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3	PRELIMINARY EROSION/SEDIMENT CONTROL NOTES AND DETAILS

ENVIRONMENTAL CONCEPT PLAN

5514 WATERLOO ROAD

TAX MAP 31, GRID 19, PARCEL 487

SIXTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

ZONING: R-20

SWM NARRATIVE

THIS REPORT WILL DEMONSTRATE HOW THE CRITERIA SET FORTH IN THE MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II (EFFECTIVE OCTOBER 2000, REVISED MAY 2009) WILL BE SATISFIED ON THIS PROJECT. THE GOAL OF CREATING HYDROLOGY SIMILAR TO THAT OF "WOODS IN GOOD CONDITION" WILL BE ACCOMPLISHED THROUGH THE USE OF THE PRACTICES CONTAINED WITHIN CHAPTER 5 OF SAID MANUAL.

GENERAL SITE CONDITIONS:

THIS PROPERTY IS ZONED R-20 AND IS LOCATED ON TAX MAP 31, PARCEL NO. 487 OF THE HOWARD COUNTY, MARYLAND TAX MAP DATABASE SYSTEM AND IS IN THE LITTLE PATUXENT RIVER WATERSHED (02131105). THE PROPERTY CONSISTS OF 0.34 ACRES, OF WHICH NO ACRES ARE ENCUMBERED WITH A PRESERVATION EASEMENT DEDICATED TO HOWARD COUNTY MARYLAND AGRICULTURAL LAND PRESERVATION PROGRAM. THE SITE IS RELATIVELY RECTANGULAR IN SHAPE. THE SUBDIVISION WILL UTILIZE PROPOSED PUBLIC WATER AND SEWER EXTENSIONS. THE WATER RUNOFF ON THE SITE DRAINS TO THE SOUTH. THE WEB SOILS SURVEY SHOWS SOILS ON THE OVERALL SITE CONSIST OF U₈D AND U₆B.

I. NATURAL RESOURCE PROTECTION:

ENVIRONMENTALLY SENSITIVE AREAS DO NOT EXIST ON-SITE. AS SUCH, WAIVERS ARE NOT REQUIRED.

II. MAINTENANCE OF NATURAL FLOW PATTERNS:

IT IS THE INTENT OF THE PROPOSED DESIGN TO DISCHARGE RUNOFF SIMILAR TO THE CHARACTERISTICS AND DIRECTION OF THIS SITE PRIOR TO ANY OF THE PROPOSED IMPROVEMENTS. THE RUNOFF FROM LARGER STORMS WILL DISCHARGE AT THE SOUTHERN SIDE OF THE SITE AT THE SAME LOCATION WHERE EXISTING DISCHARGE CURRENTLY LEAVES THE PROPERTY.

III. REDUCTION OF IMPERVIOUS AREAS THROUGH BETTER SITE DESIGN, ALTERNATIVE SURFACES AND NONSTRUCTURAL PRACTICES

IMPERVIOUS AREA ON THIS SITE HAS BEEN MINIMIZED BY UTILIZING PERMEABLE PAVEMENT ON THE DRIVEWAY AND LOCATION OF THE PROPOSED HOUSE CLOSE TO THE FRONT SETBACK.

IV. INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO STORMWATER STRATEGY:

IF REQUIRED, SEDIMENT TRAPPING WILL BE PLACED IN THE AREA OF DRY WELLS.

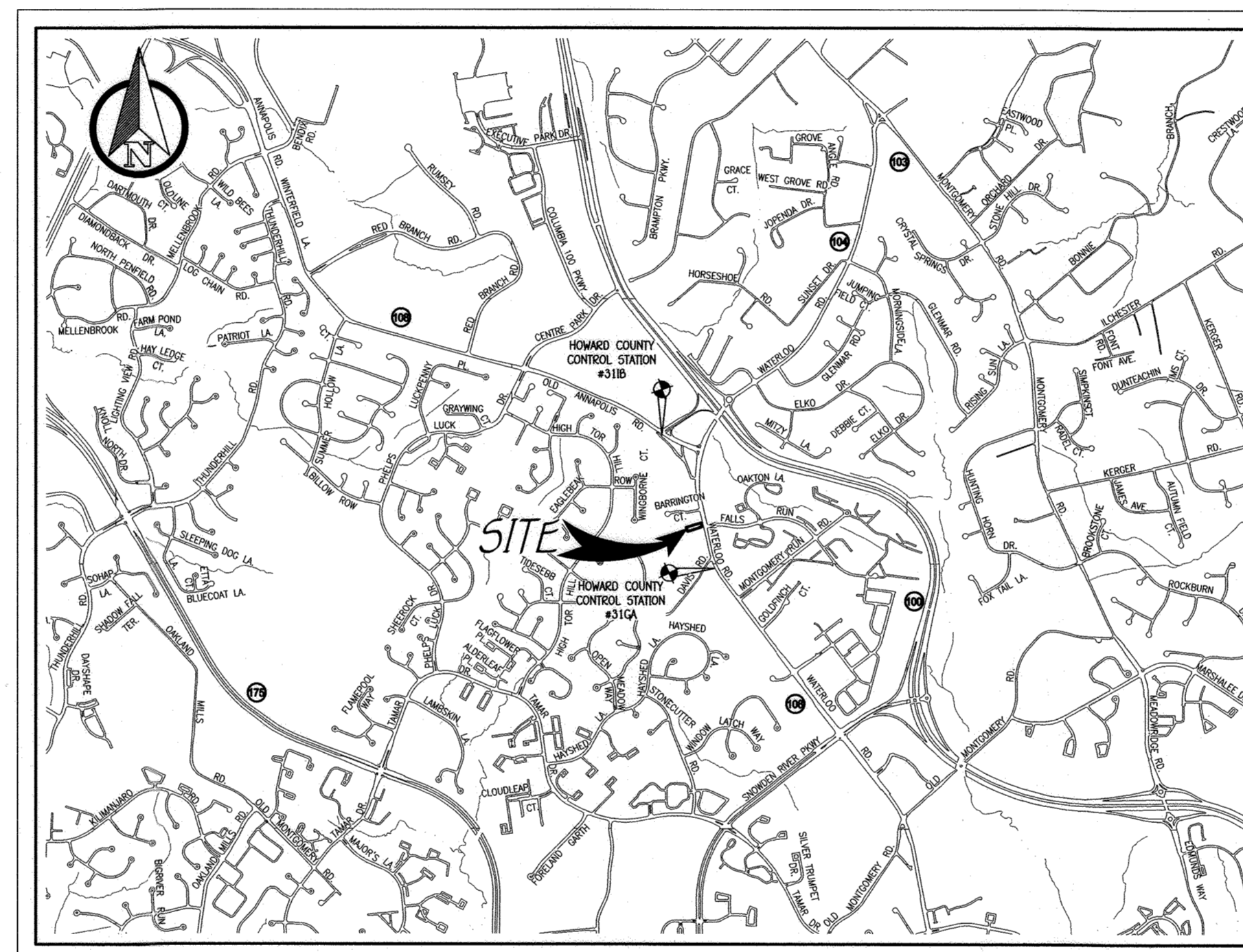
V. IMPLEMENTATION OF ESD PLANNING TECHNIQUES AND PRACTICES TO THE MAXIMUM EXTENT PRACTICABLE (MEP)

THE FULL REQUIRED ESO VOLUME IS BEING PROVIDED FOR PROPOSED IMPROVEMENTS TO THE MAXIMUM EXTENT PRACTICABLE.

VI. REQUEST FOR DESIGN MANUAL WAIVER:

A WAIVER REQUEST REGARDING THE FRONTAGE IMPROVEMENT WILL BE SUBMITTED

LEGEND	
SYMBOL	DESCRIPTION
---500---	EXISTING CONTOUR 2' INTERVAL
---510---	EXISTING CONTOUR 10' INTERVAL
s	EXISTING SEWER LINE
w	EXISTING WATER LINE
—○—	EXISTING OVERHEAD ELECTRIC
—○—	EXISTING IRON FENCE
—○—	EXISTING TREELINE
—○—	EXISTING MACADAM PAVING
—○—	APPROX. AREA OF DEMOLITION



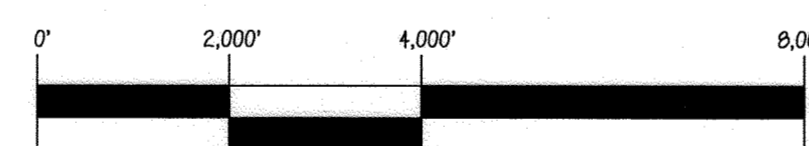
HOWARD COUNTY
 GEODETIC SURVEY CONTROL NO. 31GA
 N 564,925.766 E 1,367,067.712
 ELEVATION: 511.69

HOWARD COUNTY
 GEODETIC SURVEY CONTROL NO. 311B
 N 566,937.934 E 1,366,270.807
 ELEVATION: 526.108

REFER TO HOWARD CO. ADC MAP 27 F-8

VICINITY MAP

SCALE: 1" = 2,000'



SCALE: 1" = 2,000'

GENERAL NOTES

- THE SUBJECT PROPERTY IS ZONED R-20 (PER 10/06/13 COMPREHENSIVE ZONING PLAN).
- BOUNDARY IS BASED ON A FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS & CARTER ON OR ABOUT MARCH, 2019.
- CONTOURS ARE BASED ON A TOPOGRAPHIC FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, ON OR ABOUT JANUARY, 2019.
- COORDINATES BASED ON NAD83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL.
 STATIONS NO. 31GA AND NO. 311B:
 HOWARD COUNTY MONUMENT NO. 31GA N 564,925.766 E 1,367,067.712 ELEV. 511.69'
 HOWARD COUNTY MONUMENT NO. 311B N 566,937.934 E 1,366,270.807 ELEV. 526.108'
- STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. THIS PLAN PROPOSES THE USE OF TWO (2) DRYWELL FACILITIES, ONE (1) DISCONNECTION OF ROOFTOP IMPERVIOUS CREDIT, AND ONE (1) AREA OF PERMEABLE PAVING.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER WILL BE UTILIZED FOR THIS PROJECT.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.
- THERE ARE NO SPECIMEN TREES, WETLANDS, STREAMS OR THEIR BUFFERS LOCATED WITHIN THE BOUNDARY OF THIS SITE.
- LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT.
- FOREST CONSERVATION REQUIREMENTS FOR THIS PROPOSED SUBDIVISION WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION ACT. IT IS ANTICIPATED THAT NO FCA OBLIGATION WILL BE REQUIRED BECAUSE SITE IS UNDER 40,000 SQ.FT. IN ADDITION THERE ARE NO SPECIMEN TREES LOCATED ON-SITE.
- SOIL BORING INFORMATION WAS ACQUIRED AND IS SHOWN ON THE 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 PRELIMINARY EQUIVALENT SKETCH PLAN AND FINAL PLAN STAGE. THEREFORE, THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED COMMENTS (INCLUDING THOSE THAT MAY ALTER OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT OR ASSOCIATED SUBDIVISION OR SITE DEVELOPMENT PLANS OR RED-LINE REVISIONS. 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, SITE DEVELOPMENT PLAN, OR RED-LINE REVISION PROCESSES. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THE PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
- THE LOT IS AN IN-FILL DEVELOPMENT, AS ADJACENT LOTS ARE ALL DEVELOPED.
- THE FOREST CONSERVATION PLAN AND ASSOCIATED FOREST STAND DELINEATION WILL BE REVIEWED FOR COMPLIANCE WITH THE FOREST CONSERVATION ACT AT THE SUBDIVISION PLAN, SITE DEVELOPMENT PLAN OR GRADING PERMIT STAGES. UNDER COUNTY LAW, ONLY A MD LICENSED FORESTER, MD LICENSED LANDSCAPE ARCHITECT OR AN ISA CERTIFIED ARBORIST WHO IS ALSO A STATE QUALIFIED PROFESSIONAL MAY PREPARE FOREST STAND DELINEATIONS, FOREST CONSERVATION PLANS OR OTHER REQUIRED COUNTY FOREST CONSERVATION PROGRAM DOCUMENTS.
- SITE HISTORY:
 WP-07-087 WAS DENIED.
- A WAIVER REQUEST REGARDING THE FRONTAGE IMPROVEMENT WILL BE SUBMITTED

SITE ANALYSIS DATA CHART

- | | |
|---|--|
| A. TOTAL AREA OF THIS SUBMISSION = 0.34 AC.± | |
| B. LIMIT OF DISTURBED AREA = 0.24 AC.± | (SWN BASED ON LOD) |
| C. PRESENT ZONING DESIGNATION = R-20 | (PER 10/06/2013 COMPREHENSIVE ZONING PLAN) |
| D. PROPOSED USE: RESIDENTIAL SINGLE FAMILY DETACHED | |
| E. PREVIOUS HOWARD COUNTY FILES: N/A | |
| F. TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0 AC.± | |
| G. TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0 AC.± | |
| H. TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0 AC.± | |
| I. TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0 AC.± | |
| J. TOTAL AREA OF EXISTING FOREST = 0.09 AC.± | |
| K. TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC.± | |
| L. TOTAL AREA OF LOTS / BUILDABLE PARCELS = 0.34 AC.± | |
| M. TOTAL GREEN OPEN AREA (PERVIOUS) = 0.28 AC.± | |
| N. TOTAL IMPERVIOUS AREA = 0.06 AC.± (WITHIN LOD) | |
| O. EXCLUDES EXISTING IMPERVIOUS | |
| P. TOTAL AREA OF ERODIBLE SOILS = 0 AC.± | |

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 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2800

Approved: Department Of Planning And Zoning

[Signature] 2.17.22
 Chief, Development Engineering Division Date
[Signature] 1/11/22
 Chief, Division Of Land Development Date



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED UNDER MY SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24.

[Signature] 1/11/22
 PAUL G. CHYNALUK Date

OWNER/DEVELOPER

SUNINDER SINGH
 10610 WASHINGTON CT
 ELLICOTT CITY, MD
 410-350-6333

TITLE SHEET
5514 WATERLOO ROAD
 DEED REF: LIBER 20053/FOLIO 465
 TAX MAP NO.: 31 GRID NO.: 19 PARCEL NO.:487
 ZONED R-20
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: JANUARY, 2022
 SHEET 1 OF 3

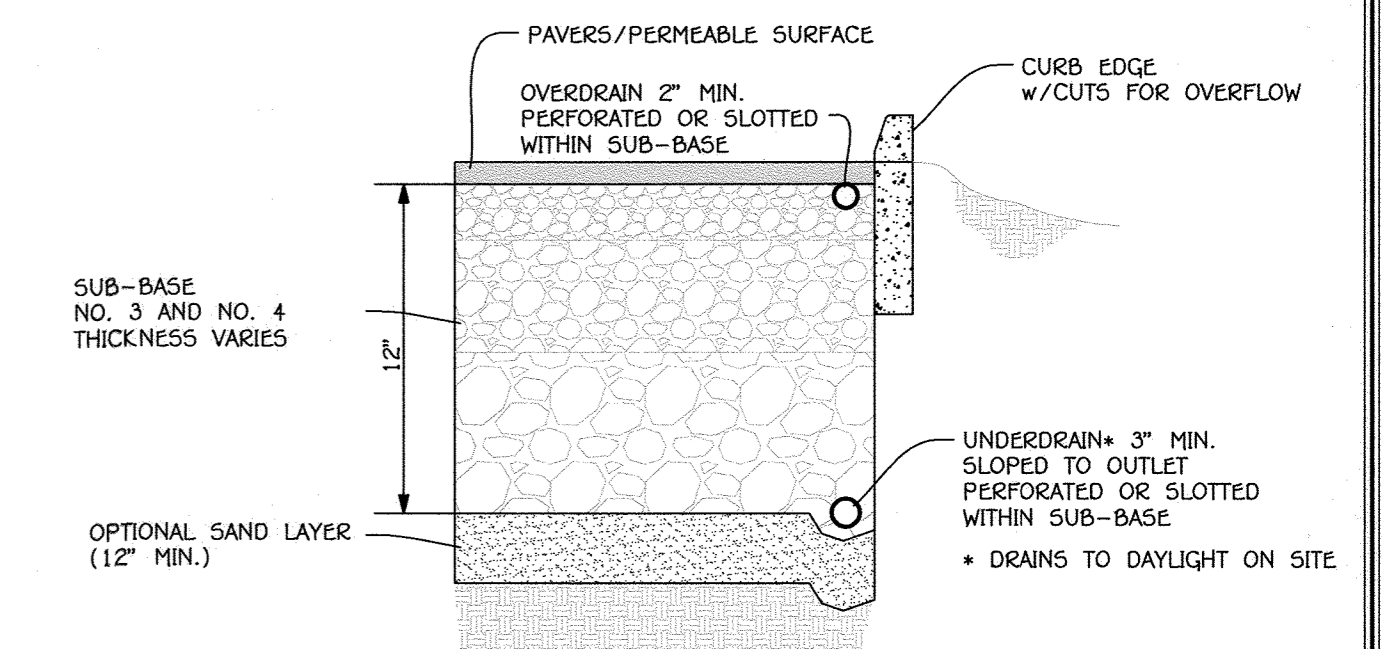
SOILS LEGEND			
SOIL	NAME	CLASS	K _v VALUE
UcB	Urban land-Chillum-Beltsville complex, 0 to 5 percent slopes	C	N/A
UsD	Urban land-Sassafras-Beltsville complex, 5 to 1 percent slopes	C	N/A

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	EXISTING SEWER LINE
---	EXISTING WATER LINE
---	EXISTING OVERHEAD ELECTRIC
---	EXISTING IRON FENCE
---	EXISTING TREELINE
---	PROPOSED TREELINE
---	DRYWELL (M-5)-TYPICAL
---	LIMIT OF DISTURBANCE
---	PROPOSED MACADAM DRIVEWAY
---	PROPOSED CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED SPOT ELEVATION
---	BUILDING RESTRICTION LIMIT (B.R.L.)
---	SUPER SILT FENCE
---	DENOTES MBR OVERLAND FLOWPATH
---	DRY WELL DRAINAGE AREA
---	SOILS DELINEATION
---	PROPOSED PERMEABLE PAVEMENT
---	PROPOSED SOIL BORING

STORMWATER MANAGEMENT PRACTICES							
PARCEL	ADDRESS	DRYWELLS (M-5) Y/N, NUMBER	ROOFTOP DISCONNECTION (N-1) Y/N, NUMBER	NON-ROOFTOP DISCONNECTION (N-2) Y/N, NUMBER	MICRO-BIO (M-6) Y/N, NUMBER	PERMEABLE PAVEMENT (A-2) Y/N, NUMBER	IMPERVIOUS REMOVAL (A-1) Y/N, NUMBER
487	5514 WATERLOO ROAD	Y-2	N	N	N	Y-1	N

DAILY STABILIZATION NOTE

ALL DISTURBED AREAS NOT DIRECTED TO A SEDIMENT CONTROL DEVICE SHALL BE STABILIZED AT THE END OF EACH WORKDAY. THE CONTRACTOR SHALL NOT DISTURB AN AREA GREATER THAN THAT WHICH CAN BE STABILIZED AT THE END OF EACH WORKDAY IN SUCH AREAS.



TYPICAL SECTION - PERMEABLE PAVEMENT w/ OVERDRAIN & UNDERDRAIN
NO SCALE

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)

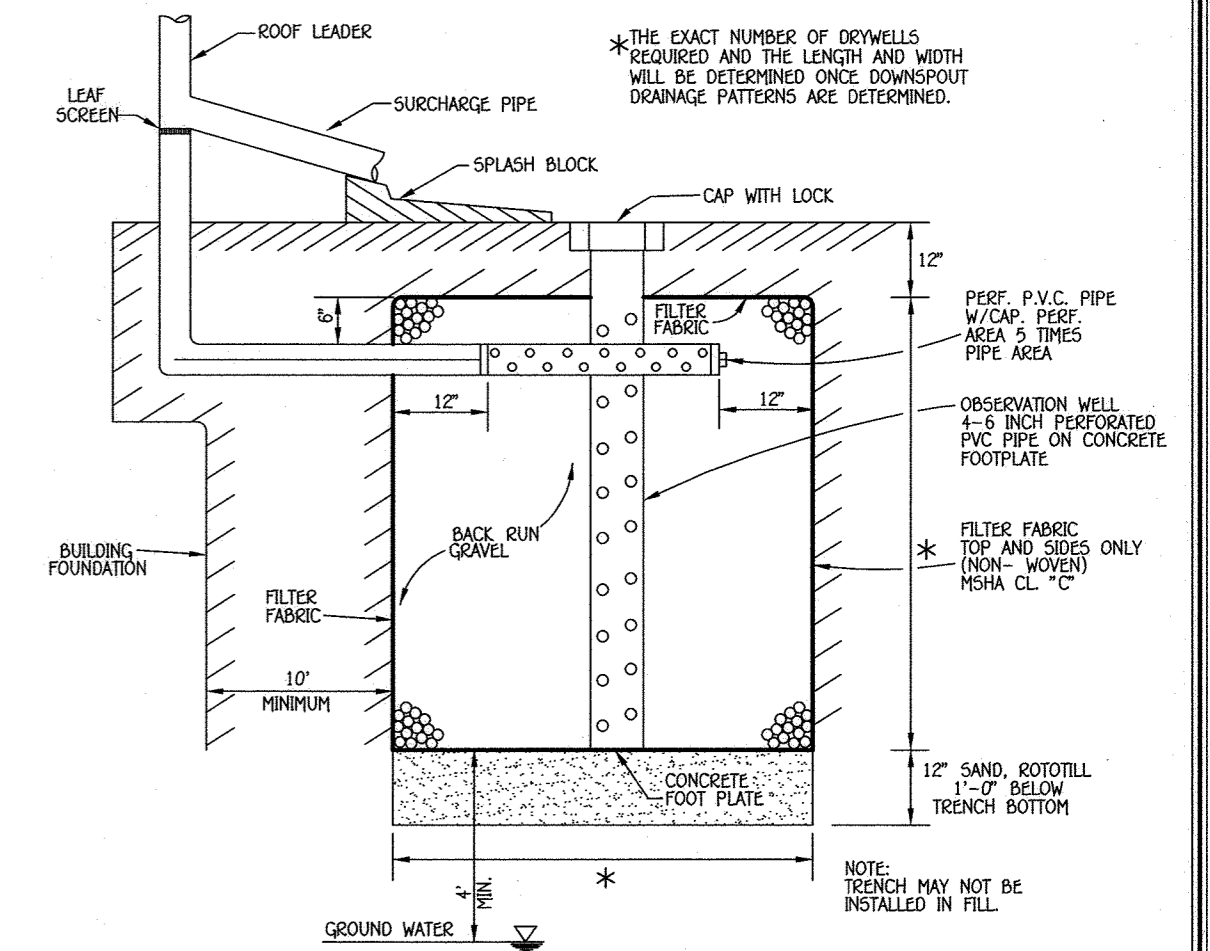
- The owner shall periodically sweep (or vacuum porous concrete pavement) the pavement surfaces to reduce sediment accumulation and ensure continued surface porosity. Sweeping should be performed at least twice annually with a commercial cleaning unit. Washing or compressed air units should not be used to perform surface cleaning.
- The owner shall periodically clean drainage pipes, inlets, stone edge drains and other structures within or adjacent to the subsurface.
- The owner shall use deicers in moderation. Deicers should be non-toxic and be applied either as calcium magnesium acetate or as pre-treated salt.
- The owner shall ensure snow plowing is performed carefully with blades set one inch above the surface. Ploved snow piles and snowmelt should not be directed to permeable pavement.

BORING SWM-1
N.T.S.

EX. / PROPOSED ELEV.	509.00
PROPOSED BOTTOM	506.00
BORING BOT. (NO ROCK OR WATER)	500.00
SOIL: SILTY SAND SOME GRAVEL	

BORING SWM-2
N.T.S.

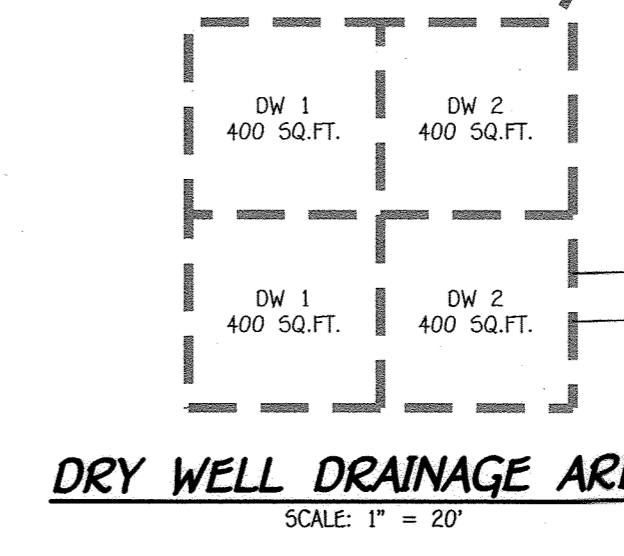
EX. / PROPOSED ELEV.	510.00
PROPOSED BOTTOM	507.00
BORING BOT. (NO ROCK OR WATER)	501.00
SOIL: SILTY SAND SOME GRAVEL	



OPERATION AND MAINTENANCE SCHEDULE FOR DRYWELLS (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 build up in the monitoring wells over a period of several days to insure 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.

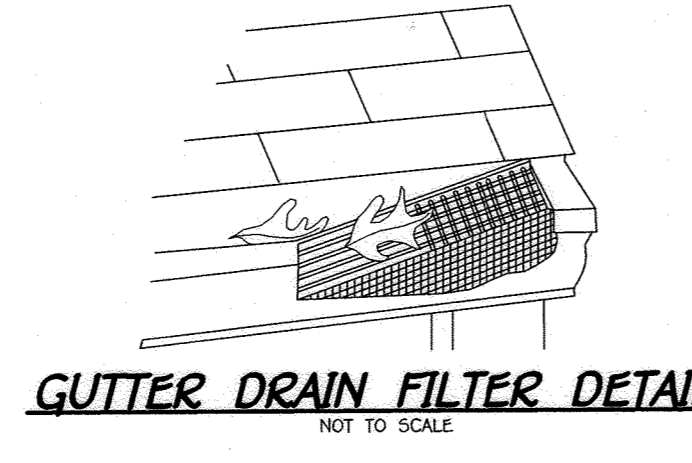
DRYWELL CHART					
DRYWELL No.	AREA OF ROOF PER DRYWELL	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L W D
1	800 SQ.FT.	76 CU.FT.	90 CU.FT.	100%	10'x10'x2.25'
2	800 SQ.FT.	76 CU.FT.	90 CU.FT.	100%	10'x10'x2.25'



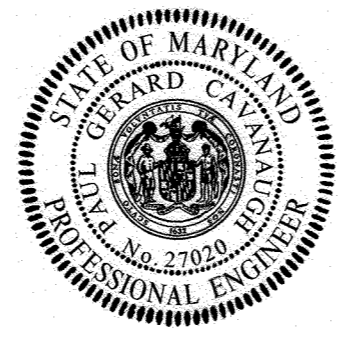
DRYWELL DRAINAGE AREAS
SCALE: 1" = 20'

STORMWATER MANAGEMENT NOTES

- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL.
- CREDITS ARE GIVEN FOR DISCONNECTION OF IMPERVIOUS COVERS.
- MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE LESS THAN 1000 SQ. FT.
- DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 2% SLOPE. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE FIGURE 5.2 OF THE MANUAL AND THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING IS SHOWN ON THIS SIMPLIFIED ENVIRONMENTAL CONCEPT PLAN.
- DISCONNECTION OF NON-ROOFTOP IMPERVIOUS DRIVEWAYS SHALL REMAIN OPEN SECTION ALONG NORTH (DOWNSTREAM) SIDE. DISCONNECTION FLOW PATH AREA SHALL REMAIN CONTINUOUS DOWNSTREAM FLOW TOWARD NORTH AND REMAIN IMPERVIOUS.
- REMOVAL OF EXISTING IMPERVIOUS FOR SWM CREDIT: THESE AREAS SHALL CONSIST OF THE EXISTING IMPERVIOUS REMOVED WHERE THEY WILL BE REPLACED BY PERVIOUS LAND USE.
- DISCONNECTION OF ROOFTOP IMPERVIOUS: THE DISCONNECTION FLOW PATH SHALL MAINTAIN MINIMUM SHEET FLOW, 75' LENGTH AND FLATTER THAN 5% LONGITUDINAL SLOPE. IN THE EVENT THAT A PATIO OR OTHER OUTDOOR USE SURFACE IS INSTALLED, THE DISCONNECTION FLOW PATH SHALL BE MANIPULATED SO THAT A MINIMUM CONTINUOUS PORTION OF THE FLOW PATH MEETS THE aforementioned requirements.



GUTTER DRAIN FILTER DETAIL
NOT TO SCALE



PROFESSIONAL CERTIFICATION

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Paul G. Chavakis
PAUL G. CHAVAKIS

Jan 24, 2022
DATE

OWNER/DEVELOPER

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Approved: Department Of Planning And Zoning

Chad Pender
Chief, Development Engineering Division
Date: 2-17-22

Chad Pender
Chief, Division Of Land Development
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