

GENERAL NOTES

- 1. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS OTHERWISE NOTED.

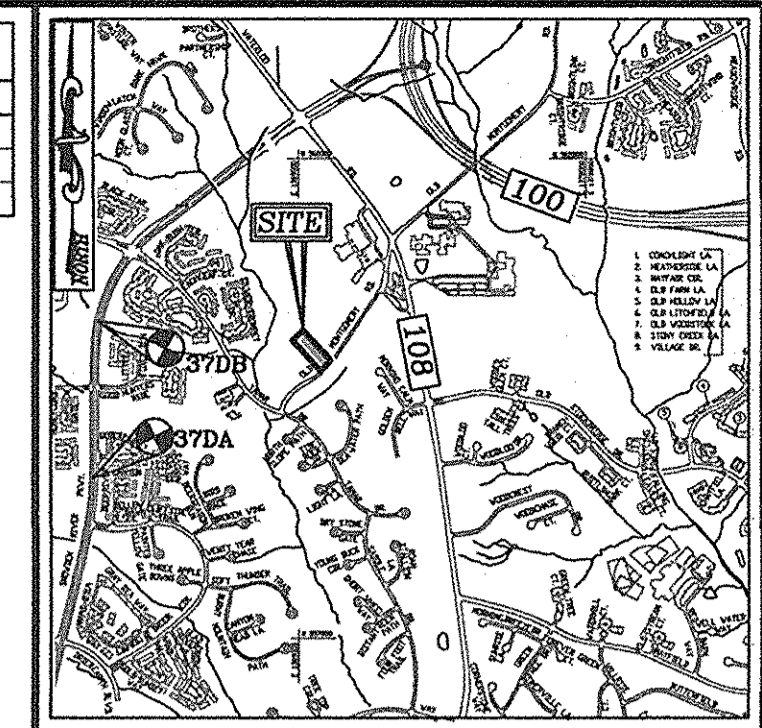
PARKING TABULATION:

TOTAL NUMBER OF DWELLING UNITS PROPOSED : 3
OFF-STREET PARKING SPACES REQUIRED: 2 SPACES PER UNIT = 6 SPACES
PARKING SPACES PROVIDED:
SPD = 2 GARAGE/2 DRIVEWAY
2 SPACE IN GARAGE = 6 SPACES (FOR 3 UNITS)
2 SPACES ON DRIVEWAY = 4 SPACES (FOR 3 UNITS)
TOTAL PARKING SPACES PROVIDED: = 12 SPACES OFF-STREET

SITE DEVELOPMENT PLAN
BRIAN SMITH PROPERTY LOTS 1-3
OLD MONTGOMERY ROAD
COLUMBIA, MD 21045
HOWARD COUNTY, MARYLAND

ADDRESS CHART
LOT NO STREET ADDRESS
1 8304 OLD MONTGOMERY ROAD
2 8308 OLD MONTGOMERY ROAD
3 8312 OLD MONTGOMERY ROAD

MINIMUM LOT SIZE CHART
LOT GROSS AREA PIPESTEM AREA NET AREA MIN. LOT SIZE
1 18,109 SF\*\* NA 18,109 SF\*\* 20,000 SF
2 19,933 SF\*\* 1,771 SF 18,162 SF 20,000 SF
3 23,342 SF\*\* 3,342 SF 20,000 SF 20,000 SF



BENCHMARKS
HOWARD COUNTY BENCHMARK 370A
N 55687.529 E 136689.459 ELEV. 379.708
HOWARD COUNTY BENCHMARK 370B
N 56037.4266 E 1366898.1604 ELEV. 395.417

SHEET INDEX
DESCRIPTION SHEET NO.
COVER SHEET AND LAYOUT PLAN 1 OF 6
GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN AND SOILS MAP 2 OF 6

LEGEND: PROPERTY LINE, RIGHT-OF-WAY LINE, ADJACENT PROPERTY LINE, EXISTING CURB AND GUTTER, EXISTING EDGE OF PAVING, etc.

PERMIT INFORMATION CHART
SUBDIVISION NAME BRIAN SMITH PROPERTY
SECTION/AREA N/A
LOT/PARCEL NUMBER 230
PLAT OR L/F PLAT #2310 07
GRID NO. ZONING R-20
TAX MAP NO. 37
ELECT. DIST. 6TH
CENSUS TR. 606806

OWNER: BRIAN E. SMITH, SHARON R. SMITH
BUILDER: DORSEY FAMILY HOMES, INC.
ATTN: MR. ROB DORSEY

COORDINATE TABLE
NO. NORTH EAST
203 580105.70 1368931.34
204 559802.99 1369209.30

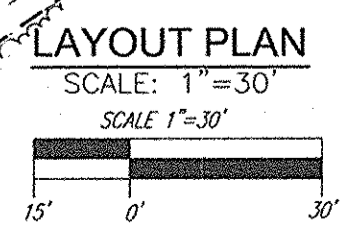
SITE ANALYSIS DATA

A. TOTAL PROJECT AREA: 1.50 AC
B. AREA OF PLAN SUBMISSION: 1.50 AC - 3 BUILDABLE LOTS
C. LIMIT OF DISTURBANCE: 1.22 AC
D. PRESENT ZONING DESIGNATION: R-20
E. PROPOSED USES FOR SITE AND STRUCTURES: SINGLE FAMILY DETACHED

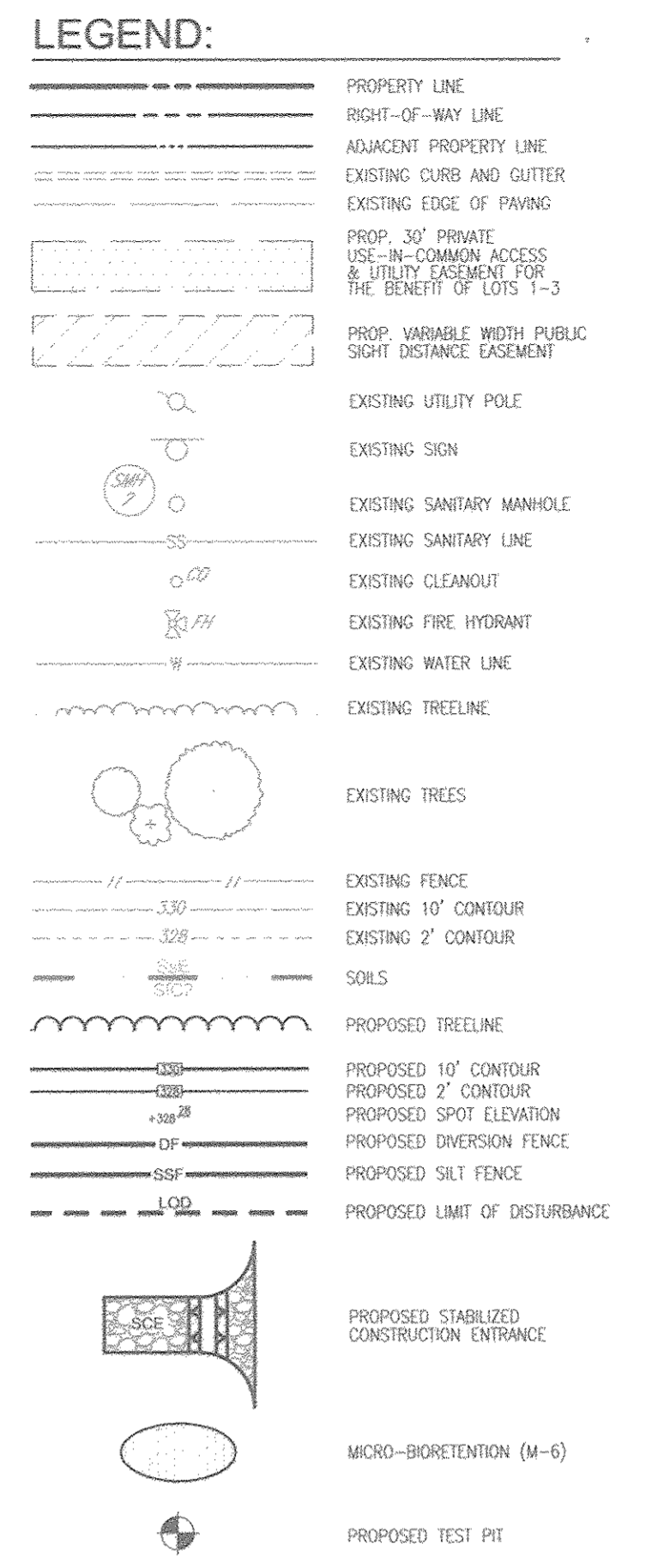
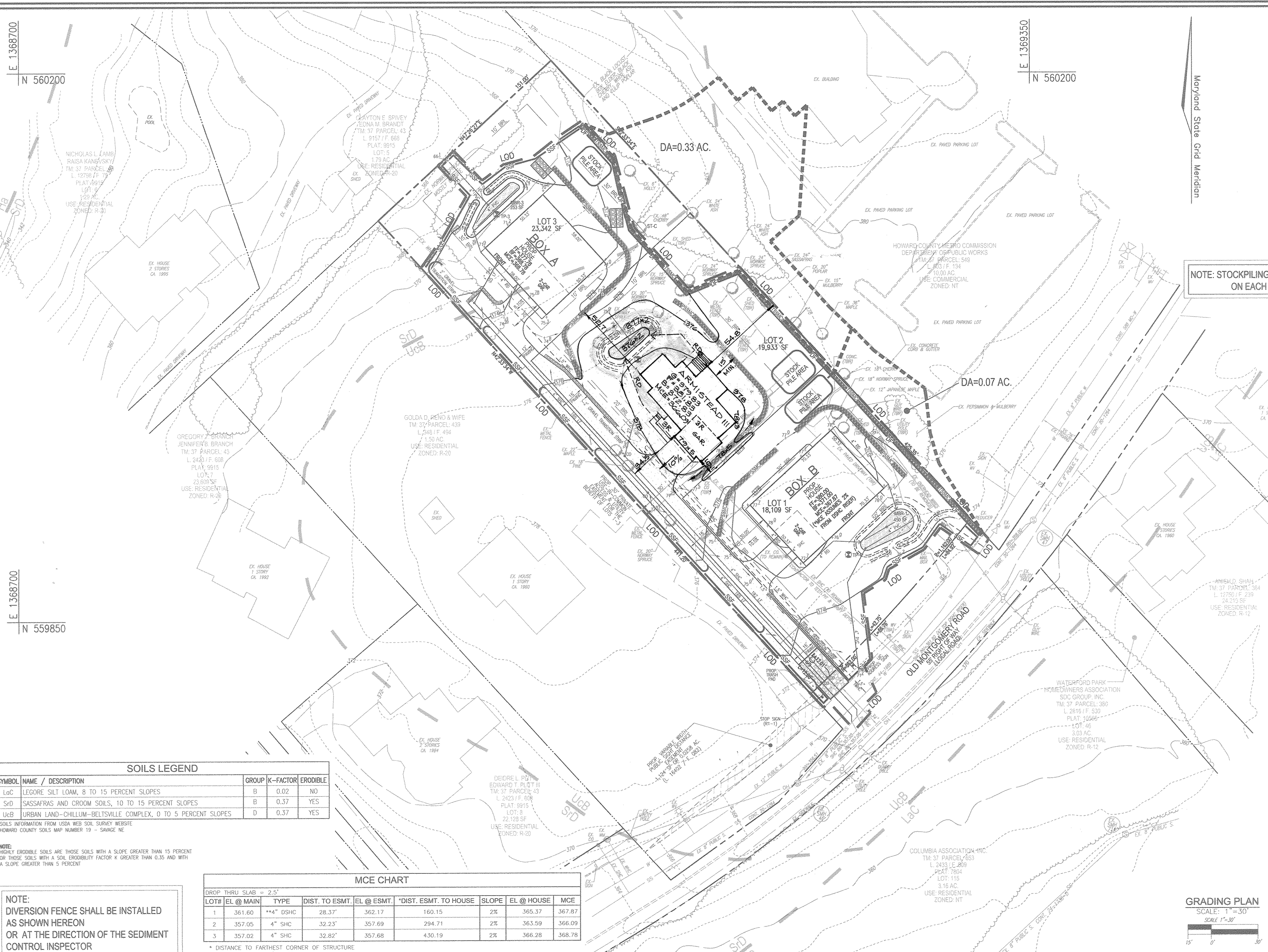
SPECIMEN TREE CHART
NO. SIZE CRZ COMMON NAME CONDITION COMMENTS
ST-A 42' 63' SILVER MAPLE GOOD TO BE REMOVED

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 6-15-16
CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 6-20-16
DIRECTOR DATE: 6-20-16

MIHU AGREEMENT
PLEASE NOTE THAT ALL LOTS/RESIDENTIAL UNITS IN THIS SUBDIVISION ARE SUBJECT TO THE MIHU FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY THE PERMIT APPLICANT.



SITE DEVELOPMENT PLAN
COVER SHEET AND LAYOUT PLAN
BRIAN SMITH PROPERTY LOTS 1-3
ROBERT H. VOGEL ENGINEERING, INC.
DESIGN BY: RHV/GAH
DRAWN BY: RVE
CHECKED BY: RHV
DATE: JUNE 2016
SCALE: AS SHOWN
W.O. NO.: 13-24
1 SHEET OF 6



NOTE: STOCKPILING WILL BE PERMITTED ON EACH LOT ONLY.

NOTE: STABILIZATION IS TO BE DONE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE INTERVALS REQUIRED BY THE 2011 STDS. & SPECS. WHICHEVER IS MORE RESTRICTIVE.

**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	GROUP	K-FACTOR	ERODIBLE
LoC	LEGORE SILT LOAM, 8 TO 15 PERCENT SLOPES	B	0.02	NO
SrD	SASSAFRAS AND CROOM SOILS, 10 TO 15 PERCENT SLOPES	B	0.37	YES
UcB	URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	D	0.37	YES

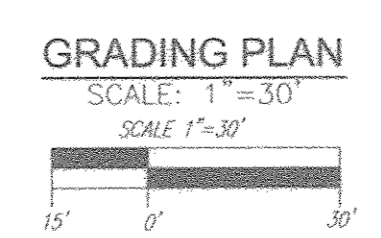
\*SOILS INFORMATION FROM USDA WEB SOIL SURVEY WEBSITE  
-HOWARD COUNTY SOILS MAP NUMBER 19 - SAVAGE NC

NOTE:  
DIVERSION FENCE SHALL BE INSTALLED AS SHOWN HEREON OR AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR

**MCE CHART**

LOT#	EL @ MAIN	TYPE	DIST. TO ESMT	EL @ ESMT	*DIST. ESMT. TO HOUSE	SLOPE	EL @ HOUSE	MCE
1	361.60	**4" DSHC	28.37'	362.17	160.15	2%	365.37	367.87
2	357.05	4" SHC	32.23'	357.69	294.71	2%	363.59	366.09
3	357.02	4" SHC	32.82'	357.68	430.19	2%	366.28	368.78

\* DISTANCE TO FARTHEST CORNER OF STRUCTURE  
\*\* ELEV. AT TOP OF 4" RISER



**OWNER**  
BRIAN E. SMITH  
SHARON R. SMITH  
8302 OLD MONTGOMERY RD.  
COLUMBIA, MD 21045  
443-864-8141

**BUILDER**  
DORSEY FAMILY HOMES, INC.  
107178 - B BIRMINGHAM WAY  
WOODSTOCK, MD 21163  
410-466-5739

NO.	REVISION	DATE
2	REV. MBR-2 # GRADING LOT 2 TO REFLECT AS-BUILT	10/3/17
1	REV. HSE. TYPE, GRADING LOT 2	3/31/17

**SITE DEVELOPMENT PLAN**  
GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN AND SOILS MAP  
**BRIAN SMITH PROPERTY**  
LOTS 1-3

PARCEL: 230  
TAX MAP: 37 GRID: 07  
6TH ELECTION DISTRICT

ZONED: R-20  
USE: RESIDENTIAL  
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**

STATE OF MARYLAND  
ROBERT H. VOGEL  
REGISTERED PROFESSIONAL ENGINEER  
NO. 16193

DESIGN BY: RHV/GAH  
DRAWN BY: RVE  
CHECKED BY: RHY  
DATE: JUNE 2016  
SCALE: AS SHOWN  
W.O. NO.: 13-24

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY, APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 06-27-2016

2 SHEET OF 6

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad Chubb* 6-15-16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION NY DATE

*Valdy Jagan* 6-20-16  
CHIEF, DIVISION OF LAND DEVELOPMENT NY DATE

*Valdy Jagan* 6-20-16  
DIRECTOR NY DATE

BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

*John R. Blunt* 6-3-2016  
SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

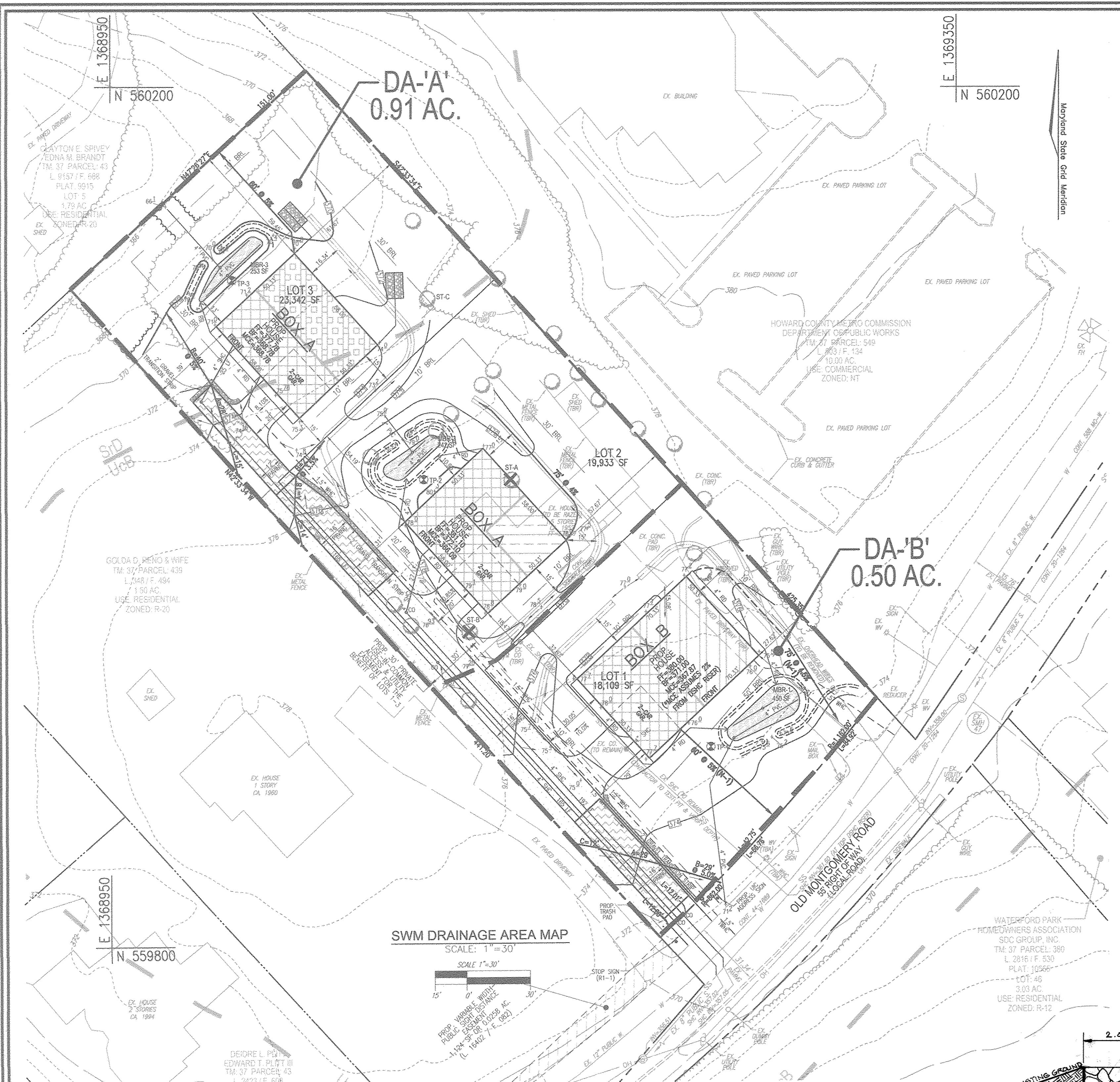
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John R. Blunt* 6/3/16  
SIGNATURE OF ENGINEER DATE

NOTE:  
SUPER SILT FENCE MAY BE REPLACED BY STANDARD SILT FENCE WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR

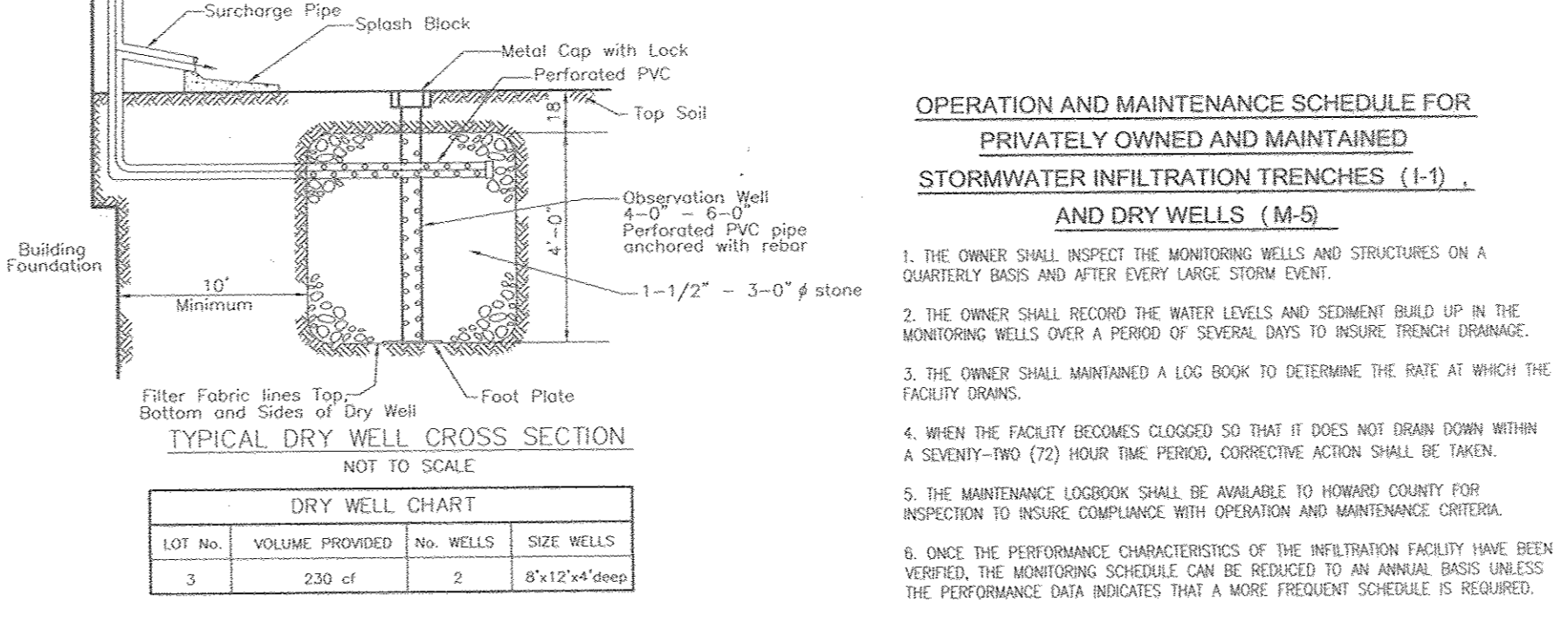
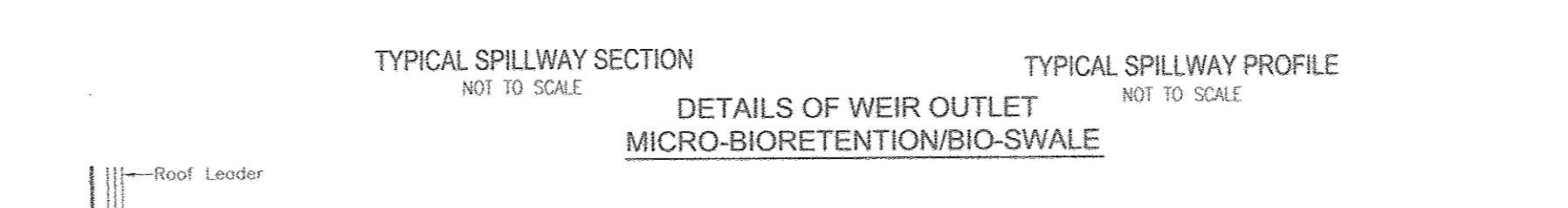
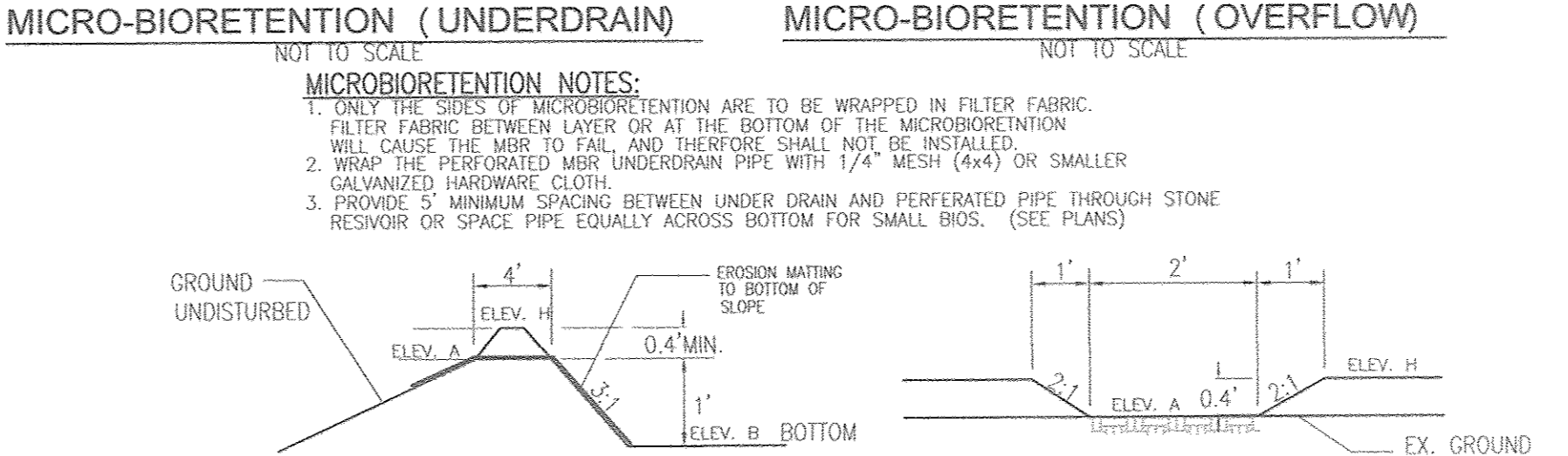
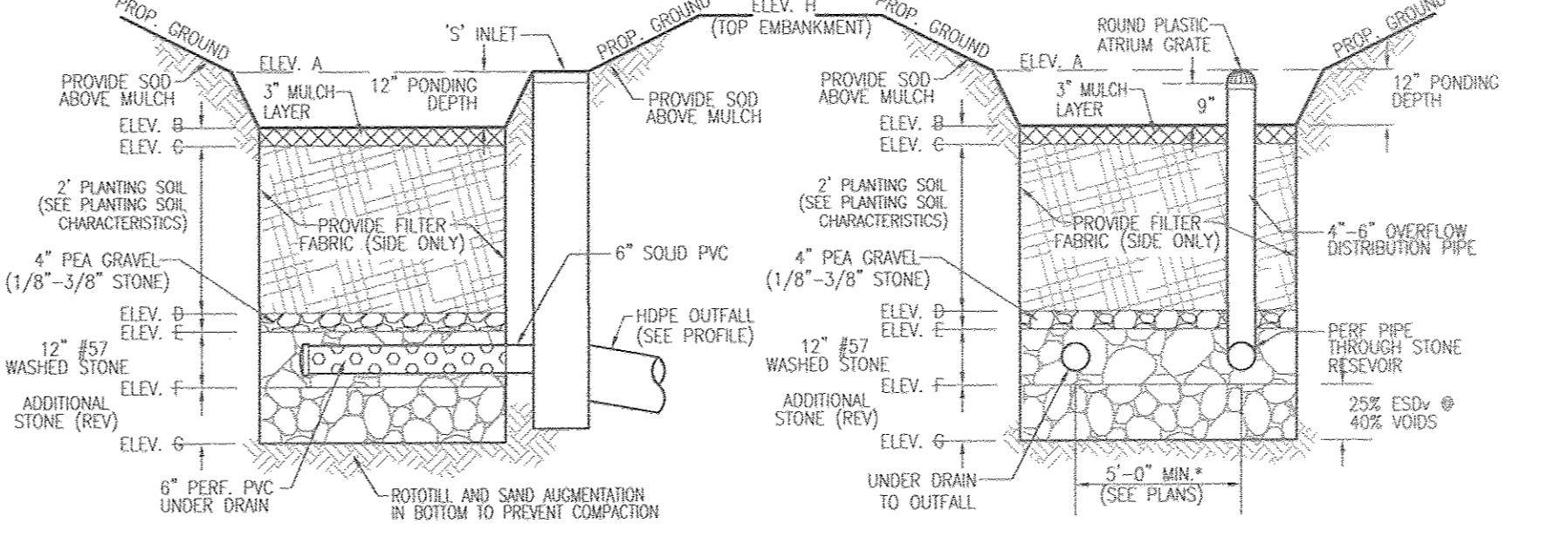
NOTE:  
- SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.  
- SILT FENCE SHALL BE CURLED UPHILL NO MORE THAN 35 FEET APART  
- DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.





**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. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTION, SCRAPING THE SURFACE & ROTOTILLING THE SOIL TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO ENSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR TIGHT, CLAYEY SOILS.  
**INSPECTION:**  
 A FINAL INSPECTION SHALL BE CONDUCTED BEFORE USE AND OCCUPANCY APPROVAL TO ENSURE THAT SIZING FOR TREATMENT AREAS HAVE BEEN MET AND PERMANENT STABILIZATION HAS BEEN ESTABLISHED.  
**MAINTENANCE CRITERIA:**  
 MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION (E.G., BY PLANTING TREES OR SHRUBS ALONG THE PERIMETER). IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

**N-2. DISCONNECTION OF NON-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. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTION, SCRAPING THE SURFACE & ROTOTILLING THE SOIL TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO ENSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR TIGHT, CLAYEY SOILS.  
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**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1), DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2), DISCONNECTION OF MICRO-BIO-RETENTION (M-6), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8) AND ENHANCED FILTERS (M-9)**

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR BASH. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL. PLANNING, ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND SYCAMORE DESIGN MANUAL, VOLUME 6, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TRIM DISOBERSED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

**SOILS LEGEND**

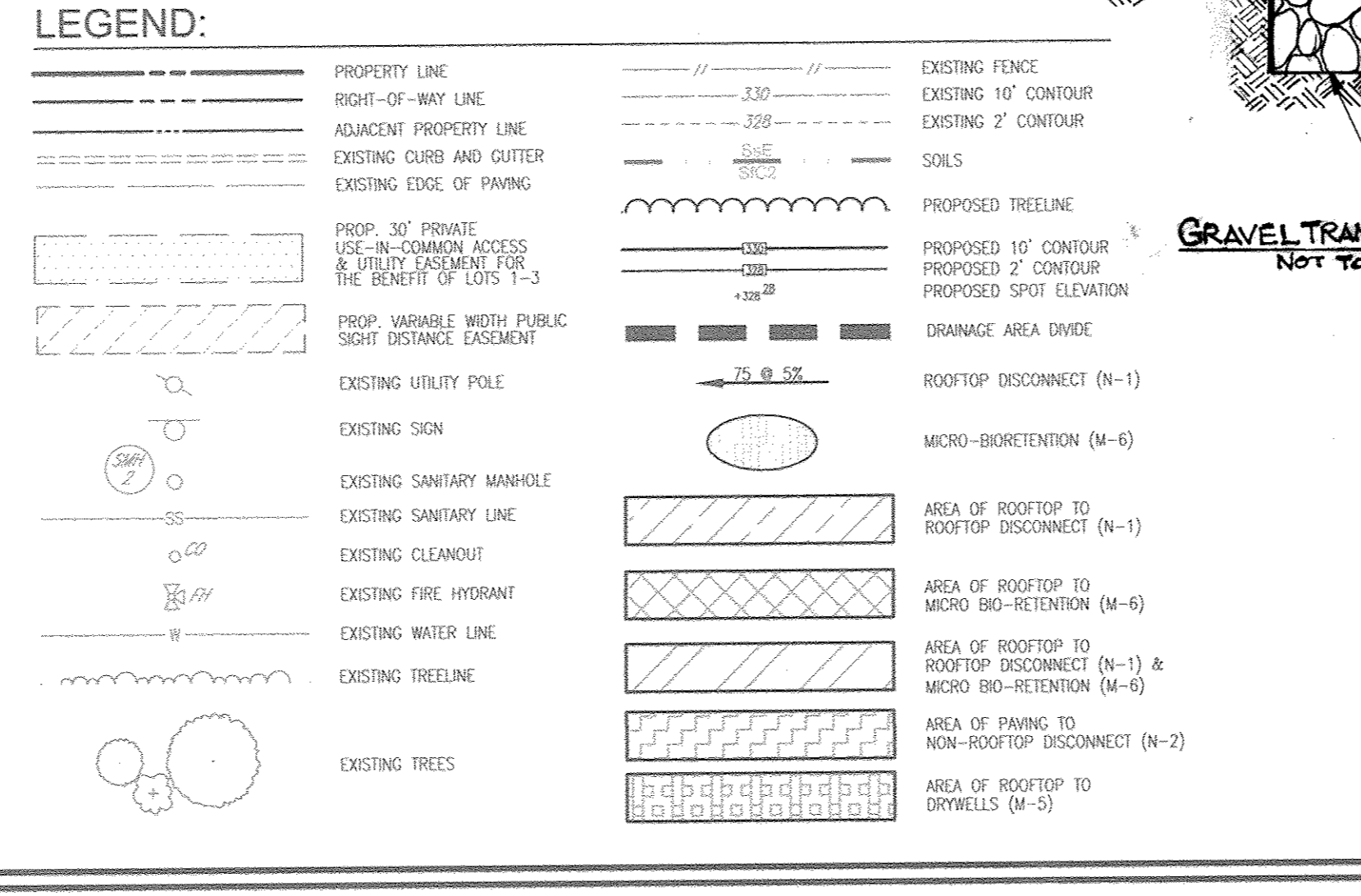
SYMBOL	NAME / DESCRIPTION	GROUP	K-FACTOR	ERODIBLE
LgC	LEGORE SILT LOAM, 8 TO 15 PERCENT SLOPES	B	0.02	NO
SdD	SASSAFRAS AND CHROOM SOILS, 10 TO 15 PERCENT SLOPES	B	0.37	YES
UcB	URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	D	0.37	YES

SOILS INFORMATION FROM USGS WEB SOIL SURVEY WEBSITE  
 HOWARD COUNTY SOILS MAP NUMBER 19 - SHAWNEE NE  
 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

**SWM PRACTICE CHART - ESD PRACTICES BY LOT**

LOT #	ESD PRACTICE
#1	ROOFTOP DISCONNECT (N-1), NON-ROOFTOP DISCONNECT (N-2) AND MICRO BIO-RETENTION (M-6)
#2	ROOFTOP DISCONNECT (N-1), NON-ROOFTOP DISCONNECT (N-2) AND MICRO BIO-RETENTION (M-6)
#3	ROOFTOP DISCONNECT (N-1), NON-ROOFTOP DISCONNECT (N-2), DRYWELLS (M-5) AND MICRO BIO-RETENTION (M-6)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION NY DATE 6-15-16  
 CHIEF, DIVISION OF LAND DEVELOPMENT NN DATE 6-20-16  
 DIRECTOR DATE 6-20-16



**Table B.4.1 Materials Specifications for Micro-Bioretentation, Rain Gardens & Landscape Infiltration:**

Material	Specification	Size	Notes
Planting soil	see Appendix A, Table A.4	n/a	Notes are site-specific
Planting soil (2' to 4' deep)	loamy sand (60-65%) & compost (35-40%) or loamy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2922)	n/a	aged 6 months, minimum; no pine or wood chips
Mulch	shedded hardwood	n/a	n/a
Pea gravel	see Appendix A, Table A.4	NO. 8 OR NO. 9 (1/4" TO 3/8")	n/a
Certain drain	ornamental stone, washed cobbles	stone: 2" to 5"	n/a
Geotextile	see Appendix A, Table A.4	n/a	PE Type 1 nonwoven
Gravel	see Appendix A, Table A.4	NO. 57 OR NO. 6 (3/8" TO 3/4")	n/a
Underdrain piping	F 78, Type PS 28 or AASHTO M 278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe, 1/8" perf. @ 6" on center, 4 holes per row, minimum of 3" of gravel over pipe; not necessary underdrain pipes. Perforated pipes shall be wrapped with 1/2 inch galvanized hardware cloth.
Perforated in place concrete (if required)	MSHA Min. No. 3, 1/2" - 3/8" dia @ 28 days, normal weight, air-entrained, reinforcing to meet ASTM A 630-06	n/a	on-site testing of poured-in-place concrete required; 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved Slabs or steel standard requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACE Code 506 RBC, vertical loading [11.10 or 11.20]; allowable horizontal loading based on soil strength; and analysis of potential cracking.
Sand	AASHTO M-6 or ASTM C-33	0/20" to 0/40"	Sand substitutions such as Diabase and Gneiss (AASHTO #10 are not acceptable. No calcium carbonate or dolomite sand substitutions are acceptable. No "rock dust" can be used for sand.

**PROJECT SMITH PROPERTY**

DESIGNER: RHY  
 DATE: 03/31/16

ROBERT H. VOGEL ENGINEERING, INC.

DRAINAGE AREA #	AREA (SQ FT)	IMPERVIOUS	DRYWELLS	ROOFTOP DISCONNECT (N-1)	NON-ROOFTOP DISCONNECT (N-2)	MICRO BIORETENTION (M-6)	TOTAL ESDV PROVIDED
A	39,642	8,498	230	40	158	660	1088
B	21,610	6,400	-	72	600	751	1399
<b>TOTAL AREA</b>	<b>61,252 SF</b>						<b>1,839</b>

**APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BENS:**  
**1. MATERIAL SPECIFICATIONS**  
 THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.  
**2. FILTERING MEDIA OR PLANTING SOIL**  
 THE SOIL SHALL BE A UNIFORM MIX. FREE OF STONES, STUMPS, ROOTS OR OTHER SOLID OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITH THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVE AN OBSTACLE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF HERBICIDES, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMES 15.08.05.  
 THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:  
 \* SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURE CLASSIFICATION)  
 \* ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2922). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (10% TO 40%) OR SANDY LOAM (LOAM, COARSE SAND (20%), AND COMPOST (40%).  
 \* CLAY CONTENT - MINIMUM SHALL HAVE A CLAY CONTENT OF LESS THAN 5%  
 \* PERMEABILITY - MINIMUM SHALL BE 0.05 CM/HOUR (ASTM D 5091)  
 \* pH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, FROM SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE pH.  
 THESE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH AND ADDITIONAL TESTS OF ORGANIC MATTER AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL IF TOPSOIL IS IMPORTED, THEN A TEXTURAL ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

**3. COMPACTION**  
 IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION TOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADERS, THE CONTRACTOR SHOULD USE WIDE TRACK OR WASH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TIRE TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH NARROW LOGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.  
 COMPACTION SHALL BE ALLOWED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHisel, SUBSOIL, OR OTHER EQUIPMENT. THESE TILLING OPERATIONS ARE TO RESTRUCTURE THE SOIL PROFILE THROUGHOUT THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT. ROTOTILL TO 3 INCHES OF SAND AND THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE ORIGINAL SAND LAYER. PUMP ANY POOLED WATER BEFORE PREPARING (ROTOTILLING) BASE.  
 WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FIRM GRADE.  
 WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18" DEEP. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MESH TRACKS.

**4. PLANT MATERIAL**  
 RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.  
**5. PLANT INSTALLATION**  
 COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SUBSTRATE MATERIAL TO 1" TO 2" SHIMMED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLUAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHIMMED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.  
 ROOTS OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANTER SHALL BE PLANTED SO 1/3RD OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTER PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.  
 GRASSES AND LEGUME SEED SHOULD BE BROADCAST TO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLANTS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANNING SPECIFICATIONS.  
 THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS, PESTICIDES, OR A MINERAL NUTRIENT SUCH AS COMPOST, ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

**6. UNDERDRAINS**  
 UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:  
 \* PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASME 758, TYPE PS 28, OR AASHTO M-278) IN A GRAVEL LAYER. THE PERFORATED MATERIAL SHOULD BE 1/8" HOLES PER INCH.  
 \* PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER INCH. PIPE SHALL BE WRAPPED WITH 1/2" (4 OR 6) GALVANIZED HARDWARE CLOTH.  
 \* GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PERFORATED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.  
 \* THE MAIN COLLECTOR PIPE SHALL BE AT LEAST 12" DIAMETER AND SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT NUTRIENT OF FIBER IN THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".  
 \* A 1/4" LAYER OF PEA GRAVEL (NO. 57 STONE PERFORATED) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT NUTRIENT OF FIBER IN THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".  
 THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE DISCONNECTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE PER 1000 SQUARE FEET OF SURFACE AREA).

**7. MISCELLANEOUS**  
 THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1), DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2), DISCONNECTION OF MICRO-BIO-RETENTION (M-6), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8) AND ENHANCED FILTERS (M-9)**

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR BASH. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL. PLANNING, ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND SYCAMORE DESIGN MANUAL, VOLUME 6, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TRIM DISOBERSED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

**MICRO-BIO-RETENTION (M-6) ELEVATIONS\***

LOT #	FACILITY #	A	B	C	D	E	F	G	H	4" INV.	4" OUTFALL
LOT 1	MBR-1	375.20	374.20	373.95	372.45	372.12	370.29	369.46	375.60	371.54	371.20
LOT 2	MBR-2	371.2	370.0	370.0	374.5	374.1	373.9	372.6	372.4	373.5	373.2
LOT 3	MBR-3	370.00	369.00	368.75	367.25	366.92	366.09	365.26	370.40	368.34	368.10

\*SUBJECT TO CHANGE WITH ACTUAL HOUSE SITE

**SITE DEVELOPMENT PLAN**  
**SWM DRAINAGE AREA MAP,**  
**SWM NOTES AND DETAILS**  
**BRIAN SMITH PROPERTY**  
 LOTS 1-3

PARCEL: 230  
 TAX MAP: 37 GRID: 07  
 6TH ELECTION DISTRICT

ZONED: R-20  
 USE: RESIDENTIAL  
 HOWARD COUNTY, MARYLAND

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

8407 MAIN STREET  
 BELLIOTT 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 FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18193, EXPIRATION DATE: 03-27-2018

DESIGN BY: RHY/GAH  
 DRAWN BY: RVE  
 CHECKED BY: RHY  
 DATE: JUNE 2016  
 SCALE: AS SHOWN  
 W.O. NO.: 13-24

4 SHEET OF 6

**FOREST CONSERVATION:**

THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL.  
 -THE FOREST CONSERVATION OBLIGATION FOR THIS PROJECT WAS MET VIA A PAYMENT OF FEE-IN-LIEU IN THE AMOUNT OF \$6,534.00 FOR THE 0.20 ACRE AFFORESTATION REQUIREMENT.  
 -FEE-IN-LIEU = (0.20 AC.) 8,712 SF x .75 = \$6,534.00  
 -OBLIGATION WAS SATISFIED UNDER F14-134.

**SCHEDULE A: PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJUSTMENT TO PERIMETER PROPERTIES			TREES FOR WP-15-049	TOTAL
	1	2	3		
PERIMETER/FRONTAGE DESIGNATION	1	2	3	-	-
LANDSCAPE TYPE	1	2	3	-	-
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	398'	151'	411'	-	-
CREDIT FOR EXISTING VEGETATION (YES, NO LINEAR FEET DESCRIBE BELOW IF NEEDED)	YES 28'	YES 31'	YES 38'	-	-
CREDIT FOR WALL, FENCE OR BERM (YES, NO LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	-	-
NUMBER OF PLANTS REQUIRED (LF REMAINING)	370	120	373	-	16
SHADE TREES	1:60	6	1:60	6	2**
EVERGREEN TREES	-	-	-	-	-
SHRUBS	-	-	-	-	-
NUMBER OF PLANTS PROVIDED	-	-	-	-	-
SHADE TREES	4*	2	2	2**	10
EVERGREEN TREES	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	40
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED	-	-	-	-	-

NOTE:  
 \*\* PROVIDE 2 WILLOW OAK TREES, 3"-4" CALIPER, AS PART OF THE REQUIREMENTS FOR WP-15-049. SEE NOTES 36 & 37, SHEET 1

**LANDSCAPE NOTES**

- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
- THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
- PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THE FINAL PLAN.

**LANDSCAPE SCHEDULE**

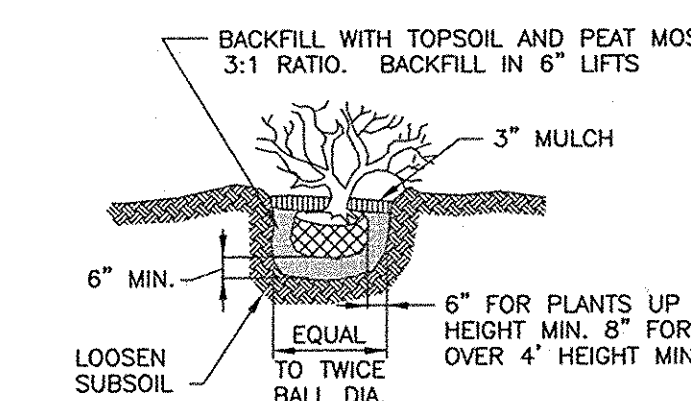
SYMBOL	KEY	QUAN.	BOTANICAL NAME	SIZE	REMARKS
+	AR	4	ACER RUBRUM 'RED SUNSET'	2 1/2"-3" CAL.	B & B
			RED SUNSET RED MAPLE		
○	GB	4	GINKGO BILOBA 'AUTUMN GOLD'	2-1/2"-3" CAL.	B & B
			AUTUMN GOLD GINKGO (MALE ONLY)		
☼	HY	40	TAXUS MEDIA 'HICKSI'	2-1/2"-3" HGT.	B & B
			HICKS YEW		
○	QP	2	QUERCUS PHELLOS	3"-4" CAL.	B & B
			WILLOW OAK		

**LANDSCAPE SCHEDULE NOTE:**

- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT ASH SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HRD PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

**TRASH PAD LANDSCAPING**

SYMBOL	QTY.	DESCRIPTION	SIZE	REMARKS
⊙	5	DWARF JAPANESE YEW	3"-4" HT	B & B



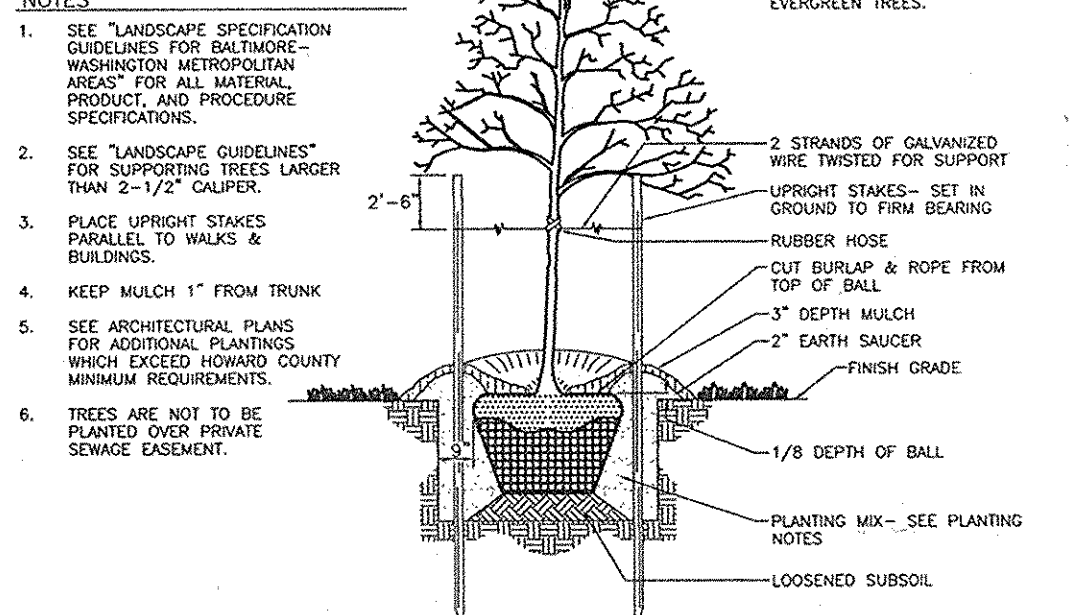
**SHRUB PLANTING DETAIL**

NOT TO SCALE

**LEGEND:**

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING EDGE OF PAVING
- PROP. 30' PRIVATE USE-IN-ROADWAY ACCESS & UTILITY EASEMENT FOR THE BENEFIT OF LOTS 1-3
- PROP. VARIABLE WIDTH PUBLIC SIGHT DISTANCE EASEMENT
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING TREELINE
- EXISTING TREES
- EXISTING FENCE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- SOILS
- PROPOSED TREELINE
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- MICRO-BIORETENTION (M-6)
- EXISTING B&E GREEN ZONE
- EXISTING B&E YELLOW ZONE

**TREE PLANTING AND STAKING**

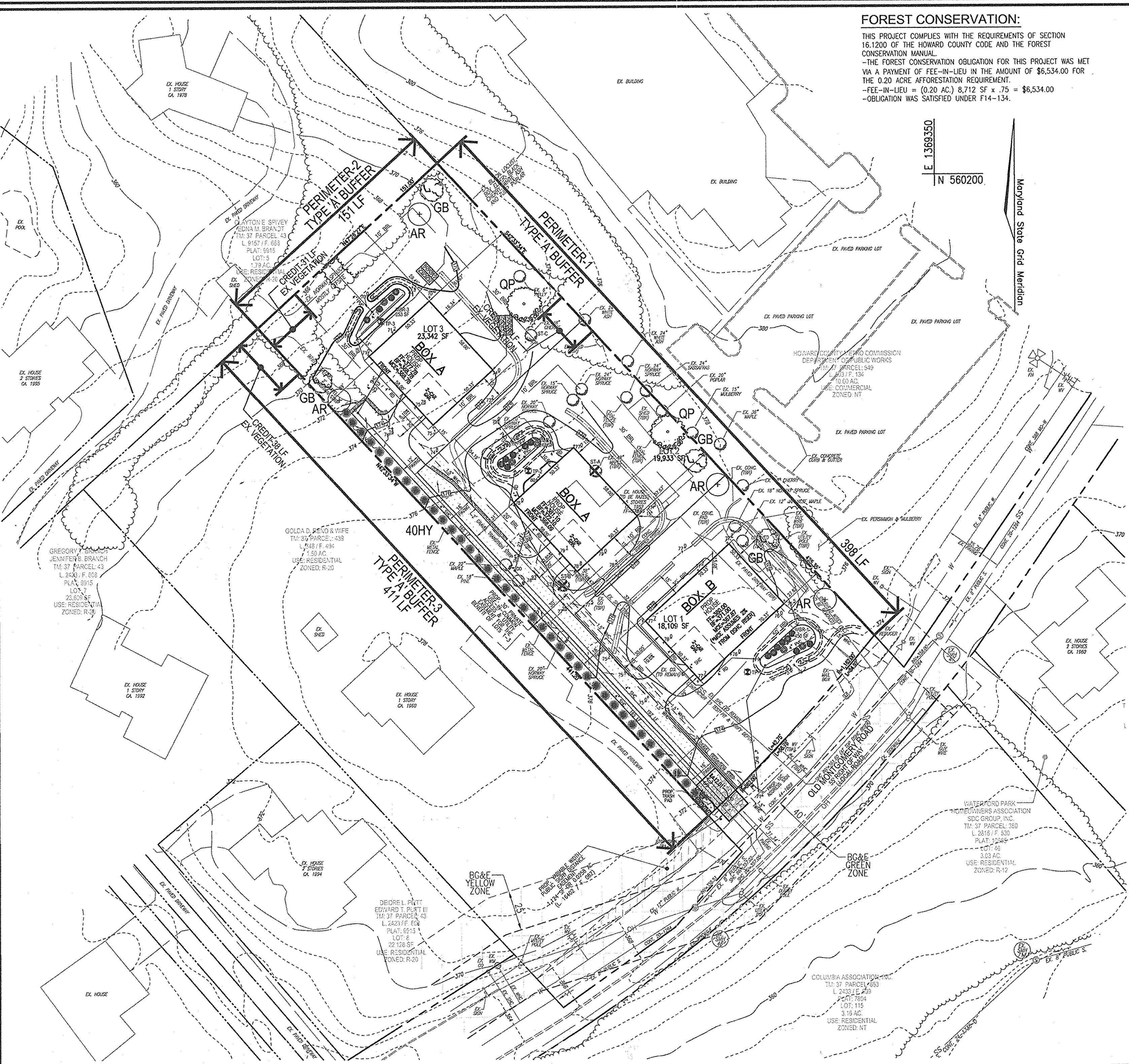


**TREE PLANTING AND STAKING**

DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE

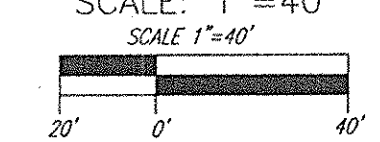
**OWNER**  
 BRIAN E. SMITH  
 SHARON R. SMITH  
 8302 OLD MONTGOMERY RD.  
 COLUMBIA, MD 21165  
 443-864-8141

**BUILDER**  
 DORSEY FAMILY HOMES, INC.  
 ATTN: MR. ROB DORSEY  
 10778 B BIRMINGHAM WAY  
 WOODSTOCK, MD 21163  
 410-465-5739



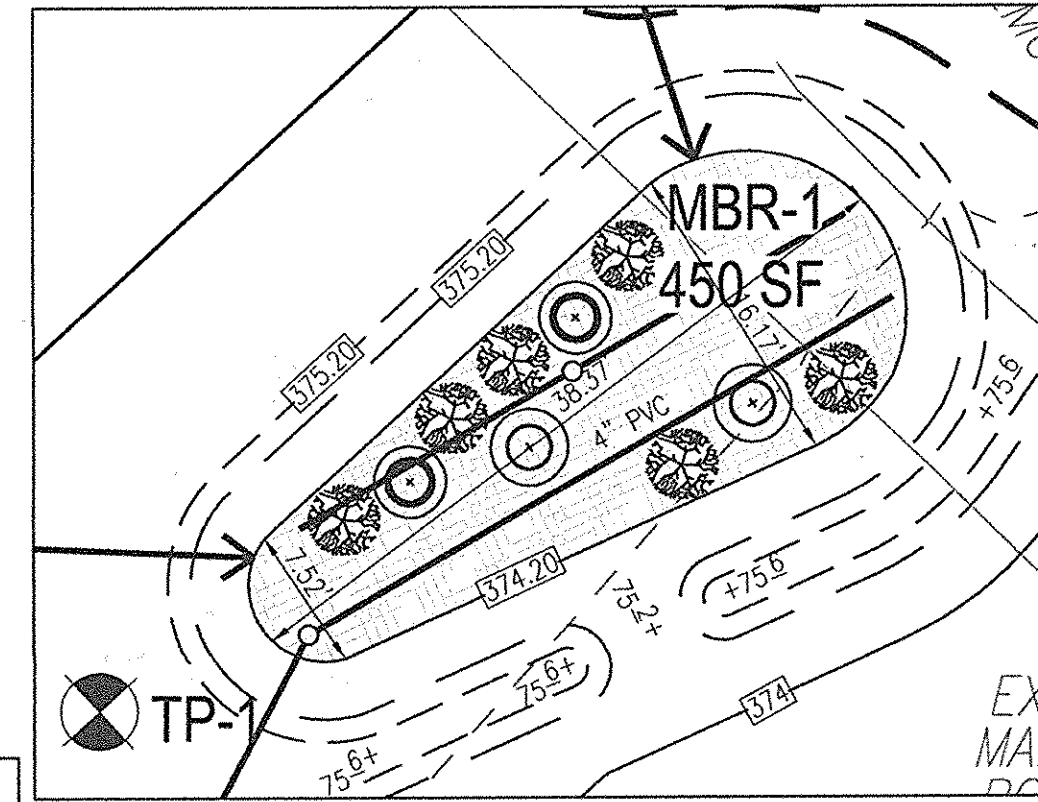
**LANDSCAPE PLAN**

SCALE: 1" = 40'



**"MICRO-BIORETENTION" PLANTING SCHEDULE NOTES:**

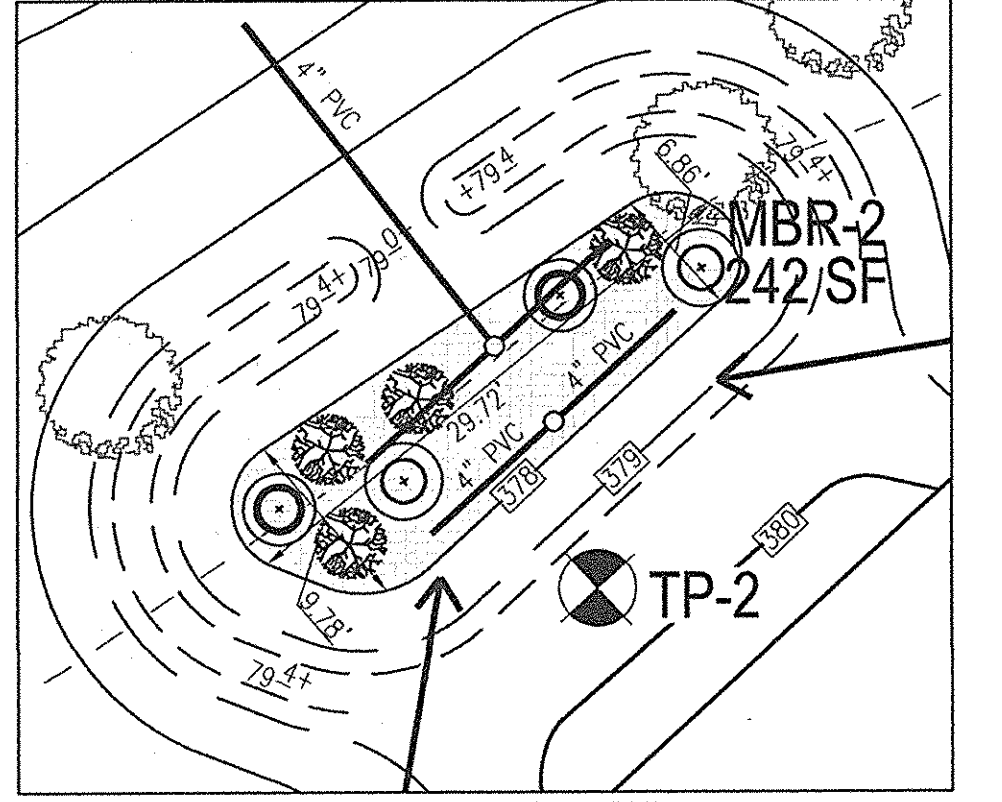
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT ASH SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HOWARD COUNTY PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
- MICROBIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.229 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE APPLIED TO THE AREAS PROVIDED IN THE ESD SUMMARY.
- FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH



**MBR-1 - PLANTING DETAIL**

SCALE: 1" = 10'

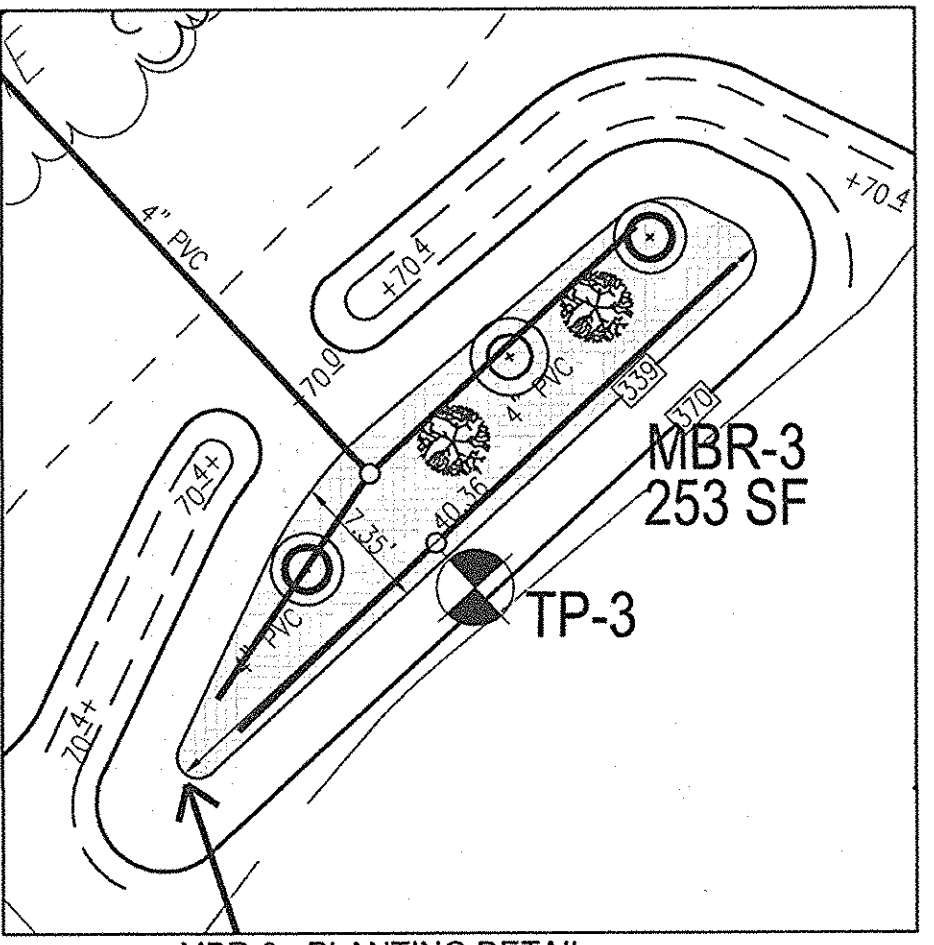
QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
2	LINDERA BENZON SPICEBUSH	5 GALLON	CONT
2	ILEX GLABRA INKBERY	3 GALLON	CONT
6	VIBURNUM TRILOBUM AMERICAN HICKBERRY CRANBERRY	3 GALLON	CONT



**MBR-2 - PLANTING DETAIL**

SCALE: 1" = 10'

QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
2	LINDERA BENZON SPICEBUSH	5 GALLON	CONT
2	ILEX GLABRA INKBERY	3 GALLON	CONT
4	VIBURNUM TRILOBUM AMERICAN HICKBERRY CRANBERRY	3 GALLON	CONT



**MBR-3 - PLANTING DETAIL**

SCALE: 1" = 10'

QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
1	LINDERA BENZON SPICEBUSH	5 GALLON	CONT
2	ILEX GLABRA INKBERY	3 GALLON	CONT
2	VIBURNUM TRILOBUM AMERICAN HICKBERRY CRANBERRY	3 GALLON	CONT

**B G & E NOTES:**

- THE LANDSCAPING ON WIREZONE (40' FROM BGE POLES) IS IN ACCORDANCE WITH BGE LIST OF TREES AND PLANTS.
- BGE RESERVES THE RIGHT TO TRIM, TOP OR CUT DOWN ANY TREE IN PROXIMITY TO THE LINE THAT IN THE OPINION OF BGE SHALL BE DEEMED A HAZARD TO THE SAFE AND RELIABLE DELIVERY OF ELECTRICITY.
- THE DEPARTMENT OF PLANNING AND ZONING MAY AUTHORIZE THE TRIMMING OR REMOVAL OF TREES OR VEGETATION IMMEDIATELY ADJACENT TO THE BGE R/W OR EASEMENT, IF BGE DETERMINES THE TREES ARE COMPROMISING THE SAFETY OF A TRANSMISSION LINE LOCATED WITHIN THEIR UTILITY R/W OR EASEMENT. IF BGE INTENDS TO TRIM OR REMOVE TREES WITHIN A FOREST CONSERVATION EASEMENT, A LETTER SPECIFYING THE LOCATION AND SCOPE OF WORK NEEDS TO BE SENT TO DPZ AT LEAST 30 DAYS IN ADVANCE OF UNDERTAKING THE WORK. DPZ UNDERSTANDS CONSTELLATION ENERGY'S NEED TO PROTECT ITS TRANSMISSION LINES AND WILL NOT UNREASONABLY WITHHOLD PERMISSION.

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING**

*Chad Anderson* 6-15-16  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION NY DATE

*Walter Landwehr* 6-30-16  
 CHIEF DIVISION OF LAND DEVELOPMENT NY DATE

*Walter Landwehr* 6-30-16  
 DIRECTOR DATE

**DEVELOPER'S/BUILDER'S CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*John S. Sly* 6-3-2016  
 SIGNATURE OF DEVELOPER DATE

**SITE DEVELOPMENT PLAN**

**LANDSCAPE AND MICRO-BIORETENTION PLANTING PLAN, NOTES, AND DETAILS**

**BRIAN SMITH PROPERTY**

LOTS 1-3

PARCEL: 230 ZONED: R-20  
 TAX MAP: 37 GRID: 07 USE: RESIDENTIAL  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

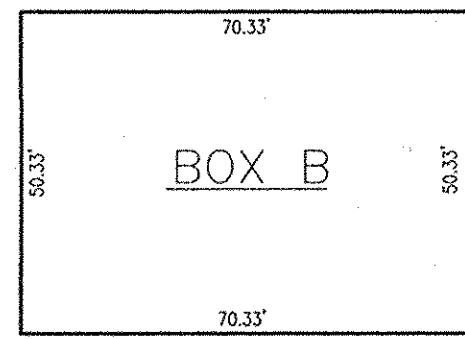
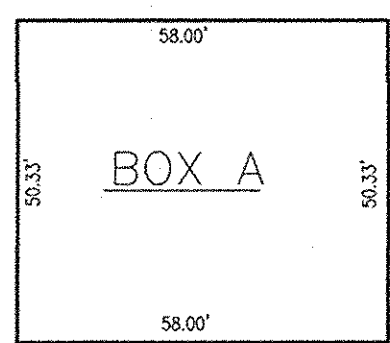
**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET TEL: 410.461.7666  
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

**PROFESSIONAL CERTIFICATE**

DESIGN BY: RHV/GAH  
 DRAWN BY: RVE  
 CHECKED BY: RHV  
 DATE: JUNE 2016  
 SCALE: AS SHOWN  
 W.O. NO.: 13-24

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. 11653 EXPIRATION DATE: 09-27-2016

5 SHEET OF 6

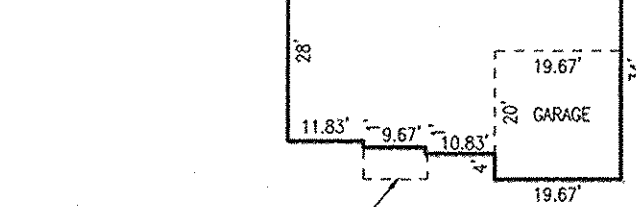
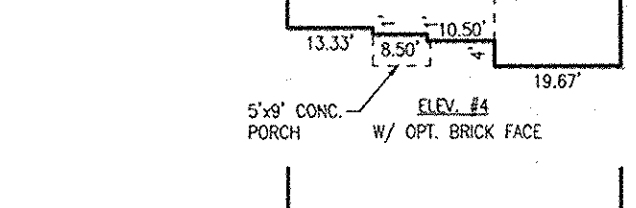
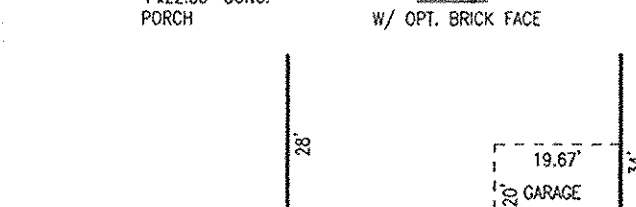
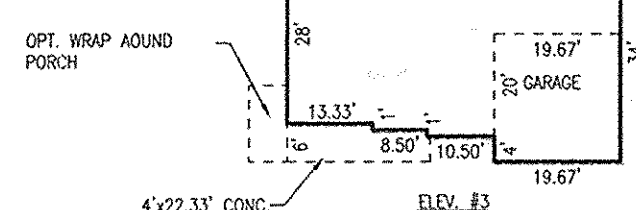
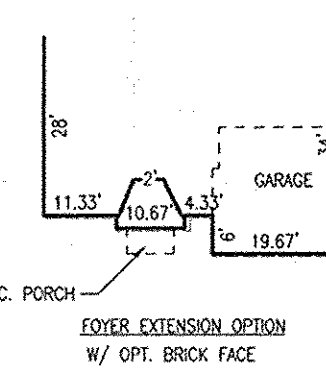
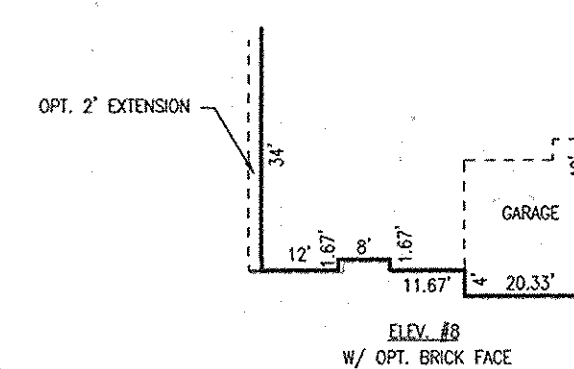
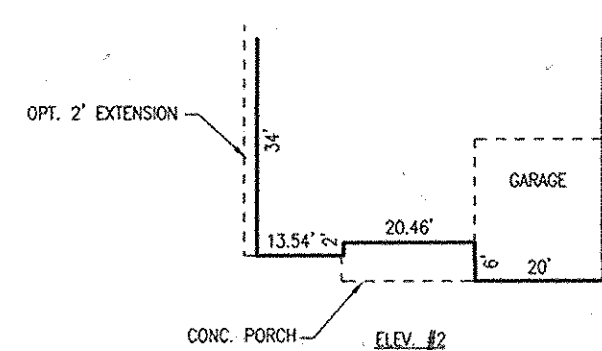
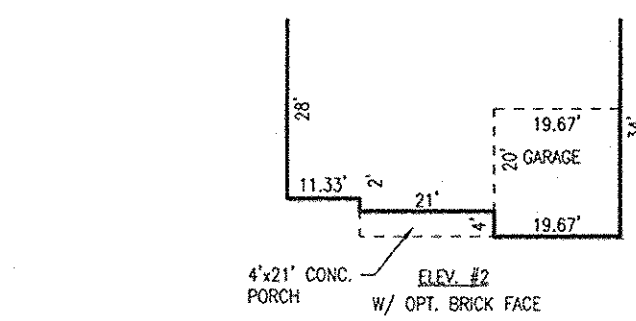
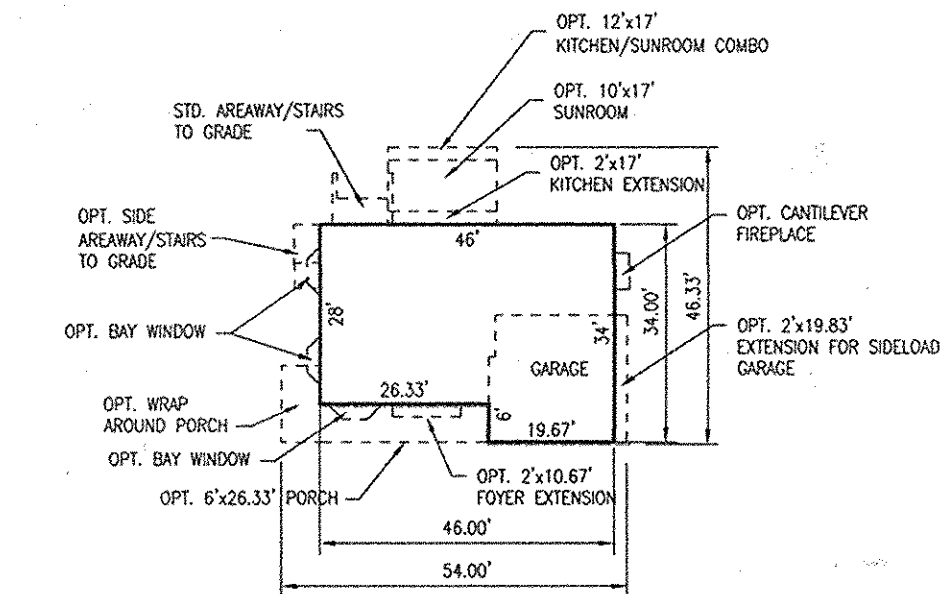
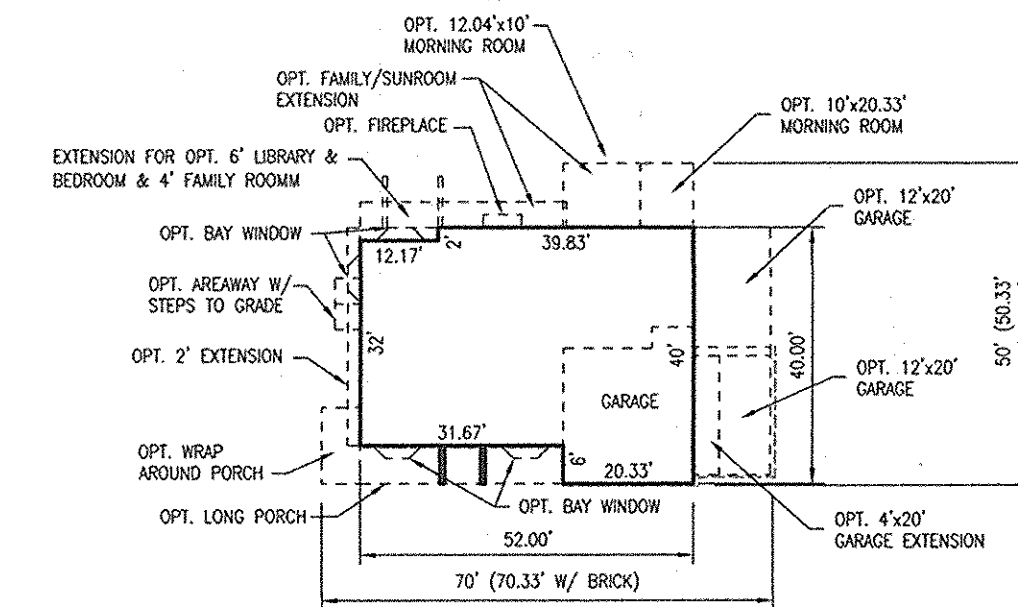
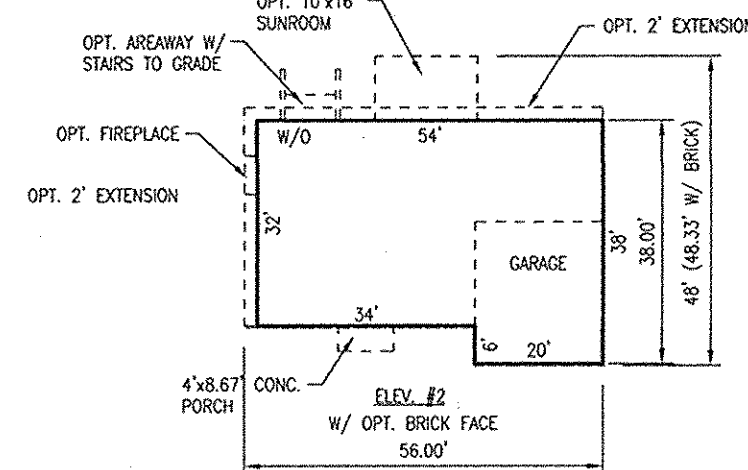
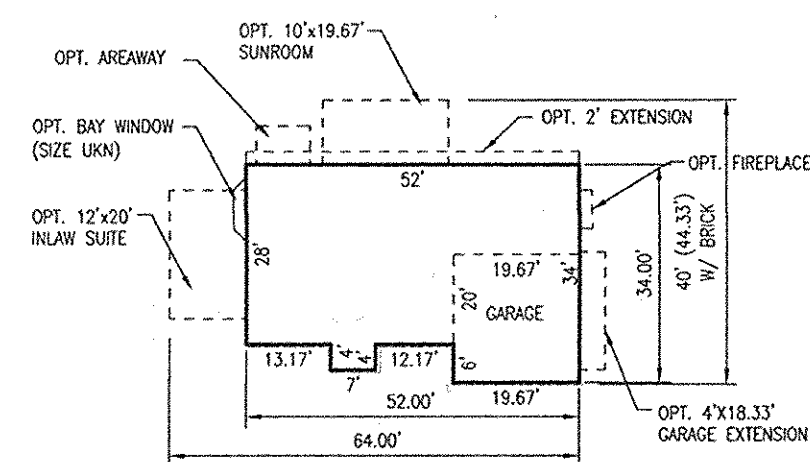


- FITS:
- ARMISTEAD III - ALL ELEVATIONS, NO OPTIONAL REAR SUITE
  - CALVERT - ALL ELEVATIONS, ALL OPTIONS
  - CHAMBERLAIN - NO OPTIONAL GARAGES, NO 4' GARAGE EXTENSION OR NO WRAP AROUND PORCH, OPT. SIDE AREAWAY W/ STAIRS & OPT. BAY WINDOW (UNLESS OTHER OPTIONS ARE LEFT OFF)
  - GILMOR III - ALL ELEVATIONS, ALL OPTIONS

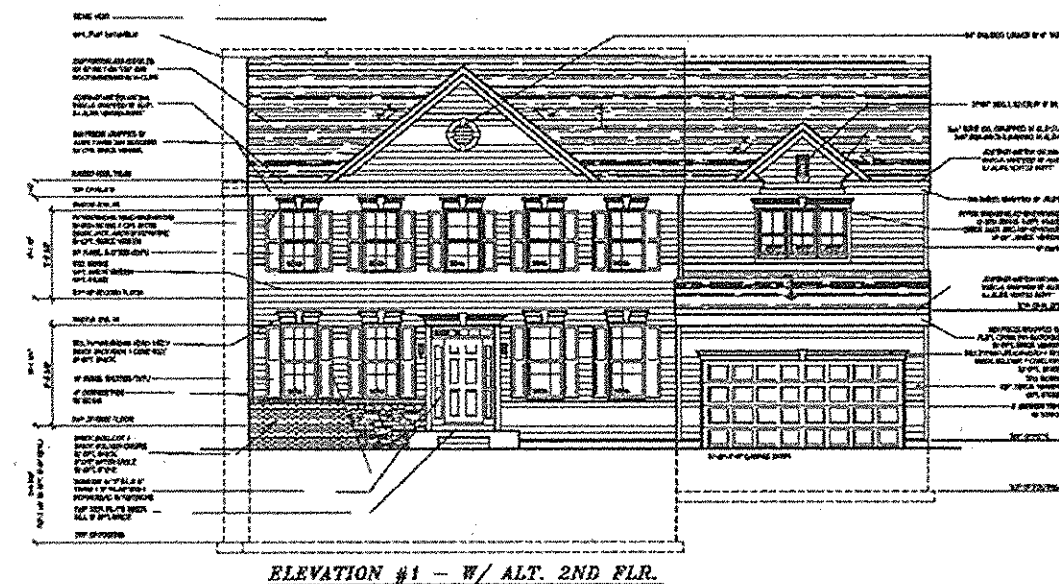
- FITS:
- ALL MODELS, ALL ELEVATIONS, ALL OPTIONS

**NOTES:**

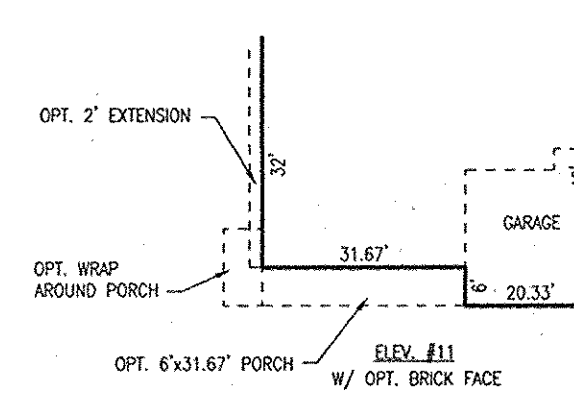
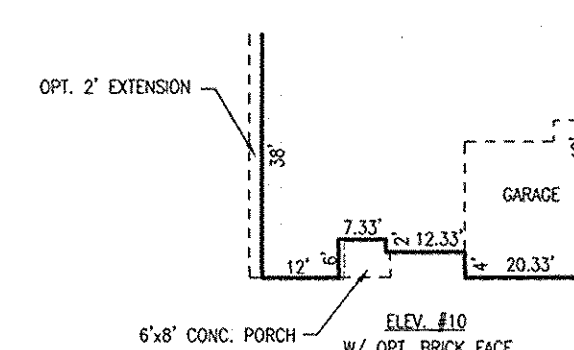
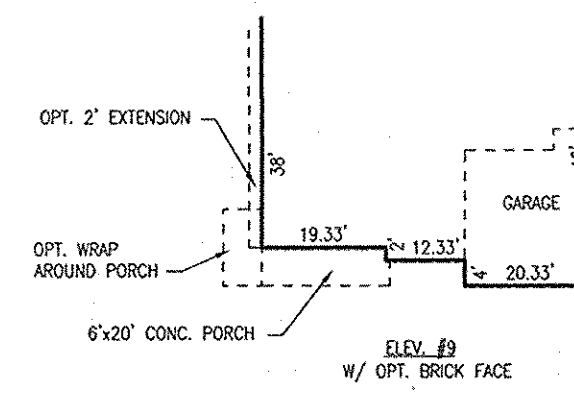
- ADDITIONAL HOUSE TYPES AND OPTIONS MAY FIT ON ANY GIVEN LOT.
- THE STAKING OF FOUNDATIONS PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES IS RECOMMENDED.
- A MINIMUM OF 10 FEET SHALL BE PROVIDED BETWEEN THE CHOSEN HOUSE MODEL AND A MICRO-BIORETENTION FACILITY.
- MODEL ELEVATION SHALL NOT EXCEED 34' MAX HEIGHT AS ALLOWED BY R-20 ZONE.
- IN ACCORDANCE WITH SECTION 128.0.A OF THE HOWARD COUNTY ZONING REGULATIONS:
  - MAX ENCROACHMENT INTO SETBACK FOR CORNICES, EAVES AND CANTILEVERED BUILDING FEATURES WHICH DO NOT CONTAIN ANY FLOOR AREA OR EXTENSION OF INTERIOR LIVING SPACE IS: 3 FEET INTO ANY SETBACK.
  - MAX ENCROACHMENT INTO SETBACK FOR BAY WINDOWS, WINDOW WELLS, ORIELS, VESTIBULES, BALCONIES AND CHIMNEYS IS: 4 FEET INTO ANY SETBACK OR A REQUIRED DISTANCE BETWEEN BUILDINGS, PROVIDED THE FEATURE HAS A MAXIMUM WIDTH OF 16 FEET AS MEASURED HORIZONTALLY ALONG THE WALL FROM WHICH THE FEATURE EXTENDS.
  - MAX ENCROACHMENT INTO SETBACK FOR EXTERIOR STAIRWAYS OR RAMPS, ABOVE OR BELOW GROUND LEVEL EXCLUDING THOSE ATTACHED TO A PORCH OR DECK (SEE E) IS: 10 FEET INTO A FRONT SETBACK OR A SETBACK FROM A PROJECT BOUNDARY OR DIFFERENT ZONING DISTRICT; 16 FEET INTO A REAR SETBACK; 4 FEET INTO A SIDE SETBACK OR A REQUIRED DISTANCE BETWEEN BUILDINGS.
  - MAX ENCROACHMENT INTO SETBACK FOR OPEN OR ENCLOSED PORCHES AND DECKS, AND THE STAIRWAYS OR RAMPS ATTACHED THERETO IS: 10 FEET INTO A FRONT OR REAR SETBACK, A SETBACK FROM A PROJECT BOUNDARY, A SETBACK FROM A DIFFERENT ZONING DISTRICT, OR A REQUIRED DISTANCE BETWEEN BUILDINGS.



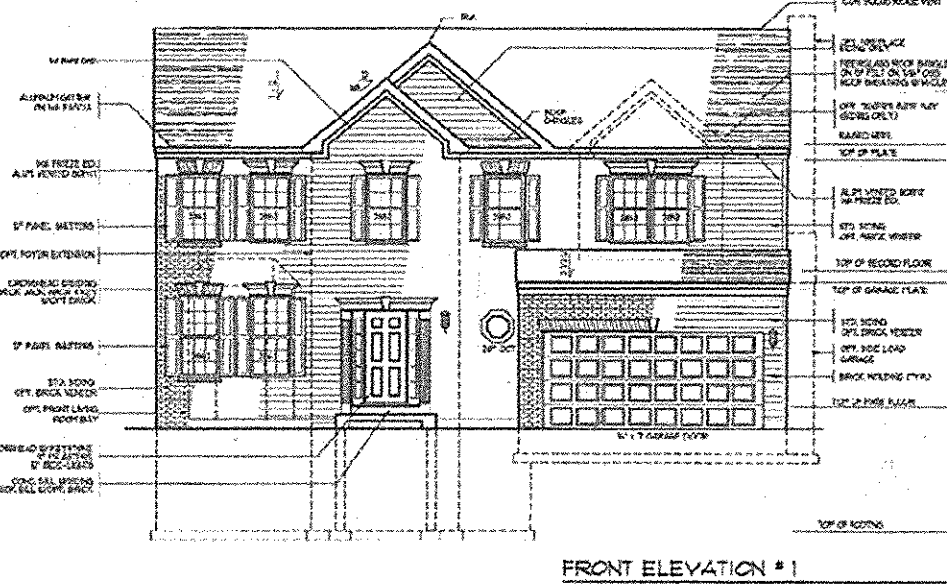
**ARMISTEAD III**  
SCALE: 1"=30'



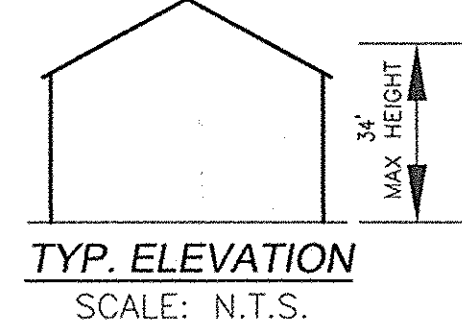
SCALE: N.T.S.



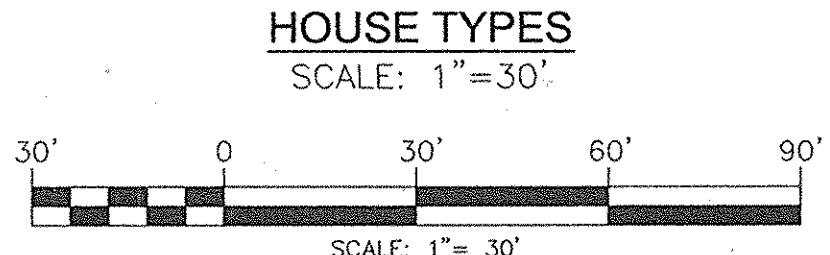
**CHAMBERLAIN III**  
SCALE: 1"=30'



SCALE: N.T.S.

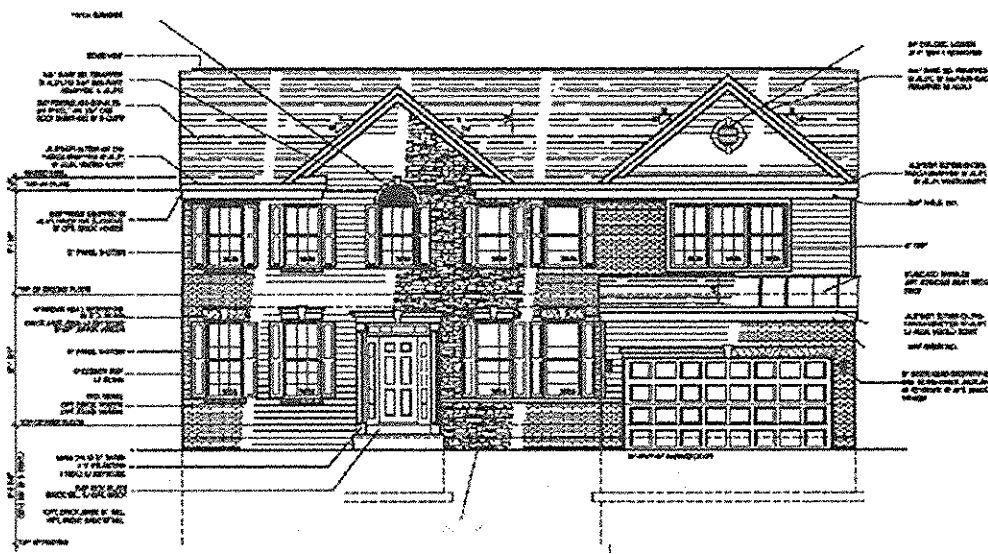


**TYP. ELEVATION**  
SCALE: N.T.S.

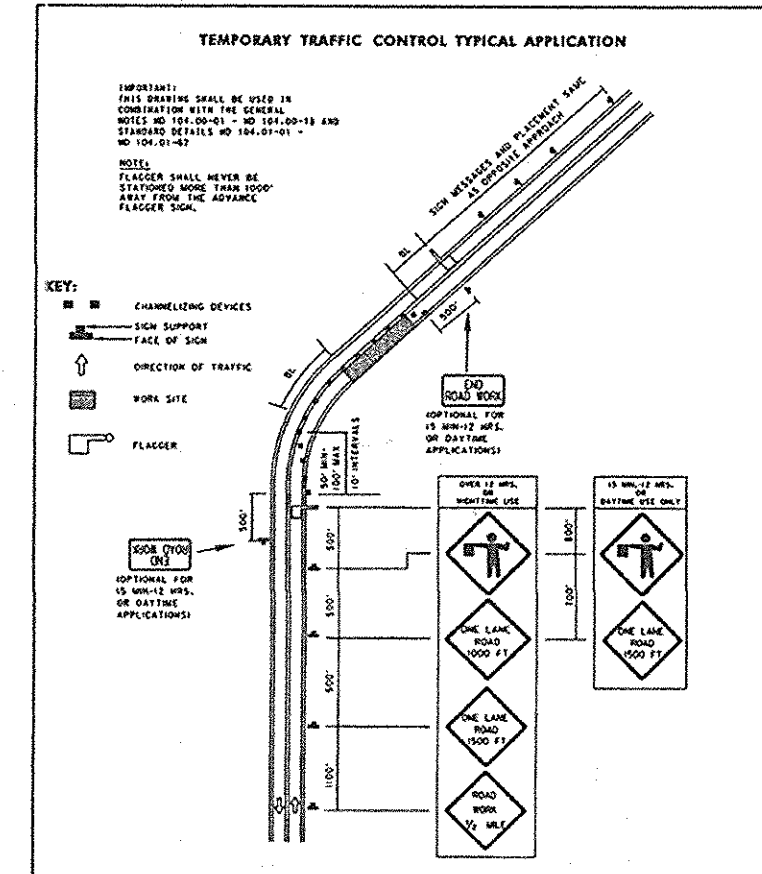
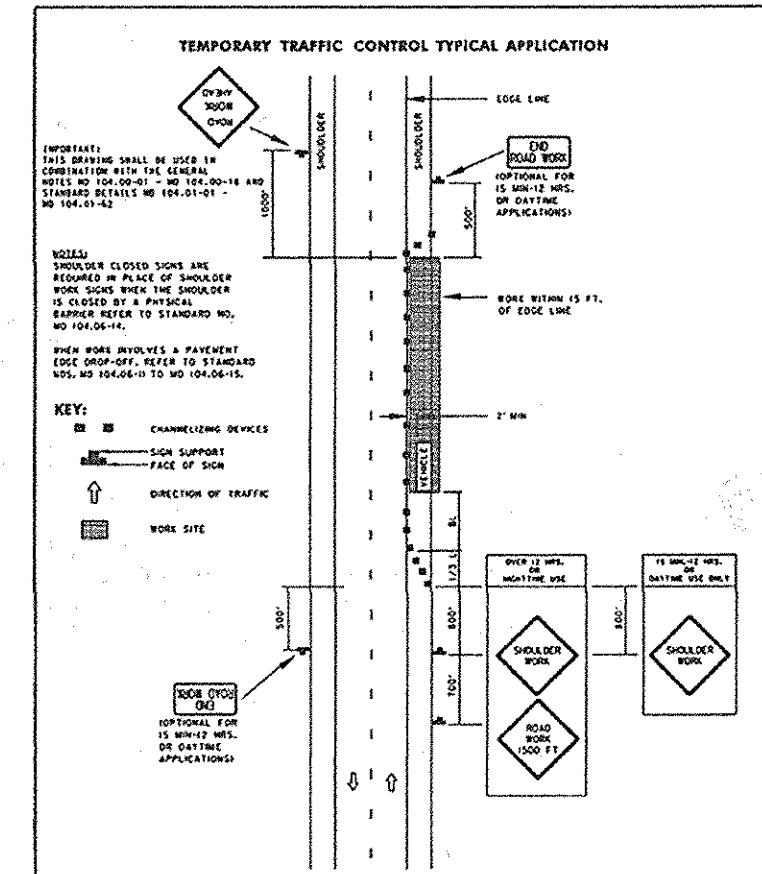
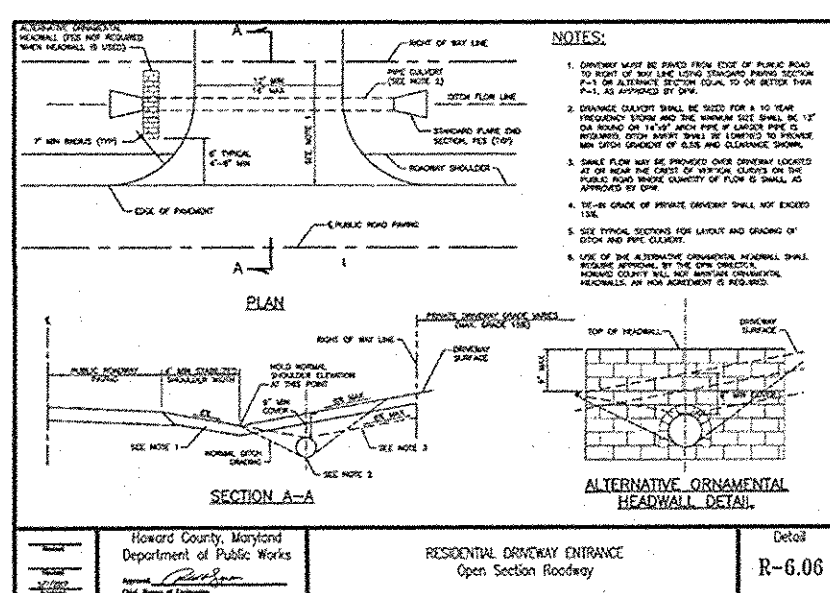


**HOUSE TYPES**  
SCALE: 1"=30'

SECTION	DATE	DESCRIPTION	BY	CHKD.
P-1	6-15-16	REVISION: [Details]	[Signature]	[Signature]
P-2	6-20-16	REVISION: [Details]	[Signature]	[Signature]
P-3	6-20-16	REVISION: [Details]	[Signature]	[Signature]
P-4	6-20-16	REVISION: [Details]	[Signature]	[Signature]



SCALE: N.T.S.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 6-15-16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 6-20-16  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 6-20-16  
DIRECTOR DATE

Maryland Department of Transportation  
STATE HIGHWAY ADMINISTRATION  
STANDARDS FOR IMPROVED AND ACCIDENT STRUCTURES  
SHOULDER WORK-3-LANE, 2-WAY  
EQUALLY THAN 40 MPH  
STANDARD NO. MD 104.02-03

Maryland Department of Transportation  
STATE HIGHWAY ADMINISTRATION  
STANDARDS FOR IMPROVED AND ACCIDENT STRUCTURES  
FLAGGING OPERATIONS-3-LANE, 2-WAY  
EQUALLY THAN 40 MPH  
STANDARD NO. MD 104.02-10

**OWNER**  
BRIAN E. SMITH  
SHARON R. SMITH  
8302 OLD MONTGOMERY RD.  
COLUMBIA, MD 21045  
443-864-8141

**BUILDER**  
DORSEY FAMILY HOMES, INC.  
107178 - B BIRMINGHAM WAY  
WOODSTOCK, MD 21163  
410-461-8951

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**HOUSE TYPES AND SITE DETAILS**  
**BRIAN SMITH PROPERTY**  
**LOTS 1-3**

PARCEL: 230  
TAX MAP: 37 GRID: 07  
6TH ELECTION DISTRICT

ZONED: R-20  
USE: RESIDENTIAL  
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL**  
**ENGINEERS • SURVEYORS • PLANNERS**  
8407 MAIN STREET  
ELLIGOTT CITY, MD 21043  
TEL: 410.461.7666  
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV/GAH  
DRAWN BY: RVE  
CHECKED BY: RHV  
DATE: JUNE 2016  
SCALE: AS SHOWN  
W.O. NO.: 13-24

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, EXPIRATION DATE: 09-27-2016

6 SHEET OF 6