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ESD COMPUTATION SUMMARY

DRAINAGE AREA NO.	DRAINAGE AREA (AC.)	IMPERVIOUS AREA (AC.)	PERVIOUS AREA (AC.)	ESDv REQUIRED (C.F.)	ESDv PROVIDED (C.F.)	Pe REQUIRED (IN.)	Pe PROVIDED (IN.)	PUBLIC/PRIVATE/JOINT OWNERSHIP	PUBLIC/PRIVATE/JOINT MAINTENANCE
MBR 401	0.80	0.34	0.46	2251.54	2257.88	1.80"	1.81"	PUBLIC	JOINT
MBR 402	0.56	0.21	0.35	1407.55	1914.74	1.80"	2.45"	PUBLIC	JOINT
MBR 403	0.72	0.31	0.41	2046.35	2830.48	1.80"	2.49"	PUBLIC	JOINT
MBR 404	0.61	0.24	0.37	1640.19	2268.94	1.80"	2.49"	PUBLIC	JOINT
MBR 405	0.40	0.16	0.24	1034.46	1471.02	1.80"	2.56"	PUBLIC	JOINT
MBR 406	0.85	0.39	0.46	2560.49	2342.26	1.80"	1.65"	PUBLIC	JOINT
MBR 407	0.56	0.14	0.42	1013.39	1195.95	1.80"	2.12"	PUBLIC	JOINT
MBR 408	0.96	0.26	0.70	1812.91	2041.51	1.80"	2.03"	PUBLIC	JOINT
MBR 409	0.74	0.38	0.36	2454.60	1732.25	1.80"	1.27"	PUBLIC	JOINT
MBR 410	0.49	0.19	0.30	1288.39	1757.77	1.80"	2.46"	PUBLIC	JOINT
MBR 411	0.59	0.26	0.33	1702.33	1911.84	1.80"	2.02"	PUBLIC	JOINT
MBR 412	0.80	0.26	0.54	1806.49	2506.48	1.80"	2.50"	PUBLIC	JOINT
MBR 413	0.52	0.21	0.31	1391.81	1983.38	1.80"	2.57"	PUBLIC	JOINT
MBR 414	0.62	0.30	0.32	1959.72	1806.21	1.80"	1.66"	PUBLIC	JOINT
MBR 415	0.74	0.27	0.47	1845.14	2077.07	1.80"	2.03"	PUBLIC	JOINT
MBR 416	0.35	0.16	0.19	1066.94	1407.70	1.80"	2.37"	PUBLIC	JOINT
MBR 417	0.49	0.10	0.39	784.43	1197.00	1.80"	2.75"	PUBLIC	JOINT
MBR 418	0.80	0.46	0.34	2958.48	2313.09	1.80"	1.41"	PUBLIC	JOINT
MBR 419	0.69	0.22	0.47	1552.16	1679.30	1.80"	1.95"	PUBLIC	JOINT
MBR 420	0.58	0.20	0.38	1381.07	1052.03	1.80"	1.37"	PUBLIC	JOINT
MBR 421	0.43	0.23	0.20	1480.89	964.92	1.80"	1.17"	PUBLIC	JOINT
MBR 422	0.81	0.35	0.46	2342.38	1320.62	1.80"	1.01"	PUBLIC	JOINT
MBR 423	0.84	0.43	0.41	2807.83	2923.03	1.80"	1.87"	PUBLIC	JOINT
MBR 424	0.78	0.36	0.42	2400.65	2512.44	1.80"	1.88"	PUBLIC	JOINT
MBR 425	0.59	0.20	0.39	1381.83	1437.10	1.80"	1.87"	PUBLIC	JOINT
MBR 426	0.34	0.17	0.17	1082.83	1449.60	1.80"	2.41"	PUBLIC	JOINT
MBR 427	0.88	0.36	0.52	2420.60	1342.53	1.80"	1.00"	PUBLIC	JOINT
DA 401	0.19	0.08	0.11	513.42	501.48	1.80"	1.76"	---	---
DA 402	0.46	0.13	0.33	901.66	1253.69	1.80"	2.50"	---	---
DA 403	0.15	0.05	0.10	361.40	389.48	1.80"	1.94"	---	---
DA 404	0.08	0.03	0.05	181.35	138.74	1.80"	1.38"	---	---
DA 405	1.84	0.66	1.18	4477.33	3158.86	1.80"	1.27"	---	---
DA 406	0.67	0.23	0.44	1547.63	1392.43	1.80"	1.62"	---	---
DA 407	0.24	0.08	0.16	544.83	788.21	1.80"	2.60"	---	---
DA 408	0.20	0.07	0.13	456.62	643.48	1.80"	2.54"	---	---
DA 409	1.88	0.25	1.63	2095.13	2315.17	1.80"	1.99"	---	---
DA 410	1.38	0.53	0.85	3529.13	2303.90	1.80"	1.18"	---	---
TOTALS FOR THIS FINAL PLAN	24.63 AC.	9.27 AC.	15.36 AC.	62,483.93 CF	62,582.54 CF	1.80"	1.80"		

ON LOT STORMWATER MANAGEMENT PRACTICES

LOT NUMBER	ADDRESS	RAINWATER HARVESTING M-1 (NUMBER)	DRY WELLS M-5 (NUMBER)	LOT NUMBER	ADDRESS	RAINWATER HARVESTING M-1 (NUMBER)	DRY WELLS M-5 (NUMBER)
295	FINDLEY LANE	1	2	345	WESTMOUNT PARKWAY	1	3
296	FINDLEY LANE	1	2	346	WESTMOUNT PARKWAY	1	3
297	FINDLEY LANE	1	3	347	WESTMOUNT PARKWAY	③	③
298	FINDLEY LANE	1	3	348	WESTMOUNT PARKWAY	③	③
299	FINDLEY LANE	1	2	349	WESTMOUNT PARKWAY	③	③
300	FINDLEY LANE	1	2	350	WESTMOUNT PARKWAY	③	③
301	FINDLEY LANE	1	3	351	WESTMOUNT PARKWAY	③	③
302	FINDLEY LANE	1	3	352	WESTMOUNT PARKWAY	③	③
303	FINDLEY LANE	1	3	353	WESTMOUNT PARKWAY	③	③
304	FINDLEY LANE	1	3	354	WESTMOUNT PARKWAY	1	1
305	FINDLEY LANE	1	3	355	WAKEFIELD COURT	1	2
306	FINDLEY LANE	1	3	356	WAKEFIELD COURT	1	2
307	FINDLEY LANE	1	3	357	WAKEFIELD COURT	1	2
308	WESTMOUNT PARKWAY	1	3	358	WAKEFIELD COURT	1	2
309	WESTMOUNT PARKWAY	1	3	359	WAKEFIELD COURT	1	3
310	WESTMOUNT PARKWAY	1	3	360	WAKEFIELD COURT	1	2
311	WESTMOUNT PARKWAY	1	3	361	WAKEFIELD COURT	1	2
312	WESTMOUNT PARKWAY	1	3	362	WAKEFIELD COURT	1	2
313	WESTMOUNT PARKWAY	1	3	363	WAKEFIELD COURT	1	2
314	WESTMOUNT PARKWAY	1	3	364	TEMPLETON LANE	1	1
315	WESTMOUNT PARKWAY	1	3	365	TEMPLETON LANE	1	1
316	WESTMOUNT PARKWAY	1	3	366	TEMPLETON LANE	③	③
317	WESTMOUNT PARKWAY	1	3	367	TEMPLETON LANE	③	③
318	WESTMOUNT PARKWAY	1	3	368	TEMPLETON LANE	0	2
319	WESTMOUNT PARKWAY	1	3	369	FINDLEY LANE	1	3
320	WESTMOUNT PARKWAY	1	3	370	FINDLEY LANE	1	3
321	WESTMOUNT PARKWAY	1	2	371	FINDLEY LANE	1	3
322	WESTMOUNT PARKWAY	1	2	372	FINDLEY LANE	1	3
323	WESTMOUNT PARKWAY	1	1	373	FINDLEY LANE	1	2
324	WESTMOUNT PARKWAY	1	0	374	FINDLEY LANE	1	2
325	WESTMOUNT PARKWAY	1	0	375	WESTMOUNT PARKWAY	1	3
326	WESTMOUNT PARKWAY	1	2	376	WESTMOUNT PARKWAY	1	3
327	WESTMOUNT PARKWAY	1	1	377	WESTMOUNT PARKWAY	1	2
328	WESTMOUNT PARKWAY	1	3	378	WESTMOUNT PARKWAY	1	3
329	WESTMOUNT PARKWAY	1	3	379	PRATCHETT LANE	1	3
330	WESTMOUNT PARKWAY	1	3	380	PRATCHETT LANE	1	3
331	WESTMOUNT PARKWAY	1	3	381	PRATCHETT LANE	1	3
332	WESTMOUNT PARKWAY	1	3	382	PRATCHETT LANE	1	3
333	WESTMOUNT PARKWAY	1	3	383	PRATCHETT LANE	0	1
334	WESTMOUNT PARKWAY	1	3	384	PRATCHETT LANE	0	1
335	WESTMOUNT PARKWAY	1	2	385	ELKRIDGE LANE	0	1
336	WESTMOUNT PARKWAY	1	2	386	ELKRIDGE LANE	0	1
337	WESTMOUNT PARKWAY	1	3	387	ELKRIDGE LANE	0	1
338	WESTMOUNT PARKWAY	1	3	388	CAREY COURT	③	③
339	WESTMOUNT PARKWAY	1	3	389	CAREY COURT	③	③
340	WESTMOUNT PARKWAY	1	3	390	CAREY COURT	③	③
341	WESTMOUNT PARKWAY	1	3	391	CAREY COURT	③	③
342	WESTMOUNT PARKWAY	1	3	392	CAREY COURT	③	③
343	WESTMOUNT PARKWAY	1	3	393	CAREY COURT	③	③
344	WESTMOUNT PARKWAY	1	3	394	CAREY COURT	③	③

NOTES:
1. ALL ON LOT STORMWATER MANAGEMENT DEVICES WILL BE PRIVATE AND OWNED/MAINTAINED BY THE HOMEOWNER.
2. PRIVATE STORMWATER MANAGEMENT DEVICES FOR EACH LOT SUBJECT TO A D.O.C.

③ STORMWATER MANAGEMENT FOR THESE LOTS WAS PROVIDED UNDER F 17-001.

NARRATIVE

INTRODUCTION

THIS REPORT SUMMARIZES THE STORMWATER MANAGEMENT DESIGN FOR THE PHASE FOUR SITE OF WESTMOUNT. IT INCLUDES STORMWATER MANAGEMENT PRACTICES, JUSTIFIES WHY THOSE PRACTICES ARE USED, AND THE COMPUTATIONS THAT SUPPORT THEM. THE REPORT REVIEWS EXISTING AND PROPOSED SITE CONDITIONS, WHILE INDICATING ANY IMPACTS OR AFFECTS THAT THE LATTER MAY HAVE ON THE FORMER, AND HOW THOSE POSSIBLE IMPACTS ARE BEING CONTROLLED.

SITE DESCRIPTION

WESTMOUNT IS LOCATED IN THE SECOND ELECTION DISTRICT OF HOWARD COUNTY. IT IS BOUNDED BY FREDERICK ROAD (MD ROUTE 144A) TO THE NORTH, THE KIWANIS-WALLACE PARK AND NEIGHBORHOODS SUCH AS CHATEAU RIDGE AND CENTENNIAL MANOR ARE TO THE EAST, AND THE DOUGHOREGAN MANOR IS TO THE WEST. KINGSBRIDGE AT BURLEIGH MANOR IS ADJACENT TO A PORTION OF THE SOUTH BOUNDARY OF THE SITE. IT SHOULD BE MENTIONED THAT THE REMAINING PROPERTY ADJACENT TO OUR SITE TO THE SOUTH AND ALL OF THE AREA TO THE WEST HAS BEEN PLACED IN AGRICULTURAL PRESERVATION PARCELS AND CAN NEVER BE DEVELOPED. THE OWNER OF THE PROPERTY BEING DEVELOPED ALSO HAS CONTROL OF THE PRESERVATION PARCELS TO THE WEST. THE LIMIT OF PHASE FOUR IS LOCATED IN THE SOUTHERN SITE OF WESTMOUNT. IT IS BOUNDED BY THE PHASE THREE DEVELOPMENT TO THE NORTH, RESIDENTIAL NEIGHBORHOODS TO THE SOUTH AND EAST, WITH THE AGRICULTURAL PRESERVATION TO THE WEST.

THE ZONING FOR THIS PROPERTY IS R-ED AND THE PHASE FOUR LIMIT IS APPROXIMATELY 48 ACRES. ACCESS TO THE SITE WILL BE FROM FINDLEY LANE AND WESTMOUNT PARKWAY. BOTH OF THESE WERE CONSTRUCTED UNDER PHASE THREE. THE PORTION OF WESTMOUNT PARKWAY CONSTRUCTED UNDER PHASE THREE WAS A CONTINUATION OF WESTMOUNT PARKWAY FROM PHASES ONE AND TWO, WHICH ULTIMATELY INTERSECTS WITH MD ROUTE 144A. THE MAIN ROAD (WESTMOUNT PARKWAY) HAS BEEN DESIGNED WITH THE INPUT OF FIRE AND RESCUE. OUR CLIENT RECOGNIZED EARLY ON IN THE PROCESS THAT SERVING THIS MANY LOTS WITH ONLY ONE WAY IN AND OUT WOULD GIVE FIRE AND RESCUE CONCERN. TO ADDRESS THEIR CONCERNS, WESTMOUNT PARKWAY WAS DESIGNED WITH LARGE SWEEPING RADII AND PERIODIC BREAKS IN THE MEDIAN FOR THE FIRE TRUCK TO GET TO THE OTHER SIDE IF THE NEED SHOULD ARISE.

PHASE FOUR WAS CLEARED AND MASS GRADED AS PART OF THE PHASE THREE CONSTRUCTION (F 17-001). THIS WAS DONE SO THAT THE FOREST CONSERVATION OBLIGATION FOR THE SITE COULD BE SATISFIED WITH THOSE PLANS AND THE PLANTED MATERIAL COULD BE MORE MATURE WHEN THE HOMES WITHIN PHASE FOUR WERE CONSTRUCTED. AS A RESULT OF THE MASS GRADING, THE SITE IS COULD BE CONSIDERED A MEADOW WITH MILD GRADES IN THE AREAS OF THE FUTURE ROADS AND MUCH OF THE FUTURE LOT AREAS WITH SOME STEEPER SLOPES ALONG THE PERIMETER. THE SITE DRAINS PREDOMINATELY FROM THE SOUTH AND WEST TO A TRIBUTARY THAT RUNS UP A PORTION OF THE PHASE FOUR LIMITS. THE TRIBUTARY WAS ANALYZED AS PART OF THE PRELIMINARY EQUIVALENT SKETCH PLAN. THE COMPUTATIONS FOR THE FLOODPLAIN STUDY HAVE BEEN PROVIDED IN A SEPARATE REPORT. THESE AREAS EVENTUALLY DRAIN TO THE LITTLE PATUXENT RIVER. THE SITE LIES WITHIN THE LITTLE PATUXENT WATERSHED. THE LITTLE PATUXENT RIVER IS A TYPE IV-P STREAM.

IN ADDITION TO THE FLOODPLAIN, THE SITE CONTAINS STEEP SLOPES, WETLANDS, AND STREAMS. ANY DISTURBANCES OF THESE AREAS HAVE BEEN DETERMINED AS NECESSARY BY THE DEPARTMENT OF PLANNING AND ZONING IN REVIEW OF THE PRELIMINARY EQUIVALENT SKETCH PLAN.

THE SITE IS SUBJECT TO A DEVELOPER'S RIGHTS AND RESPONSIBILITIES AGREEMENT (DRRA) WHICH IDENTIFIES THE DEVELOPMENT CRITERIA FOR THE PROJECT.

STORM DRAIN

STORM DRAIN INLETS ARE USED TO COLLECT RUNOFF FROM THE ROAD AND LOT DRAINAGE. THE STORM DRAIN WILL TAKE THE RUNOFF TO A MICRO-BIORETENTION FACILITY. THE RUNOFF THAT DOES NOT INFILTRATE AT THE MIRCO-BIORETENTION FACILITY, WILL BE COLLECTED BY THE UNDER DRAIN OR OVERFLOW RISER AND ENTER A STORM DRAIN SYSTEM THAT WILL OUTFALL THE RUNOFF TO AN OPEN SPACE. OTHER WATER WILL ENTER THE STORM DRAIN SYSTEM BY OVERLAND FLOW TO A MICRO-BIORETENTION FACILITY, EITHER AS SHEET FLOW OR BY A SWALE.

'C' FACTORS FOR THE STORM DRAIN DRAINAGE AREAS WERE ESTABLISHED BASED ON TWO TYPICAL CONDITIONS FOUND THROUGHOUT THE SITE: 1) DRAINAGE AREA CONSISTS PRIMARILY OF OPEN SPACE (C=0.34), AND 2) DRAINAGE AREA CONSISTS PRIMARILY OF RESIDENTIAL LOTS (C=0.73).

WE BELIEVE THAT THE MANNER IN WHICH WE WILL OUTFALL THE RUNOFF, ALONG WITH THE SEDIMENT CONTROL MEASURES TAKEN DURING CONSTRUCTION, THE NATURAL VEGETATION AND ECO-SYSTEM THAT EXISTS TODAY WILL NOT BE ADVERSELY IMPACTED AND WILL CONTINUE TO THRIVE. ALSO, BECAUSE THE STORM DRAIN SYSTEM OUTFALLS TO OPEN SPACE, IT DOES NOT AFFECT ANY EXISTING STORM DRAIN UTILITIES.

WATER AND SEWER

PROPOSED STORMWATER MANAGEMENT FACILITIES HAVE BEEN LOCATED IN SUCH A WAY SO THAT SEWER OUTFALLS AND WATER MAINS CONNECTING MULTIPLE PHASES DO NOT RUN ALONG COMMON PROPERTY LINES. THIS ALLOWS FOR BOTH THE INITIAL CONSTRUCTION AND FUTURE MAINTENANCE OF THE PUBLIC SYSTEMS.

SEDIMENT CONTROL

SEDIMENT CONTROL FOR THE SITE WILL CONSIST OF PERIMETER EARTH DIKES TO DIRECT THE RUNOFF TO SEDIMENT TRAPS AND SEDIMENT BASINS. SILT FENCE OR SUPER SILT FENCE WILL BE UTILIZED IN AREAS THAT ARE CLOSE IN PROXIMITY AND THE DRAINAGE AREA TO THE DEVICE IS APPROPRIATE. THE LOCATION OF PERMANENT STORMWATER MANANGEMENT WAS TAKEN INTO CONSIDERATION DURING THE DESIGN OF SEDIMENT CONTROL. WE HAVE ALSO PROVIDED STOCKPILE AREAS FOR THE TEMPORARY STORAGE OF EXCESS MATERIAL THAT WILL BE GENERATED BY THE STORMWATER MANAGEMENT FACILITIES. AGAIN, BECAUSE THIS AREA HAS BEEN MASS GRADED, WE DO NOT ANTICIPATE THE NEED FOR STOCKPILING MATERIAL, BUT AREAS HAVE BEEN DESIGNATED. THE SITE DOES BALANCE WITHIN ITSELF; THEREFORE, AN OFFSITE AREA FOR EXCESS OR BORROW MATERIAL WILL NOT BE REQUIRED.

STORMWATER MANAGEMENT

STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE RECENTLY REVISED MDE STORMWATER MANAGEMENT DESIGN MANUAL. BASED ON TABLE 5.3, THIS SITE HAS A TARGET PE OF 1.8". THE METHODOLOGY APPLIED IN OUR DESIGN AND THE FACILITIES BEING USED TO SATISFY OUR ESD VOLUMES FOLLOW THE HIERARCHY OF THE DESIGN MANUAL GUIDELINES AS THE PREFERRED MEANS OF PROVIDING ESD TO THE BMP. IN ORDER TO FULFILL THE STORMWATER MANAGEMENT REQUIREMENTS, A COMBINATION OF RAIN BARRELS, DRY WELLS, AND MICRO-BIORETENTION FACILITIES WILL BE USED.

ALTHOUGH THE PERCENT IMPERVIOUS FOR THE AREA WITHIN OUR LIMIT OF DISTURBANCE IS 40%, THE TARGET PE VALUES WERE DETERMINED BASED ON A CONSERVATIVE SITE IMPERVIOUSNESS OF 50%. THIS SITE HAS MANY GREEN AREAS WITHIN IT, WHICH BRINGS THE COMPOSITE PERCENT IMPERVIOUS AREA DOWN, BUT EACH FACILITY HAS BEEN DESIGNED ON A CASE BY CASE BASIS AND THE PERCENTS OF IMPERVIOUS AREA WILL VARY. THE EXISTING SITE CONDITION CONSISTED OF NO IMPERVIOUS AREA.

DEPENDING ON THE LOT CONFIGURATION, THE ROOFTOP DRAINAGE WILL BE TREATED BY A COMBINATION OF RAIN BARRELS AND DRY WELLS. FOR LOTS THAT BACK TO OPEN SPACE, THE BACK HALF OF THE ROOF WILL BE TREATED BY DRY WELLS AND RAIN BARRELS. THE DRY WELLS WERE DESIGNED TO PROVIDE THE FULL ESD VOLUME FOR THE ROOF. THE NUMBER OF DRY WELLS BEING PROPOSED AND THE USE OF MICRO-BIORETENTION FACILITIES WILL GENERATE THE Rev REQUIRED FOR THE SITE. THE RAINWATER HARVESTING WILL BE FULFILLED BY 200 GALLON RAIN BARRELS TO ASSIST IN TREATING THE RUNOFF FROM THE BACK HALF OF ROOFS. A BENEFIT OF USING MANY OF THE STORMWATER MANAGEMENT DEVICES IS THAT THEY REDUCE THE SURFACE AREA REQUIRED FOR THE MICRO-BIORETENTION FACILITIES, WHILE REQUIRING LITTLE SURFACE AREA THEMSELVES.

MICRO-BIORETENTION FACILITIES WILL BE LOCATED THROUGHOUT THE SITE ON OPEN SPACE LOTS. THESE FACILITIES WILL TREAT THE ROAD AREA AND ANY LOT AREA DRAINING TO THE FACILITY BY EITHER OVERLAND FLOW OR PIPING. ESD STORAGE IN MICRO-BIORETENTION FACILITIES IS PROVIDED IN THE 12" OF PONDING ABOVE THE FACILITY. ALL OF THE MICRO-BIORETENTION FACILITIES WILL HAVE AN UNDER DRAIN SYSTEM AND AN OVERFLOW INLET TO PASS LARGE STORMS. IF THE FACILITY CAN PROVIDE THE FULL PE AND IS ADJACENT TO AN OPEN SPACE LOT DRAINING AWAY FROM THE SITE, THE FACILITY WILL OUTFALL TO THE OPEN SPACE LOT.

THE ENVIRONMENTAL SITE DESIGN PRESENTED IN THIS REPORT UTILIZES VARIOUS TYPES OF FACILITIES, SWALES, ETC. TO CAPTURE THE RUNOFF IN A NUMBER OF LOCATIONS WITHIN A WATERSHED IN AN ATTEMPT TO RECHARGE THE GROUNDWATER IN SEVERAL LOCATIONS. WE BELIEVE THIS IS MUCH BETTER THAN RELYING ON ONE OR TWO LOCATIONS, MANY TIMES LOWER IN THE SITE'S WATERSHED, AND NOT BEING EFFECTIVE. THE PROPOSED APPROACH REDUCES THE FOOTPRINT REQUIRED FOR THE ABOVE GROUND FACILITY NEEDED TO PROVIDE THE WATER QUALITY, THEREBY PRESERVING THE EXISTING VEGETATION.

MOST MICRO-BIORETENTION FACILITIES WILL BE COUNTY OWNED AND JOINTLY MAINTAINED BY THE COUNTY AND THE HOMEOWNER'S ASSOCIATION (HOA). ANY FACILITIES THAT PRIMARILY TREAT LOT RUNOFF WILL BE PRIVATELY OWNED AND MAINTAINED BY HOA. ALL ON LOT DEVICES WILL BE PRIVATELY OWNED AND MAINTAINED BY THE INDIVIDUAL HOME OWNERS.

CONCLUSION

WE BELIEVE THAT BY PROVIDING THE NUMBER OF MICRO BIO-RETENTION FACILITIES AS WE HAVE, ALONG WITH THEIR LOCATIONS AND THE OTHER DEVICES BEING PROPOSED, WE HAVE CREATED A STRATEGY THAT ALLOWS FOR THE PROPOSED DEVELOPMENT WITHOUT ADVERSELY AFFECTING THE RECEIVING WATERS AND OTHER ENVIRONMENTALLY SENSITIVE AREAS.

THE DESIGN, FOR BOTH STORMWATER MANAGEMENT AND SEDIMENT CONTROL, PRESENTED IN THIS REPORT AND ON THE FINAL PLAN DOES NOT ADVERSELY IMPACT THE ADJACENT PROPERTIES BOTH DURING AND AFTER CONSTRUCTION.

THE DESIGN ALSO DOES NOT ADVERSELY IMPACT THE EXISTING UTILITIES IN THE AREA. THE PROPOSED WATER AND SEWER ARE CONSISTENT WITH THE MASTER PLAN.

THIS FINAL PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST HOWARD COUNTY STANDARDS. THE DESIGN PRESENTED WILL SERVE TO UPHOLD THE INTEGRITY OF THE WATERSHED.

THE FOLLOWING RESOURCES WERE USED IN THE DESIGN OF THESE PLANS:
" TR-55 - PREPARED BY: USDA SOIL CONSERVATION SERVICE;
" TR-20 - PREPARED BY: USDA SOIL CONSERVATION SERVICE;
" HOWARD COUNTY SWM DESIGN MANUAL VOLUMES 1-4;
" BENTLEY CULVERTMASTER;
" 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL;

GENERAL PERFORMANCE STANDARDS FOR STORMWATER MANAGEMENT

STANDARD #1 THROUGH THE USE OF PERVIOUS CONCRETE IN THE DRIVEWAYS AND SIDEWALKS, DRYWELLS, AND MICRO BIORETENTION FACILITIES, WE HAVE REDUCED THE FOOTPRINT OF ABOVE GROUND FACILITIES.
STANDARD #2 THROUGH THE USE OF THE DEVICES MENTIONED IN NUMBER 1 ABOVE, WE HAVE ADEQUATELY TREATED THE RUNOFF BEFORE IT ENTERS A JURISDICTIONAL WETLAND OR WATERS OF THE STATE OF MARYLAND.
STANDARD #3 WE BELIEVE THE LOCATIONS OF THE DEVICES AND THE TYPES OF DEVICES BEING USED PROVIDES THE ABILITY FOR THE GROUNDWATER TO BE RECHARGED AT PRE-DEVELOPMENT RATES.
STANDARD#4 MANAGEMENT HAS BEEN PROVIDED WITH THE USE OF PERVIOUS CONCRETE, DRYWELLS MICRO BIORETENTION FACILITIES, AND RAINBARRELS.
STANDARD #5 SINCE THE DEVICES PROPOSED HAVE BEEN SIZED TO CAPTURE THE REQUIRED VOLUME DRAINING TO IT, AND HAVE BEEN DESIGNED TO THE CRITERIA OUTLINED IN THE DESIGN MANUAL, THE FIRST ASPECT OF THIS STANDARD HAS BEEN SATISFIED. SECONDLY, WE WILL PROVIDE AT FINAL PLAN STAGE THE OPERATIONS AND MAINTENANCE SCHEDULE TO BE IMPLEMENTED TO INSURE THE DEVICES' LONGEVITY. THE FACT THAT THE SITE WILL BE MONITORED BY A HOWARD COUNTY INSPECTOR AS WELL AS THE GEOTECHNICAL ENGINEER WILL ALSO PROVIDE CONFIDENCE THAT THE FACILITIES WILL BE CONSTRUCTED PROPERLY.
STANDARD #6 NO DETERMINATION HAS BEEN MADE THAT ANY MORE THAN THE MANAGEMENT OF THE ONE YEAR STORM WILL BE REQUIRED. HOWEVER, IF HOWARD COUNTY SHOULD DECIDE THAT MANAGEMENT OF THE LARGER STORM EVENTS IS REQUIRED, OUR DESIGN WILL BE MODIFIED TO PROVIDE THE ADDITIONAL MANAGEMENT.
STANDARD #7 THE ENTIRE ONE YEAR VOLUME HAS BEEN ESTABLISHED FOR THE SITE. THEREFORE, NO ADDITIONAL MEASURES ARE REQUIRED TO PROVIDE CPV.
STANDARD #8 RUNOFF FROM THIS SITE DOES NOT DISCHARGE TO CRITICAL AREAS. THEREFORE, THIS STANDARD DOES NOT APPLY.
STANDARD #9 THE OPERATIONS AND MAINTENANCE SCHEDULES ARE PROVIDED WITH THESE PLANS. AGREEMENTS WILL BE PUT IN PLACE BETWEEN THE OWNER AND THE COUNTY TO ENSURE THE LONG TERM CARE OF THE FACILITIES AT THAT TIME.
STANDARD #10 THE FACT THAT EACH FACILITY HAS BEEN DESIGNED IN ACCORDANCE WITH THE MDE DESIGN MANUAL WOULD INDICATE THAT EACH FACILITY HAS AN ACCEPTABLE FORM OF PRE-TREATMENT.
STANDARD#11 THIS SITE DOES NOT QUALIFY FOR RE-DEVELOPMENT. THEREFORE, THIS STANDARD DOES NOT APPLY.
STANDARD #12 THIS PROJECT IS RESIDENTIAL AND DOES NOT REQUIRE AN NOI FOR THE NPDES GENERAL PERMIT. THEREFORE, THIS STANDARD DOES NOT APPLY.
STANDARD #13 THIS SITE DOES NOT MEET THE DEFINITION OF A SITE THAT HAS THE POTENTIAL FOR HIGHER POLLUTANT LOADS. THEREFORE, THIS STANDARD DOES NOT APPLY.
STANDARD #14 THIS SITE IS BEING REVIEWED BY HOWARD COUNTY. UPON RECEIPT OF THEIR APPROVAL, THE PLAN WILL BE IN COMPLIANCE WITH THE DESIGN REQUIREMENTS OF HOWARD COUNTY.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DocuSigned by: 2465821AE4DA4C2...
Chief, Bureau of Highways — Date 11/29/2021

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
DocuSigned by: 1EB75478A22B49A...
Chief, Division of Land Development — Date 11/24/2021
DocuSigned by: Chad Edmondson D5E6F9A84923495...
Chief, Development Engineering Division — Date 11/23/2021

GLW
PLANNING | ENGINEERING | SURVEYING
3909 NATIONAL DRIVE | SUITE 250 | BURTONSVILLE, MD 20866 | GLWPA.COM
PHONE: 301-421-4024 | BALT: 410-880-1820 | DC&VA: 301-989-2524 | FAX: 301-421-4186

DESIGNED BY: DEV
DRAWN BY: LMW
CHECKED BY: DEV

DATE	REVISION	BY	APP'R.

PREPARED FOR:
WESTMOUNT DEVELOPMENT CORPORATION
307 INTERNATIONAL CIRCLE, SUITE 130
HUNT VALLEY, MARYLAND 21030
410-489-4489
ATTN.: ROBERT GOODIER

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2022.
10/28/21

STORMWATER MANAGEMENT NOTES and DETAILS

WESTMOUNT - PHASE 4
LOTS 295-394 AND OPEN SPACE LOTS 395-418

A RESUBDIVISION OF NON-BUILDABLE BULK PARCELS E & F

ELECTION DISTRICT No. 2 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	13-013
DATE	TAX MAP - GRID	SHEET
OCT., 2021	23-6&12	44 OF 45

F-21-032

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L:\CADD\DRAWINGS\13013\PLANS BY GLW\ROADS-SD (PH4)\PHASE 4_44-45_SWM NOTES & DETAILS.dwg, PLOTTED:10/26/2021 3:49 PM, LAST SAVED:10/26/2021 3:49 PM, PLOTTED BY: Tony Leggieri