABLE (MEP). THE RESULTS OF THE ENVIRONMENTAL SITE DESIGN FOR THIS PROJECT WILL REFLECT "WOODS IN GOOD CONDITION". THE ESD CONCEPT INCLUDES THE USE OF A GRAVEL TRENCH (M-5). THE TARGET REQUIRED/PROVIDED P₁₀₀ IS 1.0. THE ESDV REQUIRED IS 1,343 CF, AND THE ESDV PROVIDED IS 1,352 CF.
- SEDIMENT CONTROL FOR THIS SPECIFIC SITE PLAN WILL BE PROVIDED THROUGH THE USE OF THE PROPOSED PIPE STREAM DIVERSION, CLEAN WATER EARTH DIKES, AND SUPER SILT FENCE. SEDIMENT CONTROL SHALL BE IN ACCORDANCE WITH CURRENT REQUIREMENTS AND SHALL BE APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT DURING THE FUTURE SITE DEVELOPMENT PLAN PHASE OF THE PROJECT.
- STORMWATER MANAGEMENT FOR THE PROJECT SHALL BE MET THROUGH THE USE OF A GRAVEL TRENCH (M-5). THE PROPOSED PRACTICE HAS BEEN MAXIMIZED TO THE EXTENT PRACTICAL.
- THE PROPOSED ROAD EXTENSION WILL IMPACT WETLANDS, STREAM, BUFFERS AND FLOODPLAIN. A MDE/CDE PERMIT (TRACKING NUMBER 14-NIT-3329/201461731) HAS BEEN ISSUED FOR THIS WORK. WE DO NOT ANTICIPATE ANY WAIVER PETITIONS BEING REQUIRED FOR THE ESSENTIAL ENVIRONMENTAL DISTURBANCES OF THE ROAD EXTENSION.

ENVIRONMENTAL CONCEPT PLAN

BUCH ROAD EXTENSION

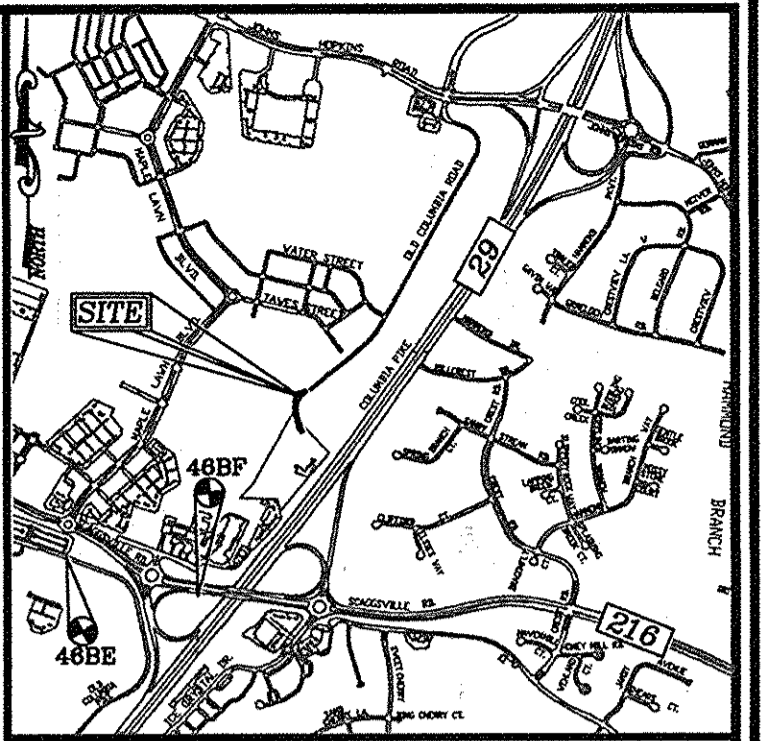
PARCELS 126, PARCEL 364 AND PARCEL 505, LOT 494

HOWARD COUNTY, MARYLAND

BENCHMARKS

HOWARD COUNTY BENCHMARK - 46BE (CONC. MONUMENT)
 N 538853.83 E 1338643.54 ELEV. 443.345
 LOCATION: OLD COLUMBIA PIKE AT SCAGSVILLE PARK AND RIDE

HOWARD COUNTY BENCHMARK - 46BF (CONC. MONUMENT)
 N 538448.18 E 1340010.43 ELEV. 446.602
 LOCATION: MD-216 AT SCAGSVILLE NEAR RT-29 BRIDGE



VICINITY MAP

SCALE: 1"=200'
 ADC MAP COORDINATES: MAP 39, GRID C2

LEGEND:

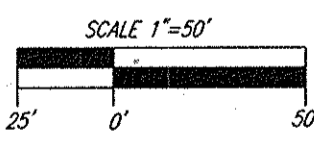
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- CENTERLINE OF EXISTING STREAM
- EXISTING TREETLINE
- PROPOSED TREETLINE
- EXISTING LIMIT OF WETLANDS
- LIMITS OF FLOODPLAIN
- PROPOSED PUBLIC WATER & UTILITY EASEMENT
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING FENCE
- PROPOSED STORMDRAIN
- PROPOSED STORMDRAIN INLET
- PROPOSED TREETLINE
- PROPOSED CURB
- PROPOSED SIDEWALK
- PROPOSED LIMIT OF DISTURBANCE/PROJECT AREA
- SILT FENCE
- SUPER SILT FENCE
- AT GRADE INLET PROTECTION
- CURB INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- EARTH DIKE
- DEWATERING BASIN
- SANDBAGS
- MODERATE SLOPE
- STEEP SLOPES

OWNER/DEVELOPER

BUCH LLLP
 10945 PRICE MANOR WAY
 LAUREL, MD 20723
 301-359-3500



PLAN VIEW
 SCALE: 1"=50'



SITE DATA:

LOCATION: CLARKSVILLE, MD.; TAX MAP 46, BLOCK 4,
 PARCEL 126
 PARCEL 364 (POTOMAC ELECTRIC POWER COMPANY)
 PARCEL 505, LOT 496 (MAPLE LAWN FARMS SDP-11-013).
 5TH ELECTION DISTRICT
 PRESENT ZONING: R-APT & B-1
 PROJECT AREA: 1.72 AC.
 USE OF STRUCTURES: N/A
 DP2 REFERENCES: L3192/F.394, ECP-15-018
 TOTAL BUILDING COVERAGE: 0 SF (0.00 AC. OR 0.00% OF GROSS AREA)
 PAVED PARKING LOT/AREA ON SITE: 16,959 SF (0.39 AC. OR 22.67% OF GROSS AREA)
 AREA OF LANDSCAPE ISLAND: 0 SF (0.00 AC. OR 0% OF GROSS AREA)
 LIMIT OF DISTURBED AREA: 1.72 AC.
 WETLANDS WITHIN LOD: 0.09 AC.
 WETLAND BUFFERS WITHIN LOD: 0.10 AC.
 STREAMS AND THEIR BUFFERS WITHIN LOD: 0.57 AC.
 AREA OF ON-SITE 100 YEAR FLOODPLAIN WITHIN LOD: 0.34 AC.
 AREA OF EXISTING FOREST WITHIN LOD: 0.00 AC.
 AREA OF STEEP SLOPES (25% OR GREATER) WITHIN THE LOD: 0.13 AC. (0.11 WITHIN PARCEL 126)
 AREA OF ERODIBLE SOILS: 0.00 AC.
 AREA MANAGED BY ESDV (THIS PLAN): 0.21 AC.
 IMPERVIOUS AREA (MANAGED BY ESDV): 0.20 AC.
 GREEN AREA (MANAGED BY ESDV): 0.01 AC.

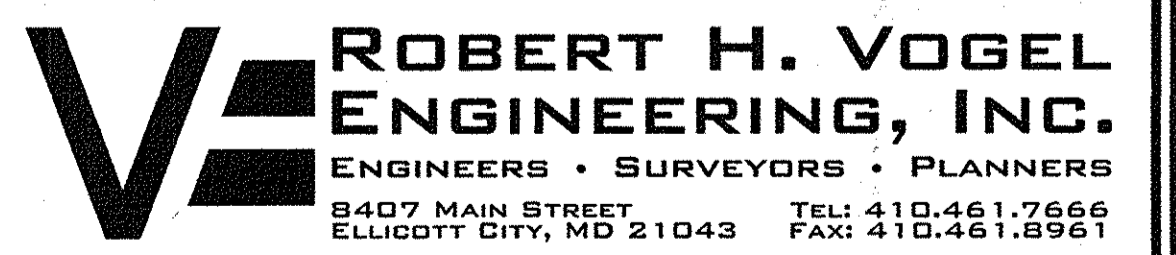
SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET AND ESDV CONCEPT PLAN	1 OF 2
STORMWATER MANAGEMENT DRAINAGE AREA MAP & DETAILS	2 OF 2

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 6-26-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 6/26/15
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



DESIGN BY: RHW/GAH/DZE
 DRAWN BY: GAH/DZE
 CHECKED BY: RHW
 DATE: JUNE 2015
 SCALE: AS SHOWN
 W.O. NO.: 12-50.00

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 EXPIRATION DATE: 09-27-2018

1 SHEET OF 2



LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- CENTERLINE OF EXISTING STREAM
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING LIMIT OF WETLANDS
- LIMITS OF FLOODPLAIN
- PROPOSED PUBLIC WATER & UTILITY EASEMENT
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
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- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING FENCE
- PROPOSED STORMDRAIN
- PROPOSED STORMDRAIN INLET
- PROPOSED TREELINE
- PROPOSED CURB
- PROPOSED SIDEWALK
- MODERATE SLOPE
- STEEP SLOPES
- DRAINAGE DIVIDE

$P_{ex} = 1.00$
 $ESDv = (P_{ex} R_{vxA}) / 12$
 $R_v = 0.05 + 0.009d$
 $V_{min} = 1.0'' \text{ rainfall}$
 $V_{max} = 1 \text{ yr rainfall} = 2.6''$

DA	% IMPERV	Rv	DA	ESDv REQ	MINIMUM VOLUME	MAXIMUM VOLUME	VOLUME PROVIDED*	FACILITY TYPE
1	96	0.91	0.21	681	681	1772	1352	GRAVEL TRENCH (M-5)
TOTAL ESDv BY SUBAREA:				681			1352	

ENVIRONMENTAL SITE DESIGN PRACTICE

DRAINAGE AREA #	AREA TREATED (SF)	FACILITY NUMBER	PERMEABLE PAVEMENT (A-2)	ADD UNDER PERM. (A-2)	LANDSCAPE INFILTRATION (M-3)	PERVIOUS SIDEWALK (A-2)	BIO SWALE (M-8)	GRAVEL TRENCH (M-5)	MICRO BIO RETENTION (M-6)	ESDv VOLUME PROVIDED		
1	8974	SWM#1	0	0	0	0	0	1,352	0	1352		
SUBTOTAL 1			0	0	0	0	0	1352	0	1352		
TOTAL AREA		8974 SF									TOTAL ESDv PROVIDED:	1352
		0.21 AC										

- APPENDIX B.2. CONSTRUCTION SPECIFICATIONS FOR INFILTRATION PRACTICES**
- B.2.A. INFILTRATION TRENCH GENERAL NOTES AND SPECIFICATIONS**
- AN INFILTRATION TRENCH MAY NOT RECEIVE RUN-OFF UNTIL THE ENTIRE CONTRIBUTING DRAINAGE AREA TO THE INFILTRATION TRENCH.
- HEAVY EQUIPMENT AND TRAFFIC SHALL BE RESTRICTED FROM TRAVELING OVER THE PROPOSED LOCATION OF THE INFILTRATION TRENCH TO MINIMIZE COMPACTION OF THE SOIL.
 - EXCAVATE THE INFILTRATION TRENCH TO THE DESIGN DIMENSIONS. EXCAVATED MATERIALS SHALL BE PLACED AWAY FROM THE TRENCH SIDES TO ENHANCE TRENCH WALL STABILITY. LARGE TREE ROOTS MUST BE TRIMMED FLUSH WITH THE TRENCH SIDES IN ORDER TO PREVENT FABRIC PUNCTURING OR TEARING OF THE FILTER FABRIC DURING SUBSEQUENT INSTALLATION PROCEDURES. THE SIDE WALLS OF THE TRENCH SHALL BE ROUGHENED WHERE SHEARED AND SEALED BY HEAVY EQUIPMENT.
 - A CLASS "C" GEOTEXTILE OR BETTER (SEE SECTION 24.0 MATERIAL SPECIFICATIONS, 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, MDC 1994) SHALL INTERFACE BETWEEN THE TRENCH SIDE WALLS AND BETWEEN THE STONE RESERVOIR AND GRAVEL FILTER LAYERS. A PARTIAL LIST OF NON-WOVEN FILTER FABRICS THAT MEET THE CLASS "C" CRITERIA FOLLOWS. ANY ALTERNATIVE FILTER FABRIC MUST BE APPROVED BY THE PLAN APPROVAL AUTHORITY.

AMCCO 4552	CARTHAGE FX-50S
GEOLON N70	MIRAFI 180-N
WESTEC N07	
 - THE WIDTH OF THE GEOTEXTILE MUST INCLUDE SUFFICIENT MATERIAL TO CONFORM TO TRENCH PERIMETER IRREGULARITIES AND FOR A 6-INCH MINIMUM TOP OVERLAP. THE FILTER FABRIC SHALL BE TUCKED UNDER THE SAND LAYER ON THE BOTTOM OF THE INFILTRATION TRENCH FOR A DISTANCE OF 6 TO 12 INCHES. STONES OR OTHER ANCHORING OBJECTS SHOULD BE PLACED ON THE FABRIC AT THE EDGE OF THE TRENCH TO KEEP THE TRENCH OPEN DURING WINDY PERIODS. WHEN OVERLAPS ARE REQUIRED BETWEEN ROLLS, THE UPROLL SHOULD LAP A MINIMUM OF 2 FEET OVER THE DOWNROLL IN ORDER TO PROVIDE A SHINGLED EFFECT.
 - IF A 6 INCH SAND FILTER LAYER IS PLACED ON THE BOTTOM OF THE INFILTRATION TRENCH, THE SAND FOR THE INFILTRATION TRENCH SHALL BE WASHED AND MEET ASHTO-M-43, SIZE NO. 9 OR NO. 10. ANY ALTERNATIVE SAND GRADATION MUST BE APPROVED BY THE PLAN APPROVAL AUTHORITY.
 - THE STONE AGGREGATE SHOULD BE PLACED IN A MAXIMUM LOOSE LIFT THICKNESS OF 12 INCHES. THE GRAVEL (ROUND) BANK RUN GRAVEL IS PREFERRED FOR THE INFILTRATION TRENCH SHALL BE WASHED AND MEET ON OF THE FOLLOWING ASHTO-M-43, SIZE NO. 2 OR NO. 3.
 - FOLLOWING THE STONE AGGREGATE PLACEMENT, THE FILTER FABRIC SHALL BE FOLDED OVER THE STONE AGGREGATE TO FORM A 6-INCH MINIMUM LONGITUDINAL LAP. THE DESIRED FILL SOIL OR STONE AGGREGATE SHALL BE PLACED ON THE FABRIC AT SUFFICIENT INTERVALS TO MAINTAIN THE LAP DURING SUBSEQUENT BACKFILLING.
 - CARE SHALL BE EXERCISED TO PREVENT NATURAL OR FILL SOILS FROM INTERMIXING WITH THE STONE AGGREGATE. ALL CONTAMINATED STONE AGGREGATE SHALL BE REMOVED AND REPLACED WITH UNCONTAMINATED STONE AGGREGATE.
 - VOIDS MAY OCCUR BETWEEN THE FABRIC AND THE EXCAVATION SIDES SHALL BE AVOIDED. REMOVING BOLLERS OR OTHER OBSTACLES FROM THE TRENCH WALLS IS ONE SOURCE OF SUCH VOIDS. THEREFORE, NATURAL SOILS SHOULD BE PLACED IN THESE VOIDS AT THE MOST CONVENIENT TIME DURING CONSTRUCTION TO ENSURE FABRIC CONFORMITY TO THE EXCAVATION SIDES.
 - VERTICALLY EXCAVATED WALLS MAY BE DIFFICULT TO MAINTAIN IN AREAS WHERE SOIL MOISTURE IS HIGH OR WHERE SOFT COHESIVE OR COHESIONLESS SOILS ARE DOMINANT. THESE CONDITIONS MAY REQUIRE LAYING BACK OF THE SIDE SLOPE TO MAINTAIN STABILITY.
 - PVC DISTRIBUTION PIPES SHALL BE SCHEDULE 40 AND MEET ASTM-D-1785. ALL FITTINGS SHALL MEET ASTM-D-2729. PERFORATIONS SHALL BE 3/8 INCH IN DIAMETER. A PERFORATED PIPE SHALL BE PROVIDED ONLY WITHIN THE INFILTRATION TRENCH AND SHALL TERMINATE 1 FOOT SHORT OF THE INFILTRATION TRENCH WALL. THE END OF THE PVC PIPE SHALL BE CAPPED. NOTE: PVC PIPE WITH A WALL THICKNESS CLASSIFICATION OF SDR-35 MEETING ASTM-D-3034 IS AN ACCEPTABLE SUBSTITUTE FOR THE SCHEDULE 40 PIPE.
 - THE OBSERVATION WELL IS TO CONSIST OF 6-INCH DIAMETER PERFORATED PVC SCHEDULE 40 PIPE (M 278 OR F785, TYPE PS 28) WITH A CAP SET 6 INCHES ABOVE GROUND LEVEL AND IS TO BE LOCATED NEAR THE LONGITUDINAL CENTER OF THE INFILTRATION TRENCH. THE PIPE SHALL HAVE A PLASTIC COLLAR WITH RIBS TO PREVENT ROTATION WHEN REMOVING THE CAP. THE SCREW TOP LID SHALL BE A CLEANOUT WITH A LOCKING MECHANISM OR SPECIAL BOLT TO DISCOURAGE VANDALISM. THE DEPTH TO THE INVERT SHALL BE MARKED ON THE LID. THE PIPE SHALL BE PLACED VERTICALLY WITHIN THE GRAVEL PORTION OF THE INFILTRATION TRENCH AND A COP PROVIDED AT THE BOTTOM OF THE PIPE. THE BOTTOM OF THE CAP SHALL REST ON THE INFILTRATION TRENCH BOTTOM.
 - CORRUGATED METAL DISTRIBUTION PIPES SHALL CONFORM TO ASHTO-M-36, AND SHALL BE ALUMINIZED IN ACCORDANCE WITH ASHTO-M-274. ALUMINIZED PIPE CONTACT WITH CONCRETE SHALL BE COATED WITH AND INERT COMPOUND CAPABLE OF PREVENTING THE DELETERIOUS EFFECT OF THE ALUMINUM ON THE CONCRETE. PERFORATED DISTRIBUTION PIPES SHALL CONFORM TO ASHTO-M-36, CLASS 2 AND SHALL BE PROVIDED ONLY WITHIN THE INFILTRATION TRENCH AND SHALL TERMINATE 1 FOOT SHORT OF THE INFILTRATION TRENCH WALL. AN ALUMINIZED METAL PLATE SHALL BE WELDED TO THE END OF THE PIPE.
 - IF A DISTRIBUTION STRUCTURE WITH A WET WELL IS USED, A 4-INCH DRAIN PIPE SHALL BE PROVIDED AT OPPOSITE ENDS OF THE INFILTRATION TRENCH DISTRIBUTION STRUCTURE. TWO (2) CURB FEET OF POROUS BACKFILL MEETING ASHTO-M-43, SIZE NO. 57 SHALL BE PROVIDED AT EACH DRAIN.
 - IF A DISTRIBUTION STRUCTURE IS USED, THE MANHOLE COVER SHALL BE BOLTED TO THE FRAME.

- OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES (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 LOGBOOK 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 24 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
 - THE MAINTENANCE LOGBOOK 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.

OWNER/DEVELOPER
 BUCH LLLP
 10945 PRICE MANOR WAY
 LAUREL, MD 20723
 301-359-3500

SOILS LEGEND
 HOWARD COUNTY SOIL MAP 23

SYMBOL	DESCRIPTION	TYPE	HYDRIC	K FACTOR	ERODIBLE
BaA	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	D	YES	0.32	NO
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.20	NO
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.20	NO

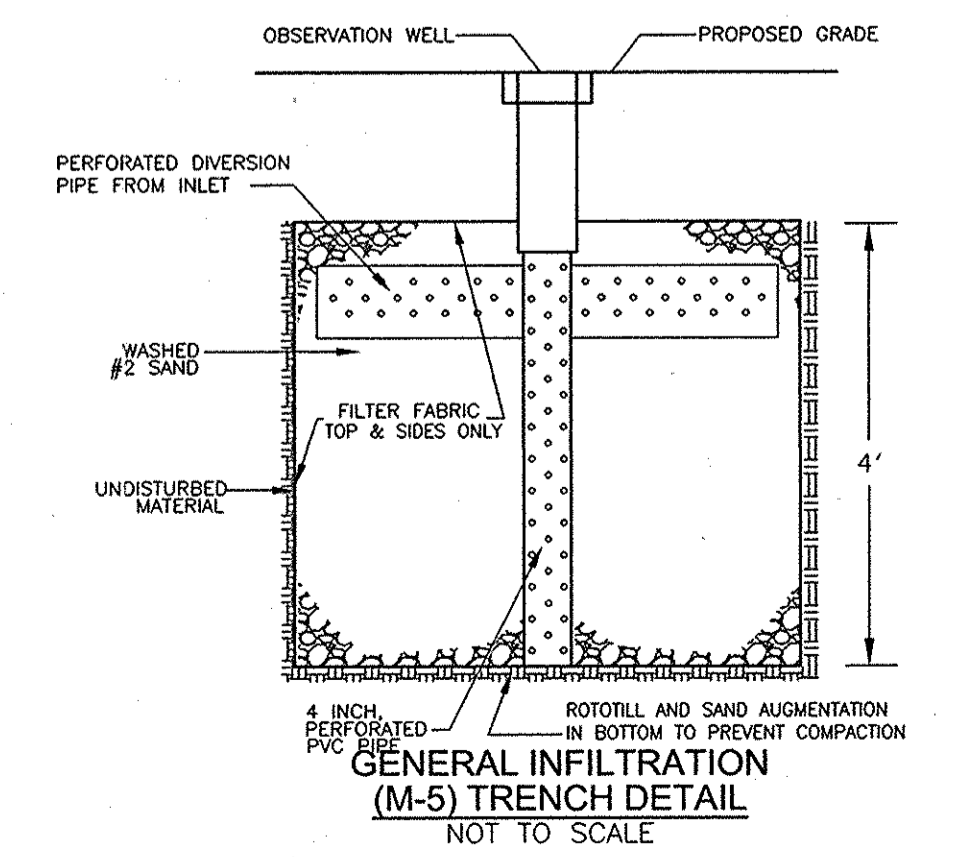
NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

- SEDIMENT CONTROL NOTES:**
- EITHER PERMANENT OR TEMPORARY STABILIZATION IS TO BE APPLIED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR REGARDLESS OF DAYS/DATES IN THE STANDARD SEDIMENT CONTROL NOTES AND/OR SEEDING SPECIFICATIONS.
 - ALL AREAS OF DISTURBANCE TO BE STABILIZED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND/OR BY THE SEDIMENT CONTROL INSPECTOR, WHICHEVER IS MORE STRINGENT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Plunk 6.26.15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kate DeLoach 6/24/15
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



ENVIRONMENTAL CONCEPT PLAN
STORMWATER MANAGEMENT DRAINAGE AREA MAP
BUCH ROAD EXTENSION
 10945 PRICE MANOR WAY (FORMERLY JOHNS HOPKINS ROAD)
 ZONED: R-APT & B-1 (L. 3192 / F. 394) PARCEL 126, PARCEL 364, PARCEL 505 (LOT 496)
 TAX MAP 46 BLOCK 4 HOWARD COUNTY, MARYLAND
 5TH ELECTION DISTRICT

ROBERT H. VOGEL ENGINEERING, INC.
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DESIGN BY: RHV/CAH/DZE
 DRAWN BY: CAH/DZE
 CHECKED BY: RHV
 DATE: JUNE 2015
 SCALE: AS SHOWN
 W.O. NO.: 12-50.00

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

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