

**LEGEND**

- 6"X10" DRY WELL (M-5)
- DISCONNECT LENGTH
- ROOF TOP DISCONNECT (N-1)
- MIN. CONSERVATION AREA WIDTH
- SHEET FLOW TO CONSERVATION AREA (N-3)
- POROUS PAVEMENT W/ 12" STONE (A-2)
- 200 GAL RAIN BARREL (M-1)
- BIO-SWALE (M-8)
- BUILDING RESTRICTION LINE
- PROPERTY LINE
- EX. CURB AND GUTTER
- EXISTING EASEMENT
- SPECIMEN TREE
- SPECIMEN TREE TO BE REMOVED PER NP-14-022
- STEEP SLOPES - 25% AND GREATER
- STEEP SLOPES - 15% - 24.9%
- 6"X10" EX. WATER MAIN
- PROP. STORM DRAIN
- EX. STORM DRAIN
- STEEL SLOPES 25%+
- SIDEWALK
- GDA
- FOREST CONSERVATION EASEMENT
- EXISTING CONTOUR
- PROPOSED CONTOUR
- STREAM BANK BUFFER
- STREAM BANK
- STREAM
- LIMIT OF DISTURBANCE
- EXISTING TREELINE
- PROPOSED/ULTIMATE TREELINE
- 100 YEAR FLOODPLAIN
- EXISTING BUILDING
- PROPOSED BUILDING
- CURB & GUTTER
- PROP. SEWER LINE
- EX. 8" S.
- EX. SEWER MAIN
- EX. 8" W.
- EX. WATER MAIN
- PROP. STORM DRAIN
- EX. STORM DRAIN
- STEEL SLOPES 25%+
- SIDEWALK
- GDA
- SOIL BOUNDARY
- SOIL TYPE
- FOREST CONSERVATION EASEMENT

**SHEET INDEX**

- ENVIRONMENTAL CONCEPT PLAN
- SEDIMENT CONTROL CONCEPT PLAN

**SWM POND SUMMARY TABLE**

Type (per MDE): Sand Filter (F)

REVISED 9/18/15 Hazard Class A Facility

Drainage Area to Facility: DA-1 = 2.51 acres, CN = 84, Tc = 0.10 hrs

WV Provided = 0.08 ac-ft  
WV REQ'D = 139.00  
CV Provided = 0.00 ac-ft

Rev Required: 1475 cf  
Rev Provided by Drywells (1120 cf)  
100-YR Existing Op = 120.0 cfs  
100-YR Proposed Op = 10.06 cfs  
100-YR REQ'D = 136.76

Outfall: Precast Riser Structure to 18" RCP  
T.O.D. = 136.00

**ESD DESIGN NARRATIVE**

THE STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED BY A COMBINATION OF MICRO-SCALE PRACTICES PER CHAPTER 5 OF THE MDE STORMWATER DESIGN MANUAL AND LARGE STRUCTURAL POND. THIS SITE IS IN THE DEEP RUN WATERSHED AND HOWARD COUNTY HAS DETERMINED THAT THIS SITE REQUIRES 100 YEAR MANAGEMENT. THE DEVELOPMENT AREA OF THE SITE IS 508 IMPERVIOUS WHICH WILL REQUIRE A PE OF 1.21. MOST OF THE ROOFTOP AREA WILL BE NATURALLY TREATED BY ROOFTOP DISCONNECT. IF THE SOIL TYPE AND FILL AMOUNT IN THE SURROUNDING LOT AREA ALLOW, THE ROOFTOP AREA WILL BE SENT TO A DRY WELL. IN THE BACKYARDS WHERE DRYWELLS ARE NOT FEASIBLE, 200 GALLON RAIN BARRELS WILL BE USED. SHEET FLOW TO BUFFER WILL BE USED FOR THE LOTS THAT ARE ADJACENT TO OPEN SPACE. EXCEPT FOR THE TWO FLAG LOTS, THE FRONT YARD AND DRIVEWAYS WILL DRAIN TO THE PUBLIC ROAD. ALL OF THE SIDEWALK IN THE PUBLIC RIGHT OF WAY WILL BE PERMEABLE. THE AREA DRAINING TO THE NORTH PUBLIC ROAD WILL BE TREATED BY THE TWO MICRO-BIORETENTION FACILITIES. THE TWO MICRO-BIORETENTIONS WILL OUTLET TO A STORM DRAIN SYSTEM THAT DRAINS TO THE SAND FILTER ON OPEN SPACE LOT 18. THE SAND FILTER WILL PROVIDE THE REMAINING ESD VOLUME AS HWY AND IT WILL PROVIDE 100 YEAR MANAGEMENT FOR THE SITE AREA DRAINING TO IT. THE FLAG 6 LOTS WILL BE TREATED BY A COMBINATION OF ROOFTOP DISCONNECT, SHEET FLOW TO BUFFER, DRYWELLS, AND A BIO-SWALE. THE STRUCTURAL POND, A SURFACE SAND FILTER (F-1), WILL BE A MD-370 CLASS A FACILITY THAT PROVIDES THE REMAINING ESDV AND 100 YEAR MANAGEMENT. THIS POND WILL OUTFALL TO THE DEEP RUN ON THE SOUTH PART OF THE SITE. THE MICRO-BIORETENTION FACILITIES AND SAND FILTER WILL BE JOINTLY MAINTAINED BY HOWARD COUNTY AND THE HOA. ALL OTHER STORMWATER PRACTICES WILL BE PRIVATELY OWNED AND MAINTAINED. THE PROPOSED STORMWATER DEVICES WILL HAVE NO IMPACT ON EXISTING UTILITIES. THERE ARE NO EXISTING UTILITIES IN THE VICINITY OF THE STORMWATER DEVICES. ALL OF THE PROPOSED UTILITIES HAVE BEEN DESIGNED TO TAKE INTO ACCOUNT THE LOCATION AND ELEVATIONS OF THE PROPOSED STORMWATER DEVICES.

THE PROPOSED DEVELOPMENT HAS BEEN CLUSTERED AS MUCH AS POSSIBLE TO PROTECT NATURAL RESOURCES ON THE SITE AND REDUCE THE AMOUNT OF IMPERVIOUS AREA REQUIRED FOR THE DEVELOPMENT. THE SITE OPEN SPACE REQUIREMENT TO LOT SIZE HAS BEEN MAXIMIZED TO ALLOW FOR THE SMALLEST LOT SIZE AND THE LARGEST PERCENTAGE OF OPEN SPACE. 49% OF THE SITE, ABOUT THREE ACRES, WILL BE OPEN SPACE. STREAM BUFFERS AND FOREST CONSERVATION EASEMENTS WILL BE PLACED OVER BOTH OF THE STREAMS ON THE SITE. NO DISTURBANCE IS PROPOSED TO EITHER OF THE STREAM BUFFERS. TO AVOID DISTURBING THE DEEP RUN, THE SEWER OUTFALL IS PROPOSED TO BE INSTALLED IN DORSEY RUN ROAD AND CONNECTING IN THE EXISTING SEWER UNDER DORSEY RUN ROAD ABOUT 200 FEET EAST OF THE PROPOSED PUBLIC ROAD. EIGHT OF THE 21 SPECIMEN TREES ON SITE WILL BE SAVED AND PUT INTO A CONSERVATION EASEMENT. THE NATURAL FLOW PATTERNS ON THE SITE WILL BE MAINTAINED. THE MAJORITY OF THE SITE WILL DRAIN TO THE DEEP RUN AND THE NORTH EAST PART OF THE SITE WILL CONTINUE TO DRAIN TO THE INTERMITTENT STREAM ON SITE. THIS SITE HAS BEEN IDENTIFIED AS POTENTIAL FOREST INTERIOR DWELLING BIRD SPECIES (FDIS) HABITAT.

**SPECIMEN TREE TABLE**

NO.	COMMON NAME	SCIENTIFIC NAME	DHB (Inches)	CONDITION RATING	CONDITION COMMENTS
1*	northern red oak	Quercus rubra	33	Fair	dead branches, trunk injury
2	yellow-poplar	Liriodendron tulipifera	30	Fair	trunk injury
3	American beech	Fagus grandifolia	35	Good	
4*	yellow-poplar	Liriodendron tulipifera	36	Good	
5	yellow-poplar	Liriodendron tulipifera	36	Good	
6	yellow-poplar	Liriodendron tulipifera	36	Fair	poor form
7	yellow-poplar	Liriodendron tulipifera	42	Fair	co-dominant leader
8	yellow-poplar	Liriodendron tulipifera	30	Fair	cavity
9	yellow-poplar	Liriodendron tulipifera	34	Fair	dieback
10	red maple	Acer rubrum	34	Good	
11	red maple	Acer rubrum	38	Good	
12	yellow-poplar	Liriodendron tulipifera	31	Fair	vine cover, dieback
13	yellow-poplar	Liriodendron tulipifera	33	Fair	vine cover, poor form
14*	yellow-poplar	Liriodendron tulipifera	32	Good	
15*	yellow-poplar	Liriodendron tulipifera	41	Good	
16*	American beech	Fagus grandifolia	30	Good	
17*	yellow-poplar	Liriodendron tulipifera	30	Fair	heavy storm damage
18*	yellow-poplar	Liriodendron tulipifera	36	Good	
19*	yellow-poplar	Liriodendron tulipifera	30	Good	
20*	yellow-poplar	Liriodendron tulipifera	31	Good	
21*	yellow-poplar	Liriodendron tulipifera	33	Good	
22*	yellow-poplar	Liriodendron tulipifera	30	Good	
23*	yellow-poplar	Liriodendron tulipifera	35	Good	
24*	yellow-poplar	Liriodendron tulipifera	32	Fair	lighting strike

**PRELIMINARY STORMWATER MANAGEMENT REQUIREMENT**

DEVELOPMENT AREA: 4.50 Ac.  
% IMPERVIOUS: 45%  
Pe: 1.8"

**ESD SUMMARY TABLE**

AREA NO.	AREA (SF)	IMPERVIOUS	ESDV (CF)	Pe PROVIDED
MBR 1	43,373	38%	2,491	1.77
MBR 2	37,775	42%	2,306	1.72
DA 3	40,630	49%	4,034	2.45
DA 11	11,110	34%	758	2.31
DA 12	2,530	48%	137	1.18
DA 13	18,032	55%	994	1.22
TOTAL	153,450	43%	10,704	1.9"

**PRELIMINARY STORMWATER MANAGEMENT PROVIDED BY DEVICE**

MICRO-BIORETENTION:	3,341 CU-FT
BIO-SWALES:	142 CU-FT
DRY WELLS:	1,420 CU-FT
POROUS SIDEWALK:	715 CU-FT
RAIN BARRELS:	3715 CU-FT
SHEETFLOW TO CONSERVATION:	354 CU-FT
ROOFTOP DISCONNECT:	415 CU-FT
TOTAL:	7,375 CU-FT
Pe Provided = 1.32"	
SAND FILTER:	3,321 CU-FT

**SOILS**

Map Unit Symbol	Map Unit Name	Type
Fa	Fallston sandy loam, 0 to 2 percent slopes	D
Ho	Holston-Codorus silt loam, 0 to 3 percent slopes	D
RaB	Russell fine sandy loam, 2 to 5 percent slopes	C
RaC	Russell fine sandy loam, 5 to 10 percent slopes	C
RaD	Russell and Beltsville soils, 2 to 5 percent slopes	C
RaE	Russell and Beltsville soils, 5 to 10 percent slopes	C
SaD	Sassafras and Coon soils, 10 to 15 percent slopes	B

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*K. J. ...* Chief, Division of Land Development  
Date: 6-30-15

*J. P. ...* Chief, Development Engineering Division  
Date: 7/23/2015

**GLW Gutschick Little & Weber, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

**GENERAL NOTES**

- SITE ANALYSIS DATA SHEET
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT OR ASSOCIATED SUBDIVISION PLANS OR PLATS AND/OR SITE DEVELOPMENT PLANS. 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 PLAT AND/OR SITE DEVELOPMENT PLAN STAGES. 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.
- THIS SITE IS SUBJECT TO SECTION 16.022 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL. FOREST CONSERVATION OBLIGATIONS WILL BE FULFILLED UNDER A FUTURE DEVELOPMENT PLAN.
- THIS SITE IS NOT WITHIN THE 2001 CERTIFIED AIRPORT NOISE ZONE (65LDN) OR A 4 MILE RADIUS OF ENR. THIS SUBDIVISION DOES NOT REQUIRE THE MARYLAND AVIATION ADMINISTRATION (MAA) APPROVAL.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY KLEBASKO ENVIRONMENTAL, LLC, DATED MARCH 26, 2014. NO WETLANDS EXIST HOWEVER WATERS OF THE US HAVE BEEN IDENTIFIED ON THE SITE. THE LIMITS OF THE WATERS OF THE US HAVE BEEN CONFIRMED IN WRITING BY THE US ARMY CORPS OF ENGINEERS IN A FINAL JURISDICTIONAL DETERMINATION (JD) DATED DECEMBER 5, 2013.

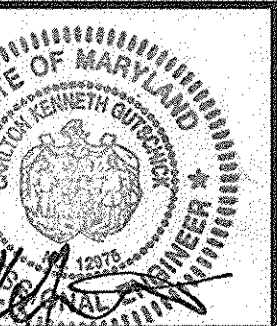
DATE	REVISION	BY	APPR.

PREPARED FOR:  
ROBERTS REAL ESTATE DEVELOPMENT, LLLP  
2124 PRIEST BRIDGE DRIVE  
SUITE ONE  
CROFTON, MD 21114  
BRIAN ROBERTS  
240-461-9172

**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. 7295  
EXPIRATION DATE: MAY 26, 2015

*[Signature]*  
9/18/15



**ENVIRONMENTAL CONCEPT PLAN**

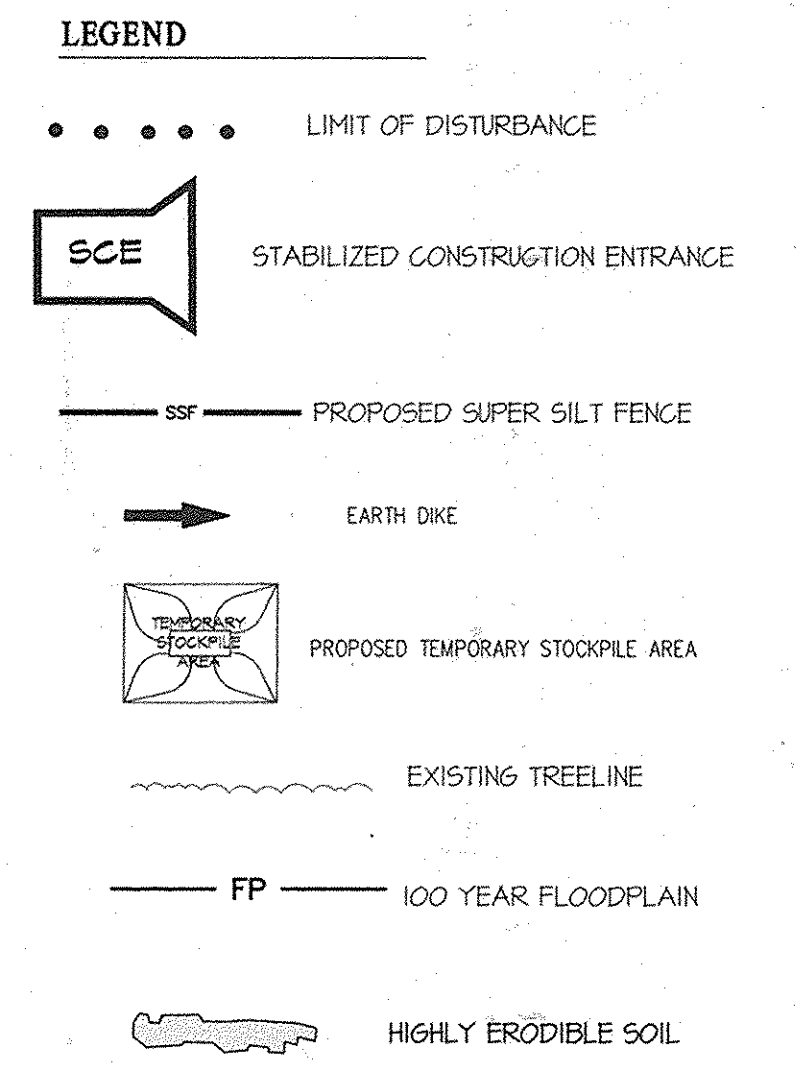
**DORSEY GLEN**  
LOTS 1-15, OPEN SPACE LOTS 16-20, & NON-BUILDABLE BULK PARCEL A  
A RESUBDIVISION OF KANE PROPERTY LOT 2

SCALE: 1"=50'  
ZONING: R-12  
G. L. W. FILE NO.: 12064

DATE: JUNE, 2015  
TAX MAP - GRID: 43 - 6  
SHEET: 1 OF 2

PARCEL: 80 PN: 14104  
ELECTION DISTRICT No. 1  
HOWARD COUNTY, MARYLAND

OWNER LOT 2  
THOMAS MORRIS  
4001 MILLENDER MILL ROAD  
REISTERSTOWN MD 21136



**SOILS**  
Howard County, Maryland (MD0221)

Map Unit Symbol	Map Unit Name	Type
Fa	Fallington sandy loam, 0 to 2 percent slopes	D
Ha	Haltom-Codons silt loams, 0 to 3 percent slopes	D
RaB	Russell fine sandy loam, 2 to 5 percent slopes	C
RaC	Russell fine sandy loam, 5 to 10 percent slopes	C
RaD	Russell and Belleville soils, 2 to 5 percent slopes	C
RaE	Russell and Belleville soils, 5 to 10 percent slopes	C
SrD	Sassafras and Croom soils, 10 to 15 percent slopes	B

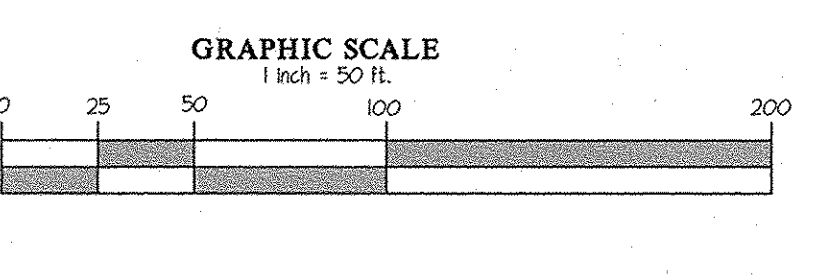
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- THIS SITE IS SUBJECT TO SECTION 16.0202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL. FOREST CONSERVATION OBLIGATIONS WILL BE FULFILLED UNDER A FUTURE DEVELOPMENT PLAN.
- SOIL INFORMATION TAKEN FROM NR.C.S. WEB SOIL SURVEY CUSTOM REPORT DATED JANUARY, 2015.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Neil S. ...* 6-30-15  
Chief, Division of Land Development Date

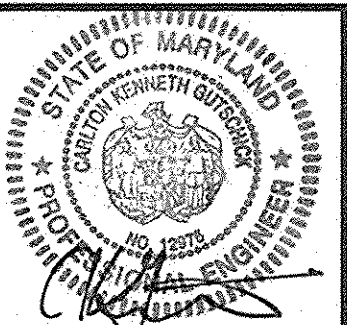
*Chad ...* 7/23/2015  
Chief, Development Engineering Division Date



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EXPIRATION DATE: MAY 26, 2016  
6/18/15



**SEDIMENT CONTROL CONCEPT PLAN**

**DORSEY GLEN**  
LOTS 1-15, OPEN SPACE LOTS 16-20, & NON-BUILDABLE BULK PARCEL A  
A RESUBDIVISION OF KANE PROPERTY LOT 2

PARCEL: 80 PN: 14104

ELECTION DISTRICT No. 1

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-12	12064
DATE	TAX MAP - GRID	SHEET
JUNE, 2015	43 - 6	2 OF 2