

**ESD NARRATIVE**

- NO NATURAL RESOURCES SUCH AS STEEP SLOPES, WETLANDS, STREAMS EXIST ON-SITE. THE PROPOSED MICRO-BIORETENTION FACILITIES WILL PROVIDE STORMWATER QUALITY TREATMENT FOR THE NEW DEVELOPMENT.
- THE IMPROVEMENTS AND DEVELOPED AREA WILL MAINTAIN THE EXISTING DRAINAGE PATTERNS AS CLOSELY AS POSSIBLE. NO DIVERSIONS ARE BEING PROPOSED AND THE PROPOSED GRADING FOLLOWS THE NATURAL FLOW PATTERNS OF THE SITE. THE PROPOSED MICRO-BIORETENTION FACILITIES WILL PROVIDE TREATMENT FOR A PORTION OF THE PROPOSED HOUSE AND THE ENTIRE DRIVEWAY. NON-ROOFTOP DISCONNECTIONS ARE BEING PROPOSED TO PROVIDE TREATMENT FOR THE MAIN PART OF THE PROPOSED HOUSE. NO IMPACT IS PROPOSED THAT WOULD ALTER ANY NATURAL FLOW PATTERNS.
- NON-STRUCTURAL PRACTICES ARE USED TO THE FULLEST EXTENT POSSIBLE. THE DESIGN WILL ACHIEVE REDUCTION OF IMPERVIOUS AREAS THROUGH ELIMINATING APPROXIMATELY 2,230 SQUARE FEET OF THE EXISTING DRIVEWAY ON LOT 2 AND PROVIDING A USE-IN-COMMON SHARED DRIVEWAY FOR LOTS 1 AND 2.
- THE REQUIRED EROSION AND SEDIMENT CONTROL MEASURES WILL BE IN ACCORDANCE WITH THE LATEST MDE STANDARDS AND SPECIFICATIONS UTILIZING SILT FENCES AND SUPER SILT FENCES. NO CONCENTRATION FLOW IS PROPOSED. NO SEDIMENT TRAPS OR BASINS ARE REQUIRED.
- TABLE 5.2, SUMMARY OF SITE DEVELOPMENT STRATEGIES WAS UTILIZED TO THE EXTENT ALLOWABLE BY THE CURRENT HOWARD COUNTY ZONING AND LAND DEVELOPMENT REGULATIONS BY UTILIZING SHARED DRIVEWAY AND MINIMIZING EARTH DISTURBANCE. THE DESIGN WILL ACHIEVE IMPLEMENTATION OF ENVIRONMENTAL SITE DESIGN BY PROVIDING NON STRUCTURAL BMP'S, PROVIDING ROOF-TOP DISCONNECTIONS AND REDUCING THE AMOUNT OF IMPERVIOUS BY REMOVING THE EXISTING DRIVEWAY AND PROVIDING A SHARED DRIVEWAY FOR BOTH LOTS.
- IN DESIGNING THIS PROJECT, AND AFTER WE PLAN THE PROJECT TO MINIMIZE IMPERVIOUS AREAS, WE UTILIZED ESD MEASURES IN THE FOLLOWING ORDER OF PREFERENCE:
  - MICRO-SCALE PRACTICES (M-6)
  - DISCONNECTION OF ROOFTOP (N-1)

**SITE ANALYSIS DATA:**

- AREA OF THE SITE = 1.16 ± ACRE, LIMIT OF DISTURBANCE = 0.50 ± ACRE
- AREA OF THE ROAD DEDICATION = 0.23 ± ACRE
- AREA OF THE PROPOSED IMPERVIOUS = 0.23 ± ACRE
- AREA OF WETLANDS AND ITS BUFFERS = 0
- AREA OF FLOODPLAIN = 0
- AREA OF STREAM BUFFER = 0
- AREA OF STEEP SLOPES = 0 ACRES
- AREA OF FOREST = 0.62 ACRES ±
- TOTAL ENVIRONMENTAL SENSITIVE AREA = 0 ± ACRES
- DEVELOPABLE AREA = 0.93 ± ACRES
- NO SLOPES OF 15%-24.99% OR SLOPES OF 25% OR GREATER EXIST ONSITE.
- NO ERODABLE SOILS EXISTS ON SITE.
- ONE SINGLE FAMILY DETACHED DWELLING IS PROPOSED (LOT 1).
- DUE TO THE SMALL SIZE OF THE PROJECT AND IN ACCORDANCE WITH HOWARD COUNTY REGULATIONS, FEE IN LIEU OF OPEN SPACE WILL BE PAID. HOWARD COUNTY WILL USE THAT FEE TO BETTER IMPLEMENT OPEN SPACE AREAS WITHIN THE COUNTY.

**LEGEND**

- N-1, ROOFTOP DISCONNECTION FLOW PATH
- M-6, MICRO-BIORETENTION
- DRAINAGE AREA
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- POWER POLE
- OVERHEAD ELEC.
- SANITARY MH
- CLEAN OUT
- EX. TREELINE
- WATER METER
- MINOR CONTOUR
- MAJOR CONTOUR
- PROPOSED TREELINE

**OWNER**

WRJ PROPERTIES LLC  
15300 CARRS MILL ROAD  
WOODBINE, MD 21797  
(410) 442-5000

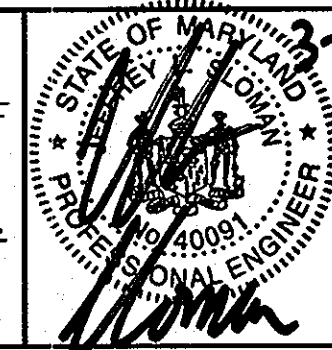
APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

3/7/12  
DATE

3/26/13  
DATE

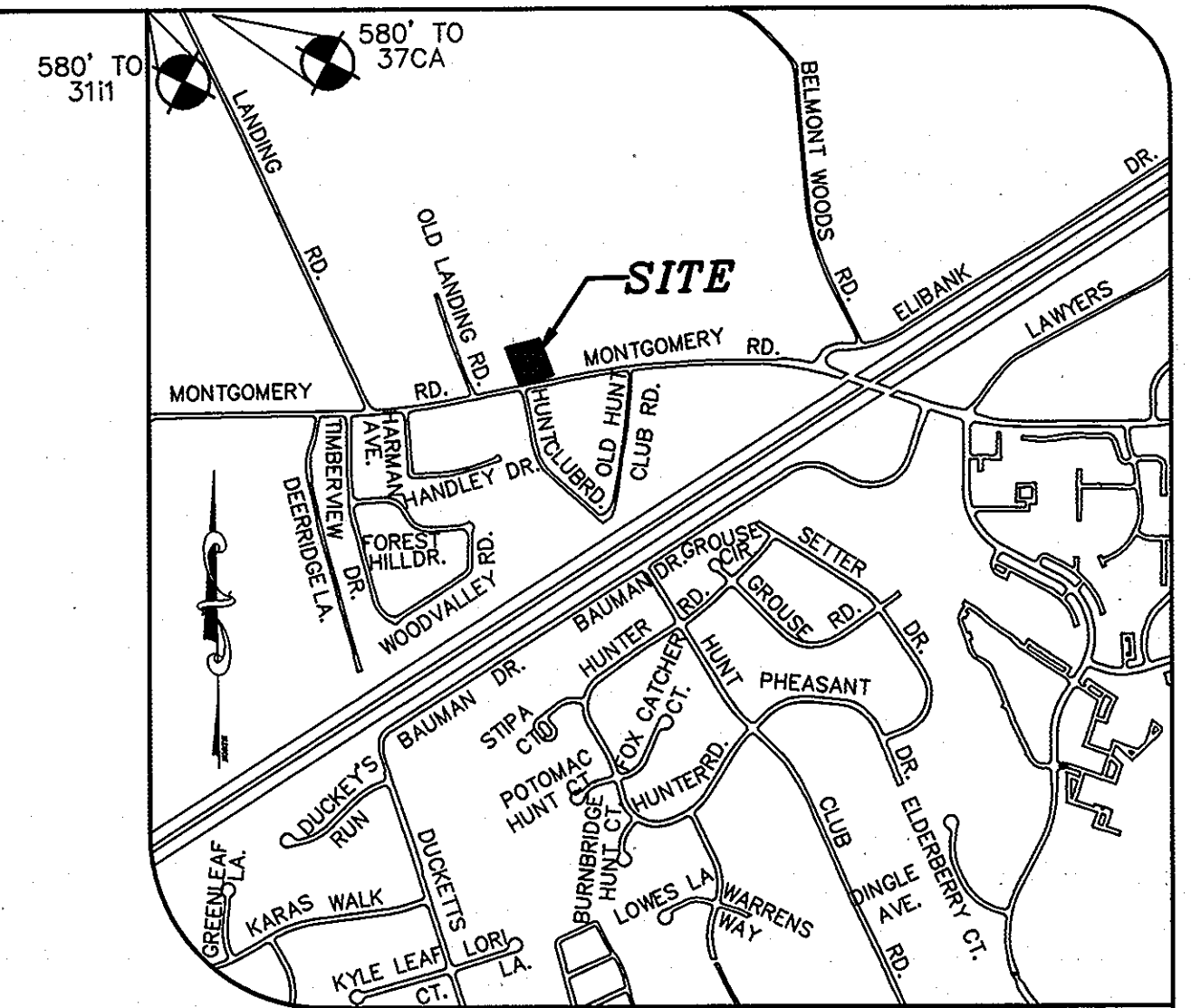
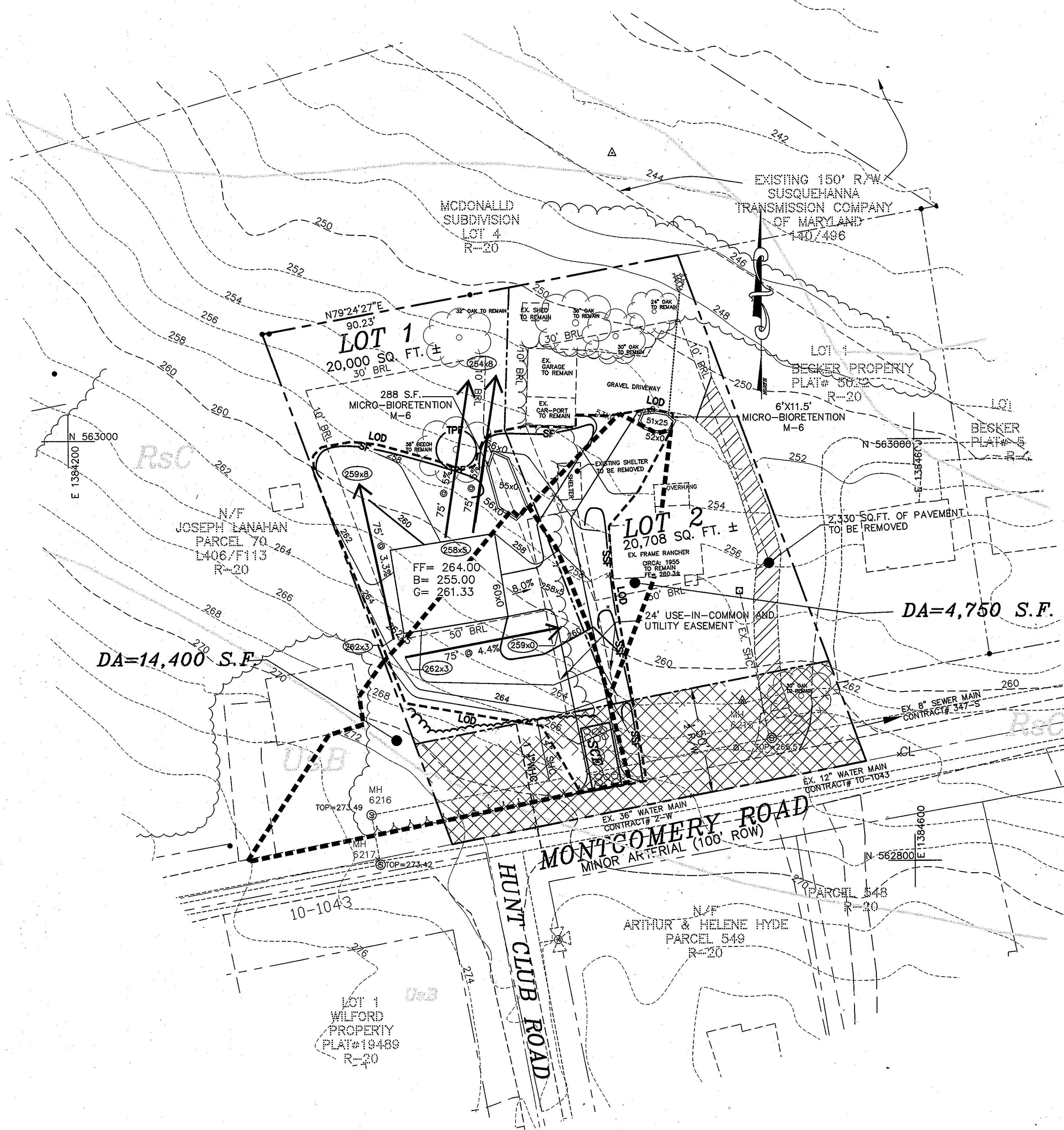


I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 40091, EXP DATE 2/13/13.

**SOILS DESCRIPTION**

R6C- RUSSETT FINE SANDY LOAM, 5-10% SLOPES.(C)  
U6B- URBAN LAND-SASSAFRAS-BELTSVILLE COMPLEX, 0-5% SLOPES.(C)

LOT #	PROPOSED PRACTICES
1	M-6 MICRO-BIORETENTION N-1 ROOFTOP DISCONNECTION
2	M-6 MICRO-BIORETENTION



**NOTES:**

- SITE ANALYSIS DATA:  
LOCATION: TAX MAP : 38 PARCEL: 304 GRID 1  
ELECTION DISTRICT : FIRST  
ZONING : R-20  
TOTAL AREA : 1.16 AC ±  
LIMIT OF DISTURBED AREA : 0.50 AC ±  
PROPOSED USE FOR SITE : RESIDENTIAL  
TOTAL NUMBER OF UNITS : 1  
TYPE OF PROPOSED UNIT : SFD  
DEED REFERENCE : 8066 / 380
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 47CM7 & 47CM2  
STA. No. 47CM7 EL. 207.49  
STA. No. 47CM2 EL. 281.63
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS (COUNCIL BILL 45-2003). DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION OR BUILDING/GRADING PERMIT.
- SITE DEVELOPMENT PLAN APPROVAL BY THE DEPARTMENT OF PLANNING AND ZONING IS REQUIRED PRIOR TO BUILDING PERMITS BEING ISSUED FOR THE CONSTRUCTION OF RESIDENTIAL DWELLINGS ON THESE LOTS.
- THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH SECTION 16.127 RESIDENTIAL INFILL DEVELOPMENT OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE DEVELOPERS OF THIS PROJECT SHALL CREATE COMPATIBILITY WITH EXISTING NEIGHBORHOOD THROUGH THE USE OF ENHANCED PERIMETER LANDSCAPING, BERMS, FENCES, SIMILAR HOUSING UNIT TYPES AND THE DIRECTIONAL ORIENTATION OF THE PROPOSED HOUSES.
- PROJECT BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT NOVEMBER 2011.
- TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY PERFORMED ON OR ABOUT NOVEMBER 2011.
- THIS SUBDIVISION IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202(b)(vii) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. IT IS A MINOR SUBDIVISION THAT CREATES ONE ADDITIONAL LOT AND HAS NO FURTHER SUBDIVISION POTENTIAL.
- NO WETLANDS, FLOODPLAIN, STREAMS OR THEIR BUFFERS OR STEEP SLOPES EXIST ON OR IMPACT THIS PARCEL.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION AND/OR SITE DEVELOPMENT 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 AND SITE PLAN STAGES. THEREFORE, THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED COMMENTS (INCLUDING THOSE THAT MAY ALTER OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES.
- THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT.
- HORIZONTAL GEOMETRY OF THE MICRO-BIORETENTION MAY BE MODIFIED WHILE MAINTAINING SURFACE AREA.

**SWM PRACTICES SCHEDULE**

LOT	Using Table 5.3 with I = 25% and soil group C
LOT 1	PE=12" QE=(PE)(Rv) Rv=0.05+(0.009)(I) Rv=0.05+(0.009)(20.0), Rv=0.24 QE=(1.2)(0.24), QE=0.29 Use three (4) rooftop disconnections (N-1) at a minimum of 75' each with an average slope of less than 5% contributing area of less than 500 S.F. for each disconnection. P.E. treated at the three 75' disconnections = 1" (Table 5.4) Overall P.E. treated (2,000)(1.0)(4,150)=8,300 Remaining PE 1.0-0.48= 0.52 ESDv=(Pe)(Rv)(a) <sup>1/2</sup> ESDv required for entire lot=(1.2)(0.24)(20,000) <sup>1/2</sup> =480 C.F. Required ESDv = 480 - (1.2)(0.24)(20,000) <sup>1/2</sup> = 313.3 C.F. Use ESDv=313 C.F. One M-6 Micro-Bioretenion will be provided on lot 1. Surface area = (2% of drainage area) = 14,400(0.02) = 288 S.F. Ponding Depth = 12" Volume in ponding (75% REQ.) = 235 C.F. Volume in ponding provided = 288 C.F. Volume in gravel req. = 78 C.F. Volume in gravel provided = 115 C.F.
LOT 2	Using Table 5.3 with I = 20% and soil group "C" PE=10" QE=(PE)(Rv) Rv=0.05+(0.009)(I) Rv=0.05+(0.009)(20), Rv=0.23 QE=(1.0)(0.23), QE=0.23 Required ESDv=(Pe)(Rv)(a) <sup>1/2</sup> ESDv=(1.0)(0.23)(4,750) <sup>1/2</sup> =91 C.F. One M-6 Micro-Bioretenion will be provided on lot 2. Surface area = (2% of drainage area) = 4,750(0.02) = 95 S.F. Ponding Depth = 9" Volume in ponding (75% REQ.) = 88 C.F. Volume in ponding provided = 71 C.F. Volume in gravel req. = 22 C.F. Volume in gravel provided = 38 C.F.

Project	11-022	date	FEB. 2012
Illustration	MMT	scale	1"=30'
Approval	MMT	date	
Revisions		description	

no.	description	date

WRJ PROPERTY  
LOTS 1 AND 2  
TAX MAP 38, PARCEL 304, BLOCK 1  
FIRST ELECTION DISTRICT  
HOWARD COUNTY  
ENVIRONMENTAL CONCEPT PLAN

MILDENBERG, BOENDER & ASSOC., INC.  
Engineers Planners Surveyors  
6800 Deepwater Road, State 15, Elkridge, Maryland 21075  
(410) 987-0286 Fax