

GENERAL NOTES

1. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
2. THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED JULY 2014. OFFSITE TOPOGRAPHY FROM HOWARD COUNTY GIS.
3. THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED JUNE 4, 2014.
4. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. 24BA AND 24CA WERE USED FOR THIS PROJECT.
5. THE SUBJECT PROPERTY IS ZONED "R-12" IN ACCORDANCE WITH THE 10 / 2013 COMPREHENSIVE ZONING PLAN AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.
6. 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.
7. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
8. WATER FOR THIS PROJECT IS TO BE SERVICE CONNECTIONS FROM CONTRACT NO. 14-4106.
9. SEWER FOR THIS PROJECT IS TO BE SERVICE CONNECTIONS FROM CONTRACT NO. 14-4106.
10. EXISTING UTILITIES LOCATED FROM TOPOGRAPHIC SURVEY AND AS-BUILT DRAWINGS. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.
11. NO FLOODPLAIN IS LOCATED ONSITE.
12. NO STEEP SLOPES OVER 20,000 SF CONTIGUOUS ARE LOCATED ONSITE.
13. FOREST CONSERVATION OBLIGATIONS FOR THIS PROJECT SHALL BE ADDRESSED BY A FOREST CONSERVATION PLAN SUBMITTED WITH A FUTURE SUBDIVISION PLAN.
14. WETLANDS AND STREAMS SHOWN ONSITE ARE BASED ON ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, AUGUST 2014
15. IN ACCORDANCE WITH SECTION 16.121(A)(2) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THE OPEN SPACE REQUIREMENTS FOR THIS R-12 PROJECT IS 30% OF GROSS AREA (3.13 AC. GROSS AREA x 30% = 0.94 AC.). REFER TO OPEN SPACE LOT 10.
16. GEOTECHNICAL INVESTIGATIONS SHALL COMPLETED AS PART OF THE FUTURE SUBDIVISION PLANS.
17. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
18. FOREST STAND DELINEATION PLAN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, AUGUST 2014. MR. CANOLES NOTED 4 SPECIMEN TREES ON THE PROJECT SITE. THIS PROPOSAL REQUIRES THE REMOVAL OF SPECIMEN TREES #1 & #3. THE REQUIRED WAIVER PETITION SHALL BE REQUESTED UNDER THE WITH A FUTURE SUBDIVISION PLAN.
19. ST. JOHN'S LANE IS CLASSIFIED AS A MINOR COLLECTOR. PROPOSED WIDENING SHALL BE IN CONFORMANCE WITH THE DESIGN MANUAL / ACCESS STREET.
20. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED ON THIS PROPERTY.
21. THE EXISTING DWELLING AND STRUCTURES SHALL BE REMOVED.
22. THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
23. STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF MICRO-SCALE AND NON STRUCTURAL PRACTICES PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE MICRO-BIORETENTION (M-6), RAIN GARDEN (M-7) AND DRYWELL (M-5) FACILITIES AS WELL AS NON STRUCTURAL PRACTICES; DISCONNECTION OF ROOFTOP RUNOFF (N-1). THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
24. AS THE PROJECT IS LOCATED IN THE TIBER-HUDSON WATERSHED, 10 AND 100 YEAR QUANTITY MANAGEMENT IS REQUIRED AND SHALL BE MET THROUGH THE USE OF A QUANTITY TYPE STORMWATER MANAGEMENT FACILITY, SEE SHEET 3.
24. 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.
25. APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) BY THE HOWARD SOIL CONSERVATION DISTRICT DOES NOT GRANT APPROVAL OF THE PROPOSED SEDIMENT CONTROL SCHEME.
26. A DESIGN ADVISORY PANEL (DAP) MEETING IS REQUIRED PRIOR TO THE SUBMISSION OF THIS PROJECTS PRELIMINARY EQUIVALENT SKETCH PLAN

ENVIRONMENTAL SITE DESIGN NARRATIVE:

- IN ACCORDANCE WITH CHECKLIST ITEM III.K.
- III.K.1&2.
- A. THE NATURAL AREAS ON THE PROJECT SITE ARE LOCATED IN THE EASTERNMOST PORTION OF THE SITE. NO DISTURBANCE TO THE STREAM AND STREAM BUFFER, WETLAND AND WETLAND BUFFER OR THEIR WOODED RESOURCES IS PROPOSED.
- B. NO DRAMATIC DISTURBANCE TO THE NATURAL DRAINAGE PATTERNS ARE PROPOSED, PLEASE REFER TO THE PROPOSED GRADING, SHEET 2.
- C. THE CONCEPTUAL REDUCTION IN IMPERVIOUS AREA THROUGH BETTER SITE DESIGN IS ACHIEVED THROUGH THE ENVIRONMENTAL SITE DESIGN (ESD) FOR THE PROJECT. THE ESD CONCEPT INCLUDES THE USE OF MICRO-SCALE PRACTICES TO INCLUDE MICRO-BIORETENTION (M-6) AND RAIN GARDEN (M-7) FACILITIES AND DRYWELLS (M-5) AS WELL AS NON STRUCTURAL PRACTICES; DISCONNECTION OF ROOFTOP RUNOFF (N-1).
- D. SEDIMENT CONTROL FOR THIS SPECIFIC SITE PLAN WILL BE PROVIDED THROUGH THE USE OF A PROPOSED SEDIMENT TRAP (TO BE CONVERTED TO A (M-6) MICRO-BIORETENTION FACILITY, EARTH DIKES, AND SILT FENCE PERIMETER CONTROLS. SEDIMENT CONTROL SHALL BE IN ACCORDANCE WITH CURRENT REQUIREMENTS AND SHALL BE APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT.
- E. STORMWATER MANAGEMENT FOR THE PROJECT SHALL BE MET THROUGH THE USE OF MICRO-BIORETENTION (M-6) FACILITIES, DRYWELLS (M-5) AND DISCONNECTION OF ROOFTOP RUNOFF AT < 5% (N-1).
- AS THE PROJECT IS LOCATED IN THE TIBER-HUDSON WATERSHED, 10 AND 100 YEAR QUANTITY MANAGEMENT IS REQUIRED AND SHALL BE MET THROUGH THE USE OF A QUANTITY TYPE STORMWATER MANAGEMENT FACILITY, SEE SHEET 3.
- F. THE RESULTS OF THE ENVIRONMENTAL SITE DESIGN FOR THIS PROJECT WILL REFLECT "WOODS IN GOOD CONDITION".
- III.K.3.
- AT THIS CONCEPT STAGE OF DEVELOPMENT, NO DESIGN MANUAL WAIVERS AND/OR WAIVER PETITIONS FOR ENVIRONMENTAL AND STORMWATER MANAGEMENT DESIGN ARE REQUIRED.
- III.K.4.
- AT THIS CONCEPT STAGE OF DEVELOPMENT, THIS ITEM IS NOT APPLICABLE TO THIS PROJECT.

ENVIRONMENTAL CONCEPT PLAN

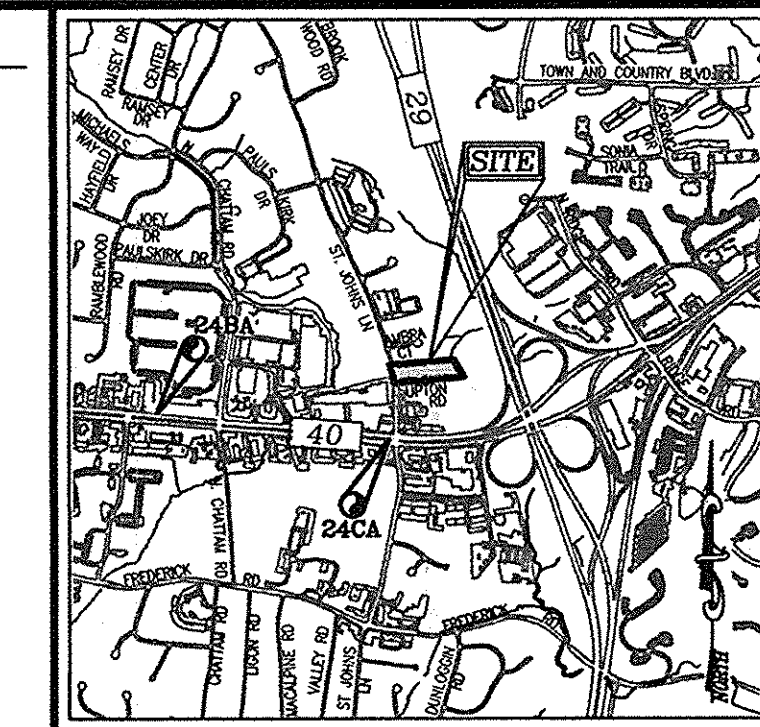
MAPLE GROVE

9060 UPTON ROAD
PARCEL 41
L. 11452/F. 0168
ELLICOTT CITY, MARYLAND

BENCHMARKS

HOWARD COUNTY BENCHMARK - 24BA
N 586783.2418 E 1359211.6558 ELEV. 385.66
LOCATION: MD ROUTE 40 NEAR PLUM TREE DR

HOWARD COUNTY BENCHMARK - 24CA
N 586506.1767 E 1361634.2691 ELEV. 398.314
LOCATION: MEDIAN ON MD ROUTE 40 AT ST. JOHN'S LANE



VICINITY MAP
SCALE: 1"=2000'
ADC MAP/GRID = 12/87

SHEET INDEX	
DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 4
SITE LAYOUT	2 OF 4
GRADING PLAN	3 OF 4
SWM DRAINAGE AREA MAP, NOTES & DETAILS	4 OF 4

LEGEND

	PROPERTY LINE
	RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LINE
	CENTERLINE OF EXISTING STREAM
	EXISTING TREELINE
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER



PLAN VIEW
SCALE: 1"=50'

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL			
MAPLE GROVE	-	PARCEL 41			
PLAT REF.	BLOCK NO	ZONE	TAX MAP	ELECT. DIST.	CENSUS TR.
N/A	41	R-12	24	2ND	602800

DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
C/O MR. DAVID CARNEY
C/O MR. TIM KEANE

OWNER
CHRISTINE AND CHARLES MANAHAN
6098 LA JOLLA MESA DRIVE
LA JOLLA, CA 92037-7853
858-551-7551
C/O MR. DAVID CARNEY
410-740-4600

SITE ANALYSIS DATA CHART

A. TOTAL PROJECT AREA:	136,517 S.F. OR 3.134 AC.
B. AREA OF PLAN SUBMISSION:	136,517 S.F. OR 3.134 AC.
C. AREA OF WETLANDS AND BUFFERS:	0 S.F.
D. AREA OF FLOODPLAIN:	0 S.F. OR 0.00 AC.
E. AREA OF FOREST:	0 S.F. OR 0.00 AC. (REFER TO FSD)
F. AREA OF STEEP SLOPES (15% & GREATER):	0 S.F. OR 0.00 AC.
G. ERODIBLE SOILS:	N/A
H. LIMIT OF DISTURBED AREA:	119910 S.F. OR 2.75 AC.
I. PROPOSED USES FOR SITE AND STRUCTURES:	RESIDENTIAL SINGLE FAMILY DETACHED (SFD) HOMES
J. GREEN OPEN AREA:	2.19 AC.
K. PROPOSED IMPERVIOUS AREA:	0.94 AC. (INCLUDES ROAD WIDENING)
L. PRESENT ZONING DESIGNATION:	R-12
M. OPEN SPACE REQUIRED:	0.90 ACRES (30%)
N. TOTAL NUMBER OF UNITS ALLOWED:	9
O. TOTAL NUMBER OF UNITS PROPOSED:	9
P. DPZ FILE REFERENCES:	-

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 2-20-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 2/13/15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

ENVIRONMENTAL CONCEPT PLAN

COVER SHEET

MAPLE GROVE
9060 UPTON ROAD
ELLICOTT CITY, MARYLAND

TAX MAP 24 BLOCK 41 ZONED: R-12 PARCEL 41
2ND ELECTION DISTRICT L. 11452/F. 0168 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET TEL: 410.461.7666
ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RHV
DRAWN BY: KG
CHECKED BY: RHV
DATE: DECEMBER 2014
SCALE: AS SHOWN
W.O. NO.: 14-25

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

1 SHEET OF 4

K:\Projects\14-25\ENR\ENR_ECP_COVER.dwg, 10/16/2014 8:53:57 AM

NOTES:

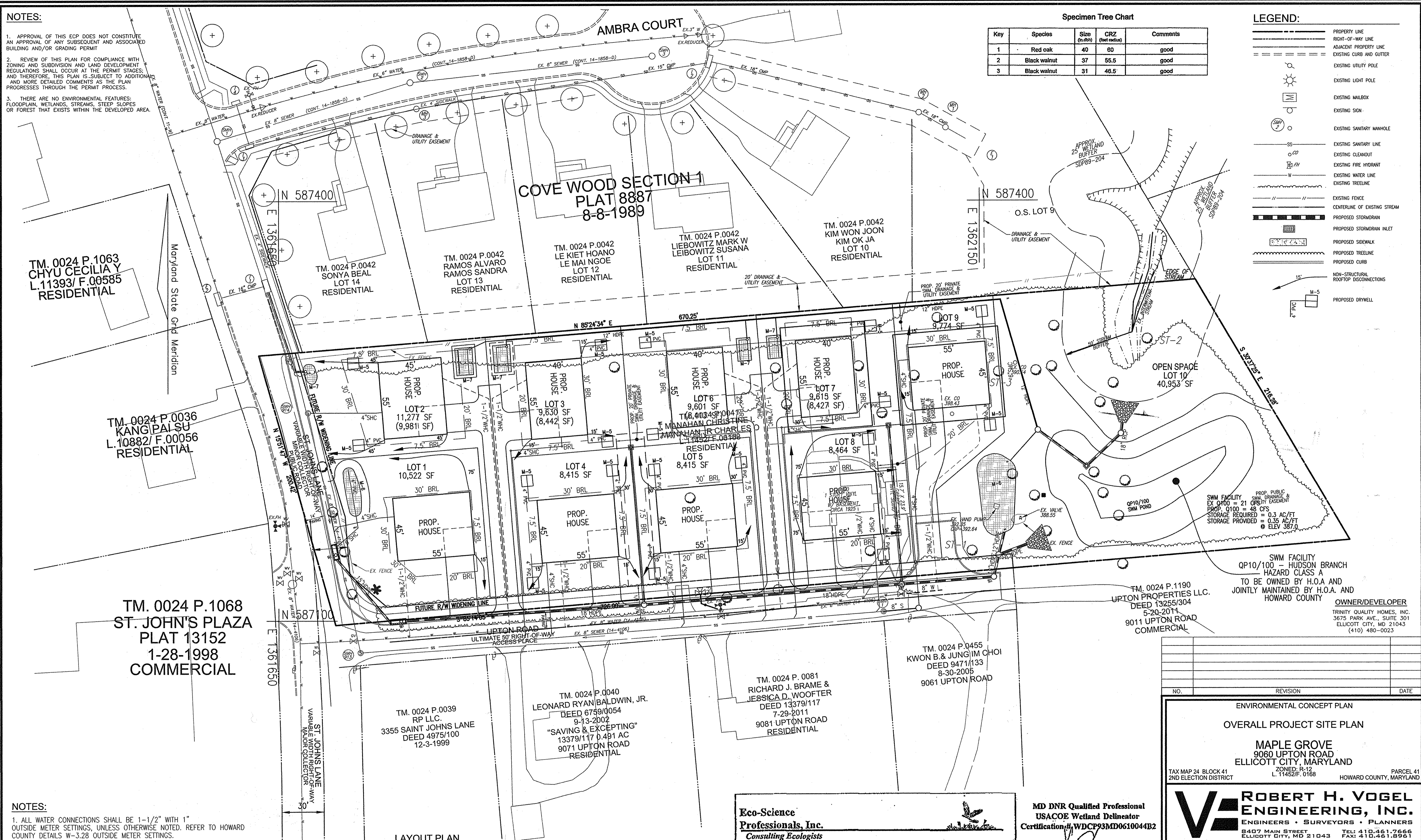
1. APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED BUILDING AND/OR GRADING PERMIT
2. REVIEW OF THIS PLAN FOR COMPLIANCE WITH ZONING AND SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SHALL OCCUR AT THE PERMIT STAGES; AND THEREFORE, THIS PLAN IS SUBJECT TO ADDITIONAL AND MORE DETAILED COMMENTS AS THE PLAN PROGRESSES THROUGH THE PERMIT PROCESS.
3. THERE ARE NO ENVIRONMENTAL FEATURES: FLOODPLAIN, WETLANDS, STREAMS, STEEP SLOPES OR FOREST THAT EXISTS WITHIN THE DEVELOPED AREA.

Specimen Tree Chart

Key	Species	Size (in dbh)	CRZ (feet radius)	Comments
1	Red oak	40	60	good
2	Black walnut	37	55.5	good
3	Black walnut	31	48.5	good

LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- 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 TREELINE
- EXISTING FENCE
- CENTERLINE OF EXISTING STREAM
- PROPOSED STORMDRAIN
- PROPOSED STORMDRAIN INLET
- PROPOSED SIDEWALK
- PROPOSED TREELINE
- PROPOSED CURB
- NON-STRUCTURAL ROOFTOP DISCONNECTIONS
- PROPOSED DRYWELL



PROPOSED PUBLIC SWM FACILITY
 EX 0100 = 21 CFS
 PROP. 0100 = 48 CFS
 STORAGE REQUIRED = 0.35 AC/FT
 STORAGE PROVIDED = 0.35 AC/FT @ ELEV 387.0

SWM FACILITY
 QP10/100 - HUDSON BRANCH
 HAZARD CLASS A
 TO BE OWNED BY H.O.A. AND
 JOINTLY MAINTAINED BY H.O.A. AND
 HOWARD COUNTY

TM. 0024 P.1190
 UPTON PROPERTIES LLC.
 DEED 13255/304
 5-20-2011
 9011 UPTON ROAD
 COMMERCIAL

TM. 0024 P.0455
 KWON B. & JUNGIM CHOI
 DEED 9471/133
 8-30-2005
 9061 UPTON ROAD

TM. 0024 P. 0081
 RICHARD J. BRAME &
 JESSICA D. WOOFER
 DEED 13379/117
 7-29-2011
 9081 UPTON ROAD
 RESIDENTIAL

TM. 0024 P.0040
 LEONARD RYAN BALDWIN, JR.
 DEED 6759/0054
 9-13-2002
 "SAVING & EXCEPTING"
 13379/117 P.491 AC
 9071 UPTON ROAD
 RESIDENTIAL

TM. 0024 P.0039
 RP LLC.
 3355 SAINT JOHNS LANE
 DEED 4975/100
 12-3-1999

TM. 0024 P.1068
 ST. JOHN'S PLAZA
 PLAT 13152
 1-28-1998
 COMMERCIAL

TM. 0024 P.0036
 KANG PALSU
 L.10882/ F.00056
 RESIDENTIAL

TM. 0024 P.1063
 CHYU CECILIA Y
 L.11393/ F.00585
 RESIDENTIAL

COVE WOOD SECTION 1
 PLAT 8887
 8-8-1989

TM. 0024 P.0042
 SONYA BEAL
 LOT 14
 RESIDENTIAL

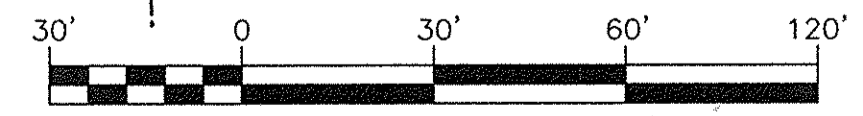
TM. 0024 P.0042
 RAMOS ALVARO
 RAMOS SANDRA
 LOT 13
 RESIDENTIAL

TM. 0024 P.0042
 LE KIET HOANO
 LE MAI NGOE
 LOT 12
 RESIDENTIAL

TM. 0024 P.0042
 LIEBOWITZ MARK W
 LIEBOWITZ SUSANA
 LOT 11
 RESIDENTIAL

TM. 0024 P.0042
 KIM WON JOON
 KIM OK JA
 LOT 10
 RESIDENTIAL

LAYOUT PLAN
 SCALE: 1"=30'



NOTES:

1. ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-3.28 OUTSIDE METER SETTINGS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chil Chatterjee 2-20-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Katrina Balaban 2/13/15
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Eco-Science Professionals, Inc.
 Consulting Ecologists

P.O. Box 5006 Glen Arm, Maryland 21057 Telephone (410) 832-2480 Fax (410) 832-2488

MD DNR Qualified Professional
 USACOE Wetland Delinator
 Certification # WDCEP03MD0610044B2

John P. Canoles
 John P. Canoles

ENVIRONMENTAL CONCEPT PLAN
 OVERALL PROJECT SITE PLAN

MAPLE GROVE
 9060 UPTON ROAD
 ELLICOTT CITY, MARYLAND

TAX MAP 24 BLOCK 41
 2ND ELECTION DISTRICT

ZONED: R-12
 L: 11452/F: 0168

PARCEL 41
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET
 ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8966

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: DECEMBER 2014
 SCALE: AS SHOWN
 W.O. NO.: 14-25

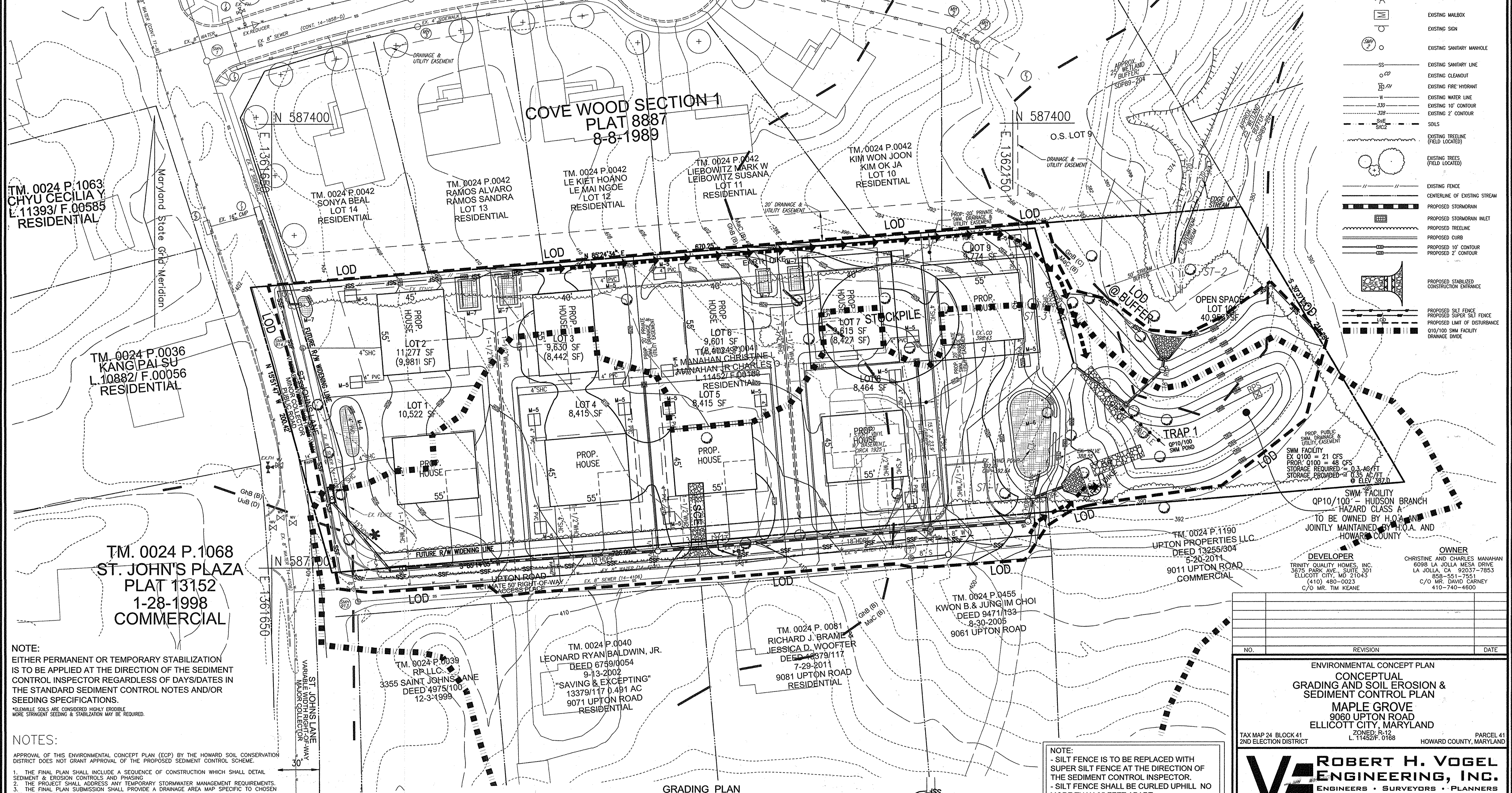
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 15183 EXPIRATION DATE 09-27-2016

2 SHEET OF 4

MAPPED SOILS TYPES - CLARKSVILLE SE MAP #23					
SYMBOL NAME / DESCRIPTION	GROUP	HYDRO	PERCENT	K FACTOR	ERODIBILITY
CHB	CLAYEY-HISSAN LOAM COMPLEX, 0 TO 8 PERCENT SLOPES	B	NO	0.28	NO
CHC	CLAYEY-HISSAN SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	0.43	PARTIAL
MAC	MINOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	YES

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY, MARYLAND
 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.
 *GLENNVILLE SOILS ARE CONSIDERED HIGHLY ERODIBLE. MORE STRINGENT SEEDING & STABILIZATION MAY BE REQUIRED.

LEGEND:	
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LINE
	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 10' CONTOUR
	EXISTING 2' CONTOUR
	SOILS
	EXISTING TREE LINE (FIELD LOCATED)
	EXISTING TREES (FIELD LOCATED)
	EXISTING FENCE
	CENTERLINE OF EXISTING STREAM
	PROPOSED STORM DRAIN
	PROPOSED STORM DRAIN INLET
	PROPOSED TREE LINE
	PROPOSED CURB
	PROPOSED 10' CONTOUR
	PROPOSED 2' CONTOUR
	PROPOSED STABILIZED CONSTRUCTION ENTRANCE
	PROPOSED SILT FENCE
	PROPOSED LIMIT OF DISTURBANCE
	010/100 SWM FACILITY DRAINAGE DIVIDE

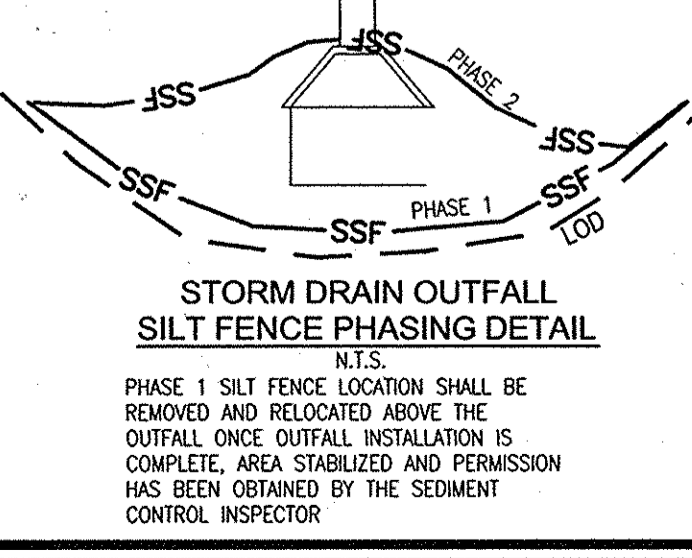


NOTE:
 EITHER PERMANENT OR TEMPORARY STABILIZATION IS TO BE APPLIED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR REGARDLESS OF DAYS/DATES IN THE STANDARD SEDIMENT CONTROL NOTES AND/OR SEEDING SPECIFICATIONS.
 *GLENNVILLE SOILS ARE CONSIDERED HIGHLY ERODIBLE. MORE STRINGENT SEEDING & STABILIZATION MAY BE REQUIRED.

NOTES:
 APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN (ECP) BY THE HOWARD SOIL CONSERVATION DISTRICT DOES NOT GRANT APPROVAL OF THE PROPOSED SEDIMENT CONTROL SCHEME.
 1. THE FINAL PLAN SHALL INCLUDE A SEQUENCE OF CONSTRUCTION WHICH SHALL DETAIL SEDIMENT & EROSION CONTROLS AND PHASING.
 2. THE PROJECT SHALL ADDRESS ANY TEMPORARY STORMWATER MANAGEMENT REQUIREMENTS.
 3. THE FINAL PLAN SUBMISSION SHALL PROVIDE A DRAINAGE AREA MAP SPECIFIC TO CHOSEN SEDIMENT CONTROLS.
 4. THE FINAL PLAN SUBMISSION SHALL PROVIDE COMPUTATIONS TO VERIFY VELOCITIES AT CHOSEN DIKES, SWALES AND AT DIKES OUTLET LOCATIONS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 2/20/15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
 [Signature] 2/13/15
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

GRADING PLAN
 SCALE: 1"=30'



NOTE:
 - SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
 - SILT FENCE SHALL BE CURLED UPHILL. NO MORE THAN 35 FEET APART.
 - DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

NOTE:
 CONTRACTOR TO PROVIDE IMMEDIATE REPAIR OF ANY EARTH DIKES INTERRUPTED DURING CONSTRUCTION.

NO.	REVISION	DATE

ENVIRONMENTAL CONCEPT PLAN
 CONCEPTUAL GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN
 MAPLE GROVE
 9060 UPTON ROAD
 ELLICOTT CITY, MARYLAND
 TAX MAP 24 BLOCK 41 2ND ELECTION DISTRICT
 ZONED R-12
 L. 11452/F. 0168
 PARCEL 41
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043
 TEL: 410-461-7666 FAX: 410-461-8961

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, EXPIRES DATE 08-27-2018.
 DESIGN BY: RHY
 DRAWN BY: KC
 CHECKED BY: RHY
 DATE: DECEMBER 2014
 SCALE: AS SHOWN
 W.O. NO.: 14-25
 3 SHEET OF 4

MAPLE GROVE - ECP ESDv COMPUTATIONS

Table with columns: DA #, % IMPERV, Rv, DA (SF), DA (AC), MINIMUM VOLUME, MAXIMUM VOLUME, 1.6" VOLUME PROVIDED, IMPERV (SF), IMPERV (AC), GREEN AREA, REMARKS. Includes sub-totals for various lots and a grand total.

Note 1 - On-Lot Practices (Lots 1, 4, 5, 8 and 9) decrease the untreated area to this facility thereby reducing the overall 59250 SF Drainage Area Bypass Structure proposed

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 2/20/15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE 2/13/15

NOTE: AS THE PROJECT IS LOCATED IN THE TIBER-HUDSON WATERSHED, 10 AND 100 YEAR QUANTITY MANAGEMENT IS REQUIRED AND SHALL BE MET THROUGH THE USE OF A QUANTITY TYPE STORMWATER MANAGEMENT FACILITY, SEE SHEET 3.

Vertical text on the left edge of the page.

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

1. MATERIAL SPECIFICATIONS
2. FILTERING MEDIA OR PLANTING SOIL
3. COMPACTION
4. PLANT MATERIAL
5. PLANT INSTALLATION
6. UNDERDRAINS
7. MISCELLANEOUS

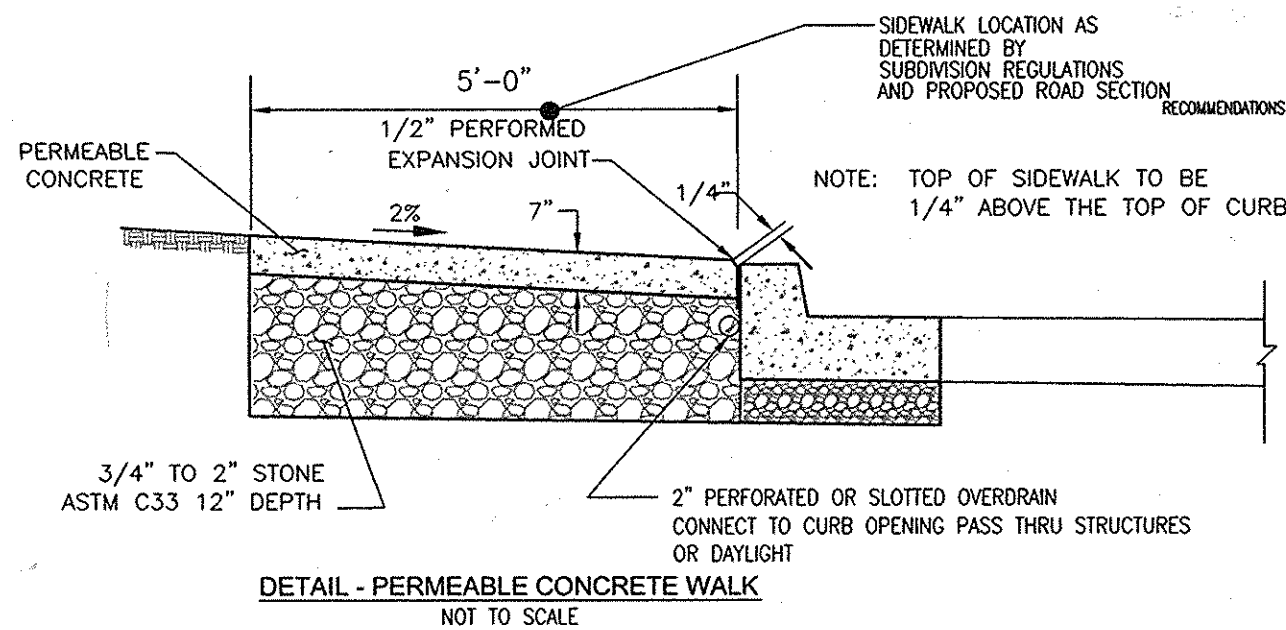
OPERATION AND MAINTENANCE SCHEDULE FOR (M-6) MICROBIORETENTION AREAS

- 1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING, PLANT MIX & INSTALLATION...
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL...
3. MULCH SHALL BE INSPECTED EACH SPRING...
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS...

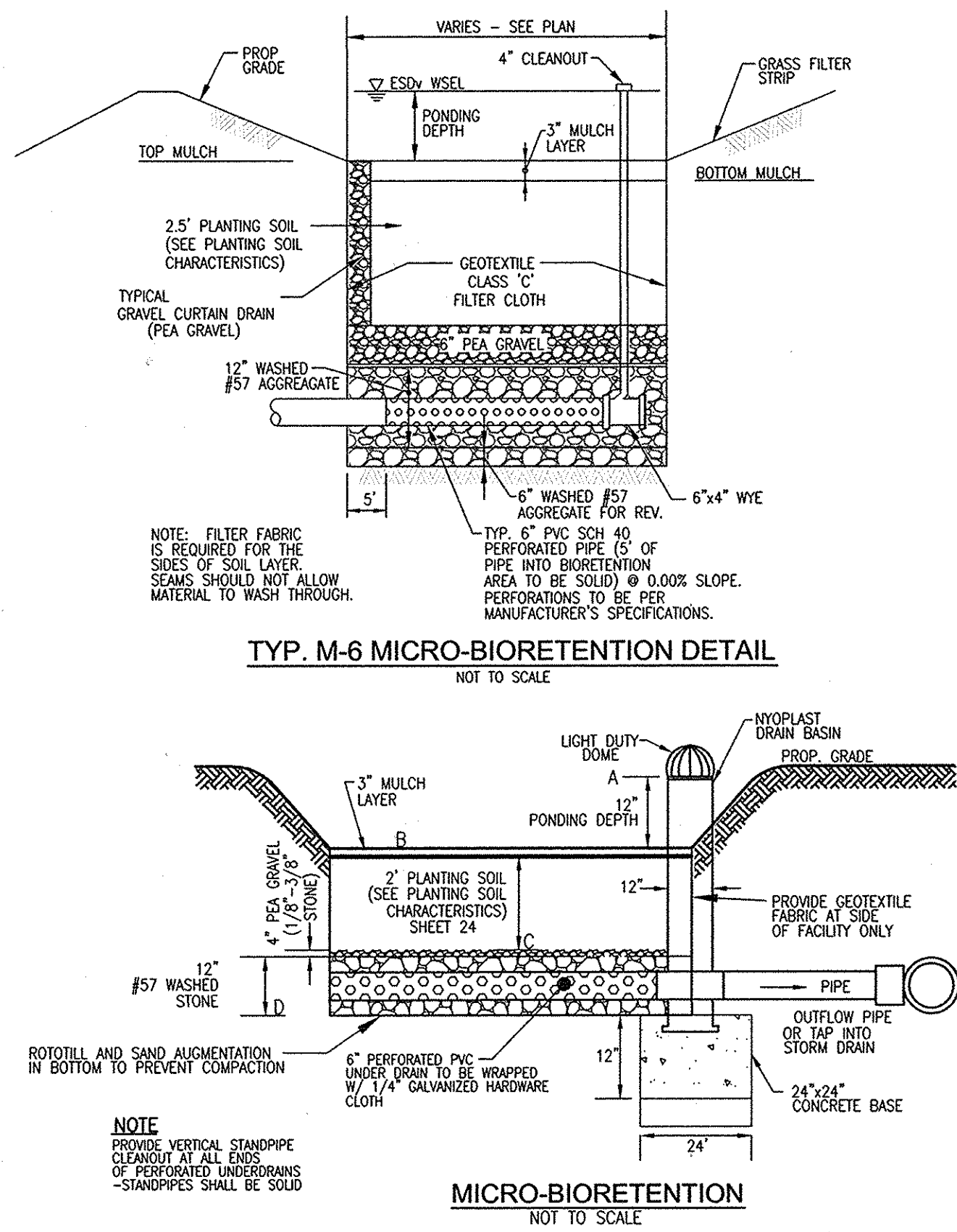
B.4.B SPECIFICATIONS FOR PERMEABLE PAVEMENTS & REINFORCED TURF

THESE SPECIFICATIONS INCLUDE INFORMATION ON ACCEPTABLE MATERIALS FOR TYPICAL APPLICATIONS AND ARE NOT EXCLUSIVE OR LIMITING. THE DESIGNER IS RESPONSIBLE FOR DEVELOPING SPECIFICATIONS FOR INDIVIDUAL PROJECTS AND SPECIFIC CONDITIONS.

- 1. PERVIOUS CONCRETE SPECIFICATIONS
DESIGN THICKNESS - PERVIOUS CONCRETE APPLICATIONS SHALL BE DESIGNED SO THAT THE THICKNESS OF THE CONCRETE SLAB SHALL SUPPORT THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED...
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR...
3. MULCH SHALL BE INSPECTED EACH SPRING...
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS...



- NOTES
1. SIDEWALK TO BE SCURED IN 5'-0" MAXIMUM SQUARES.
2. EXPANSION JOINTS ACROSS THE SIDEWALK NOT TO BE MORE THAN 15' APART.
3. 1/2" PERFORMED EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" ABOVE SURFACE OF SIDEWALK.
4. WHEN SIDEWALK ADJUTS CURB, SIDEWALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PERFORMED EXPANSION JOINT BETWEEN SIDEWALK AND CURB.



Appendix B.4. Construction Specifications for Environmental Site Design Practices

Table B.4.1 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration. Columns: Material, Specification, Size, Notes.

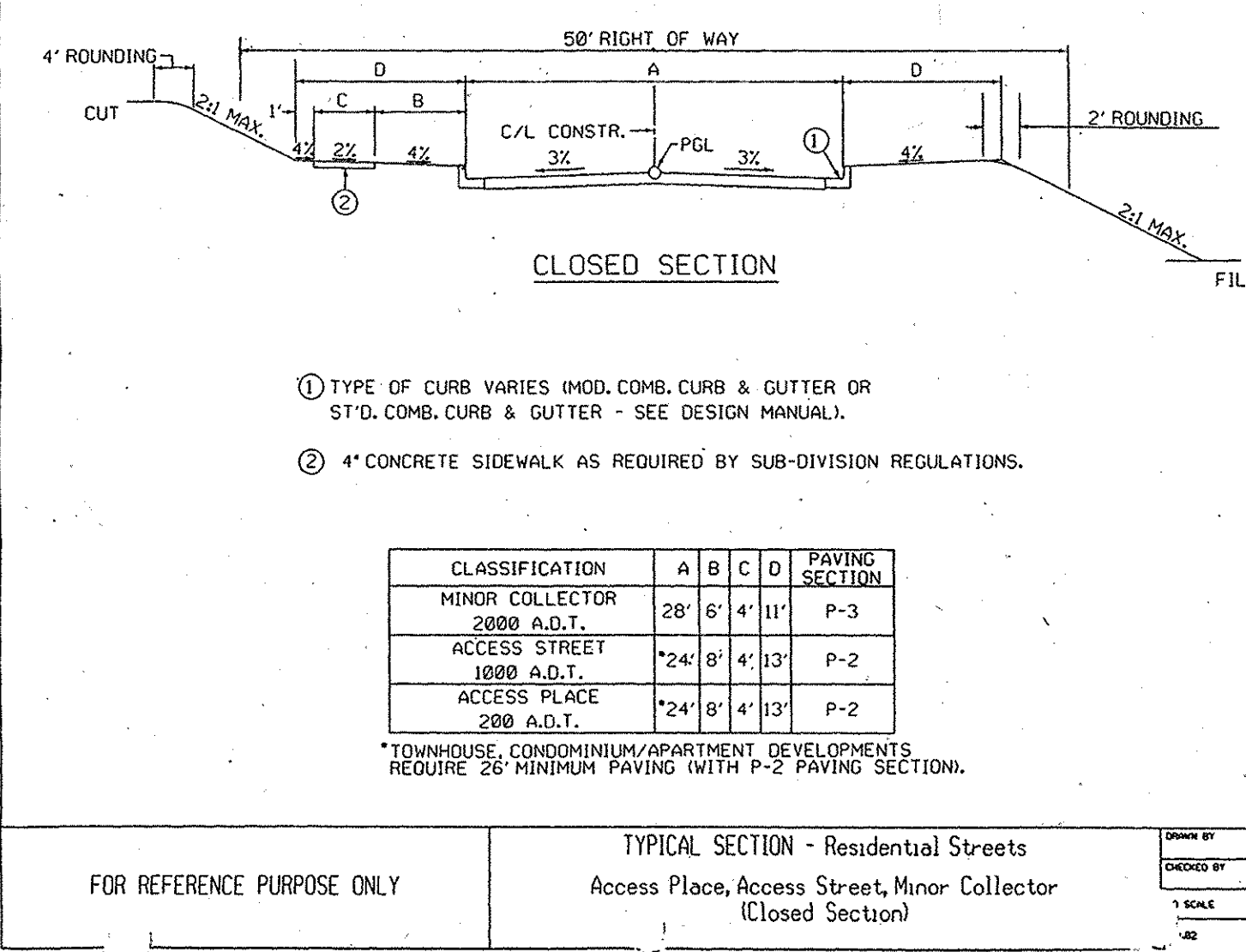


Table with columns: CLASSIFICATION, MINOR COLLECTOR, ACCESS STREET, ACCESS PLACE, PAVING SECTION.

N-1. DISCONNECTION OF ROOFTOP RUNOFF

CONSTRUCTION CRITERIA:
THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING THE CONSTRUCTION OF PROJECTS WITH PLANNED ROOFTOP DISCONNECTIONS:

- EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN VEGETATED AREAS RECEIVING DISCONNECTED RUNOFF
- SITE DISTURBANCE: CONSTRUCTION VEHICLES AND EQUIPMENT SHOULD AVOID AREAS RECEIVING DISCONNECTED RUNOFF TO MINIMIZE DISTURBANCE AND COMPACTION...
INSPECTION:
A FINAL INSPECTION SHALL BE CONDUCTED BEFORE USE AND OCCUPANCY APPROVAL TO ENSURE THAT SIZING FOR TREATMENT AREAS HAVE BEEN MET...

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRYWELL (M-5)

- A. THE OWNER SHALL INSPECT & CLEAN ANNUALLY, INCLUDING PIPES OUTTERS DOWNPOINTS AND FILTERS.
B. PONDING STANDING WATER OR ALGAL GROWTH ON THE TOP OF A DRYWELL MAY INDICATE FAILURE DUE TO SEDIMENTATION IN THE GRAVEL MEDIA...
LAYOUT OPTION 1 and LAYOUT OPTION 2 diagrams.

ENVIRONMENTAL CONCEPT PLAN
STORMWATER MANAGEMENT NOTES & DETAILS
MAPLE GROVE
9060 UPTON ROAD
ELLICOTT CITY, MARYLAND
ZONED: R-12
HOWARD COUNTY, MARYLAND
ROBERT H. VOGEL ENGINEERS, INC.
DESIGN BY: RHY
DRAWN BY: KG
CHECKED BY: RHY
DATE: DECEMBER 2014
SCALE: AS SHOWN
W.O. NO.: 14-25
SHEET 4 OF 4