

PERMIT INFORMATION BLOCK					
SUBDIVISION NAME: FAZ PROPERTY		SECTION/AREA: N/A	PARCEL: 509 LOTS: 1 THRU 3		
PLAT NO. 23381-82	BLOCK(S) 20	ZONING R-20	TAX MAP NO. 37	ELECTION DISTRICT 6TH	CENSUS TRACT

**ADDRESS CHART**

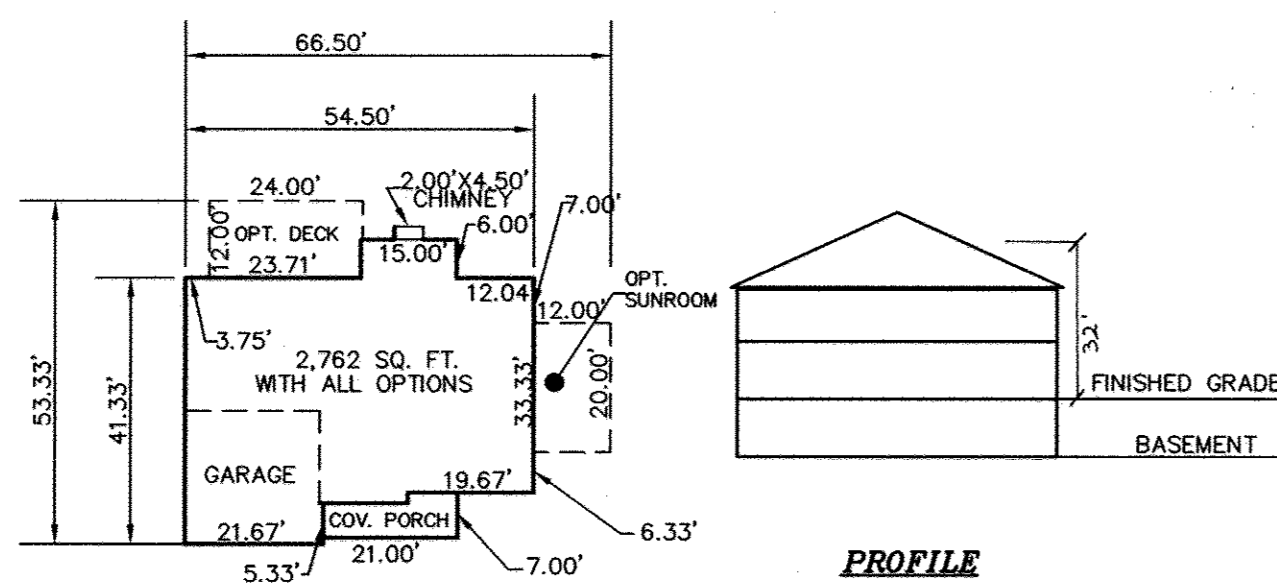
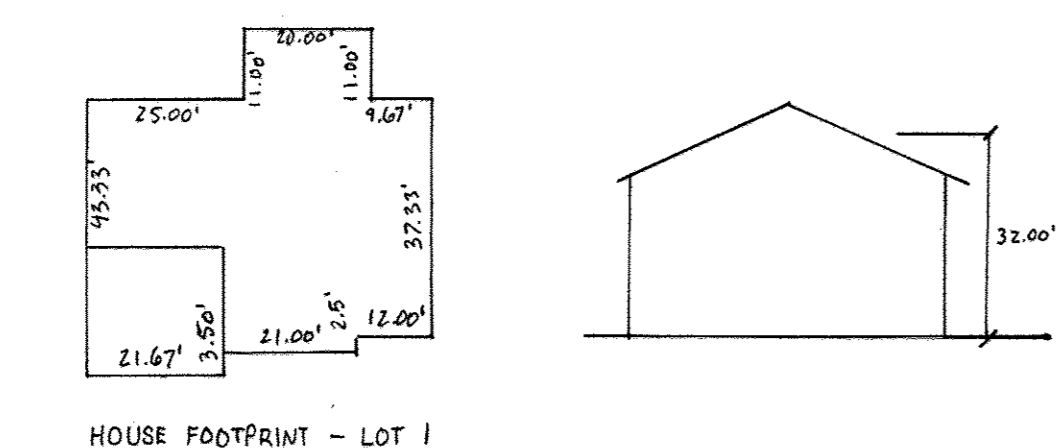
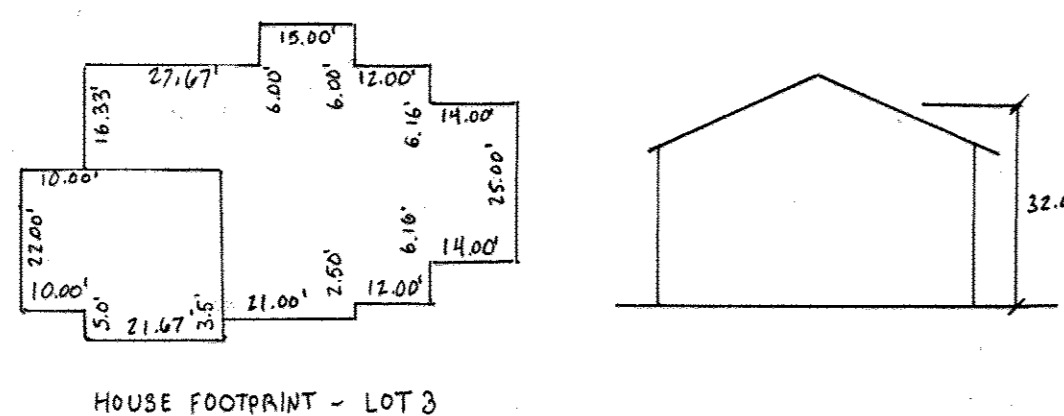
LOT#	ADDRESS
1	8304 LARK BROWN ROAD
2	8304 LARK BROWN ROAD
3	8306 LARK BROWN ROAD

**INDEX OF DRAWINGS**

NO.	DESCRIPTION
1	SITE DEVELOPMENT PLAN
2	NOTES AND DETAILS
3	SEDIMENT CONTROL NOTES AND DETAILS

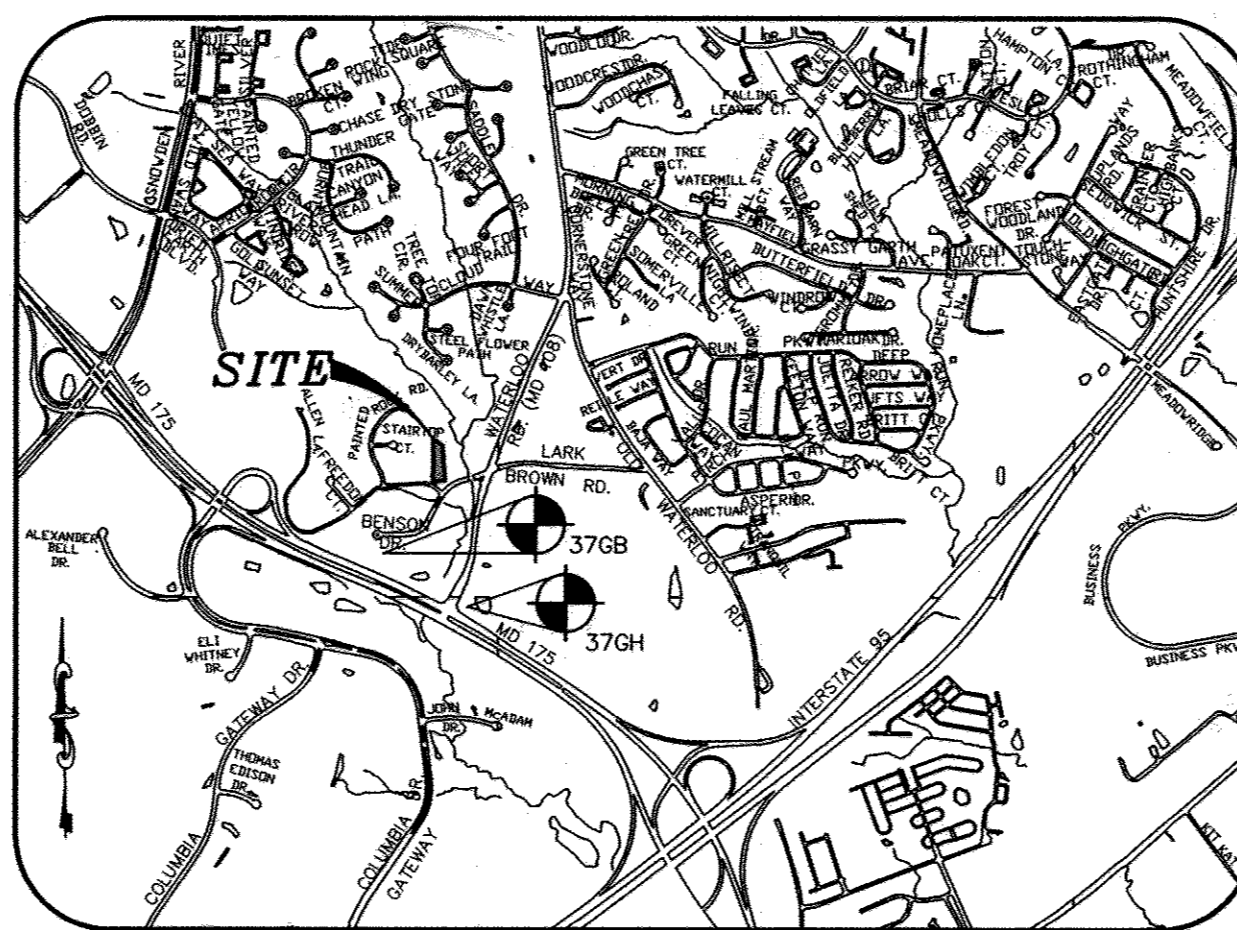
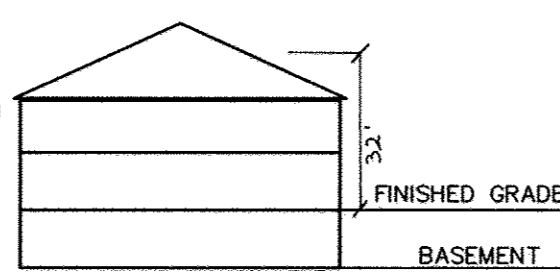
**LEGEND**

- EXISTING USE-IN-COMMON ACCESS, DRAINAGE AND UTILITY EASEMENT FOR THE USE AND BENEFIT OF LOTS 1, 2 & 3, PLAT# 23381-82
- EXISTING PUBLIC WATER AND UTILITY EASEMENT, PLAT# 23381-82
- IMPERVIOUS AREA TREATED BY M-6, MICRO-BIORETENTION
- PROPOSED DRIVEWAY
- EXISTING C&P EASEMENT L 1859, F 372
- EROSION CONTROL MATTING
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- ROOF DRAIN LEADER
- EXISTING TREELINE
- PROPOSED TREELINE
- SEWER HOUSE CONNECTION
- WATER HOUSE CONNECTION



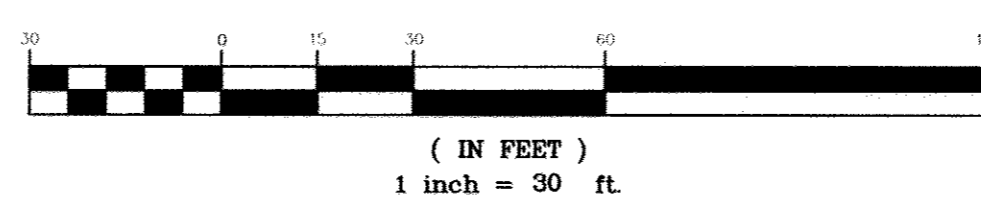
**THE FAZ**  
SCALE: 1"=30'

**PROFILE**



STORMWATER MANAGEMENT PRACTICES															
LOT #	ADDRESS	PERMEABLE PAVEMENTS			DISCONNECTION OF ROOFTOP RUNOFF N-1 (NUMBER)	DISCONNECTION OF ROOFTOP RUNOFF N-2 (NUMBER)	SHEETFLOW TO CONSERVATION AREAS N-3 (Y/N)	RAINWATER HARVESTING M-1 (NUMBER)	SUBMERGED GRAVEL WETLANDS M-2 (NUMBER)	LANDSCAPE INFILTRATION M-3 (NUMBER)	INFILTRATION BERMS M-4 (NUMBER)	DRY WELLS M-5 (NUMBER)	MICRO-BIORETENTION M-6 (NUMBER)	RAIN GARDENS M-7 (NUMBER)	M-8 (NUMBER)
		A-1 (Y/N)	A-2 (Y/N)	A-3 (Y/N)											
1	8304 LARK BROWN ROAD											2	1		
2	8306 LARK BROWN ROAD												2		
3	8308 LARK BROWN ROAD											4			

**GRAPHIC SCALE**



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.



Professional Certification. 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. 22390 Expiration Date: 6-30-19

# SITE DEVELOPMENT PLAN

## FAZ PROPERTY, LOTS 1 THRU 3

### TAX MAP 37, PARCEL 508

### SIXTH ELECTION DISTRICT

### HOWARD COUNTY, MARYLAND

**GENERAL NOTES:**

- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS.
- SITE ANALYSIS DATA:**  
LOCATION: TAX MAP: 37 GRID: 20 PARCEL: 508  
ELECTION DISTRICT: SIXTH  
ZONING: R-12  
PROPOSED USE FOR SITE: RESIDENTIAL  
TYPE OF PROPOSED UNIT: SFD  
DEED REFERENCE: L 18408, F 409  
DPZ FILE NOS: ECP-14-075, F-15-009, WP-15-018  
TOTAL AREA: 1.03 AC±  
LIMIT OF DISTURBED AREA: 1.07 AC±  
PROPOSED USE FOR SITE: RESIDENTIAL, SINGLE FAMILY DETACHED DWELLING.  
STA. No. 37GB N 553,452.821 E 1,368,503.169 EL. 325.209  
STA. No. 37GB N 552,861.799 E 1,369,532.861 EL. 283.769
- ON-SITE TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY CONDUCTED BY MILDBERG, BOENDER & ASSOCIATES ON OR ABOUT MARCH 2014.
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 37GB & 37GH.  
STA. No. 37GB N 553,452.821 E 1,368,503.169 EL. 325.209  
STA. No. 37GH N 552,861.799 E 1,369,532.861 EL. 283.769
- SUBJECT PROPERTY ZONED R-12 IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING REGULATIONS.
- STEEP SLOPES OVER 20,000 SQ. FT. IN AREA DO NOT EXIST ON SITE.
- IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS, OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM LOT AND ROAD RIGHT-OF-WAY LINE AND NOT TO THE PIPESTEM LOT DRIVEWAY.
- EXISTING UTILITIES ARE BASED ON ACTUAL FIELD LOCATIONS, IN COMBINATION WITH EXISTING WATER AND SEWER CONTRACTS.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:  
A) WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE).  
B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING.  
C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45-FOOT TURNING RADIUS.  
D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).  
E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.  
F) STRUCTURE CLEARANCES - MINIMUM 12 FEET  
G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- FOREST CONSERVATION OBLIGATION FOR THIS RESUBDIVISION IS PROVIDED BY A PAYMENT OF FEE-IN-LIEU IN THE AMOUNT OF \$6,880.70 FOR 0.21 ACRES (9,147.60 SQ. FT.) OF AFFORESTATION UNDER F-15-009.
- LANDSCAPING FOR LOTS 1 AND 2 IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING (16 SHADE AND 5 ORNAMENTAL) IN THE AMOUNT OF \$5,500.00 WILL BE PROVIDED AS PART OF THE GRADING PERMIT FOR LOTS 1 THRU 3.
- 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.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWIT LISTED AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS 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 APPLICABLE PLANS AND CERTIFICATES.
- 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 MEET SIZE AND INSTALLATION REQUIREMENTS AS SPECIFIED IN THE LANDSCAPE MANUAL.
- NO CLEARING OF EXISTING VEGETATION IS PERMITTED WITHIN THE LANDSCAPED EDGE; HOWEVER, LANDSCAPE MAINTENANCE IS AUTHORIZED.
- DRIVEWAY ENTRANCE IS PER HOWARD COUNTY STANDARD DETAIL R-6.06.
- STORMWATER MANAGEMENT IS PROVIDED VIA MICRO-BIORETENTION FACILITIES (M-6) AND WAS APPROVED UNDER F-15-009. ALL SWM PRACTICES WILL BE PRIVATELY OWNED AND MAINTAINED.
- THE OPEN SPACE REQUIREMENT FOR THIS SUBDIVISION IS MET BY A PAYMENT OF FEE-IN-LIEU IN THE AMOUNT OF \$3,000.00 UNDER F-15-009.
- NO FOREST STAND OR WETLAND EXISTS ON SITE AS CERTIFIED BY MILDBERG, BOENDER & ASSOC., INC. UNDER F-15-009.
- 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 THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.  
MISS UTILITY 800-257-7777  
VERIZON TELEPHONE COMPANY (410) 725-9976  
HOWARD COUNTY BUREAU OF UTILITIES (410) 313-4900  
AT&T CABLE LOCATION DIVISION (410) 393-3533  
BALTIMORE GAS & ELECTRIC (410) 685-0123  
STATE HIGHWAY ADMINISTRATION (410) 531-5533
- EXISTING UTILITIES ARE BASED ON AS-BUILT PLANS FOR WATER AND SEWER CONTRACTS 671-W AND 20-1264, VERIFIED BY FIELD RUN SURVEY CONDUCTED BY MILDBERG, BOENDER & ASSOC., INC.
- FLOODPLAIN STUDY IS NOT REQUIRED FOR THIS SITE.
- NOISE STUDY IS NOT REQUIRED FOR THIS SITE.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.1107(a)(2) MINOR SUBDIVISIONS ARE EXEMPT FROM THE REQUIREMENT TO PASS THE TEST FOR ADEQUATE PUBLIC ROAD FACILITIES.
- ANY DAMAGE TO THE COUNTY RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- A PRE-SUBMISSION COMMUNITY MEETING FOR THIS PROJECT WAS HELD ON MARCH 24, 2014 AT 6:00 PM AT THE EAST COLUMBIA LIBRARY.
- THIS PLAN IS SUBJECT TO WAIVER PETITION WF-15-018, WAIVING SECTION 16.1205(a)(7) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WHICH REQUIRES TREES 30" IN DIAMETER OR LARGER BE LEFT IN AN UNDISTURBED CONDITION UPON SUBDIVISION. WAIVER PETITION WAS APPROVED ON SEPTEMBER 9, 2014. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:  
1. PROVIDE TWO (2) ADDITIONAL REPLACEMENT TREES OF 3" TO 4" CALIPER ON SITE IN PLACE OF THE REMOVED TREE. THE MITIGATED PLANTINGS WILL BE INCLUDED AS PART OF THE REQUIRED LANDSCAPING AND SHALL BE BONDED WITH LANDSCAPING OBLIGATION.  
2. THE MIHU OBLIGATION FOR THIS DEVELOPMENT WILL BE PROVIDED BY A PAYMENT OF FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT FOR EACH UNIT OR PORTION OF THE UNITS REQUIRED BY THE DEVELOPMENT. THE MIHU AGREEMENT AND DECLARATION OF COVENANTS WILL BE RECORDED TOGETHER WITH THE FINAL PLAT AT THE LAND RECORDS OFFICE.  
3. SEWER HOUSE CONNECTION ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE OR EASEMENT LINE.  
4. NO CEMETERIES EXIST ON SITE.  
5. NO HISTORIC STRUCTURE EXISTS ON SITE.  
6. SHOULD THE STOCKPILE EXCEED 15 FEET IN HEIGHT, IT MUST BE BENCHED.

**OWNER / DEVELOPER**

FARAMARZ SADEGHI-BAJGIRAN  
6043 MAJORS LANE, APT 5  
COLUMBIA, MARYLAND 21045  
(443)825-8507

**DEVELOPERS CERTIFICATE**

I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY 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. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO PERIODIC ON-SITE INSPECTION.

Signature of Developer: *Faramarz Sadeghi Bajgiran* DATE: 09/23/2015  
PRINTED NAME OF DEVELOPER: Faramarz Sadeghi Bajgiran

**ENGINEER'S CERTIFICATE**

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.

Signature of Engineer: *R. Jacob Hikmat, PE* DATE: 9/22/15  
PRINTED NAME OF ENGINEER: R. JACOB HIKMAT, PE

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

Signature of Director: *William J. Jaffe* DATE: 9/23/15  
DIRECTOR

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature of Chief: *William J. Jaffe* DATE: 10-19-15  
Signature of Chief: *William J. Jaffe* DATE: 10-21-15  
Signature of Chief: *William J. Jaffe* DATE: 10-21-15

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)**

- The monitoring wells and structures shall be inspected on a quarterly basis and after every large storm event.
- Water levels and sediment build up in the monitoring wells shall be recorded over a period of several days to insure trench drainage.
- A log book shall be maintained to determine the rate at which the facility drains.
- When the facility becomes clogged so that it does not drain down within the 72 hour time period, corrective action shall be taken.
- The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
- Once the performance characteristics of the infiltration facility have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.

**DEVELOPER'S/OWNER'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 YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

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. 17942, EXP. DATE 09/03/16.  
Signature: *R. Jacob Hikmat, P.E.* DATE: 9/22/15  
OWNER

date	description	revision
SEP 2015	engineering	1
MM/AMT	approval	1

FAZ PROPERTY, LOTS 1 THRU 3  
SINGLE FAMILY DETACHED  
HOWARD COUNTY, MD. TAX MAP 37, PARCEL 508, GRID 20  
SIXTH ELECTION DISTRICT, SITE DEVELOPMENT PLAN

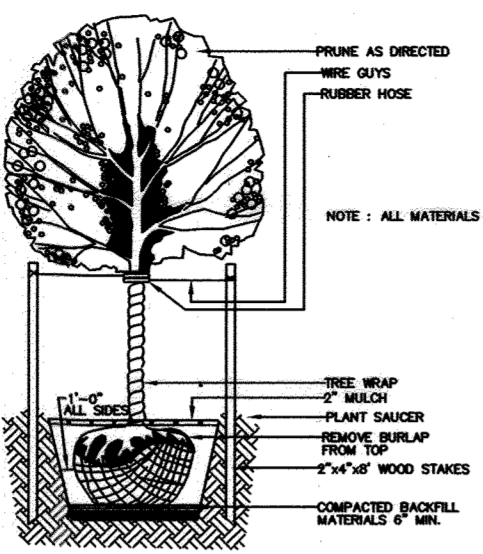
**MILDBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
7850-B Grace Drive, Columbia, Maryland 21044  
(410) 997-0296 Fax: (410) 997-0298

**SOILS DESCRIPTION**

SYMBOL	HYDROLOGICAL DESCRIPTION	Kw	Kf	MAP
USB	URBAN LAND - SASSAPARAS - BELTSVILLE - COMPLEX 0-5% SLOPE	0.37	0.37	19
USD	URBAN LAND - SASSAPARAS - BELTSVILLE - COMPLEX 5-15% SLOPE	0.37	0.37	19

**FOREST CONSERVATION WORKSHEET**

- NET TRACT AREA: 1.03
- A. Total tract area..... = 1.03
  - B. Area within 100 year floodplain & overhead transmission line = 0.00
  - C. Area to remain in agricultural production..... = 0.00
  - D. Net tract area..... = 1.03
- LAND USE CATEGORY:  
Input the number "1" under the appropriate land use zoning, and limit to only one entry.  
AREA MDR IDA MDR MFD CIA  
0 1 0 0 0 0
- E. Afforestation Threshold..... 20% x D = 0.21
  - F. Conservation Threshold..... 25% x D = 0.26
- EXISTING FOREST COVER:  
G. Existing forest cover (excluding floodplain)..... = 0.00  
H. Area of forest above afforestation threshold..... = 0.00  
I. Area of forest above conservation threshold..... = 0.00
- BREAK EVEN POINT:  
J. Forest retention above threshold with no mitigation..... = 0.00  
K. Clearing permitted without mitigation..... = 0.00
- PROPOSED FOREST CLEARING:  
L. Total area of forest to be cleared..... = 0.00  
M. Total area of forest to be retained..... = 0.00
- PLANTING REQUIREMENTS:  
N. Reforestation for clearing above conservation threshold..... = 0.00  
O. Reforestation for clearing below conservation threshold..... = 0.00  
P. Credit for retention above conservation threshold..... = 0.00  
R. Total reforestation required..... = 0.00  
S. Total afforestation required..... = 0.00  
T. Total reforestation and afforestation required..... = 0.21



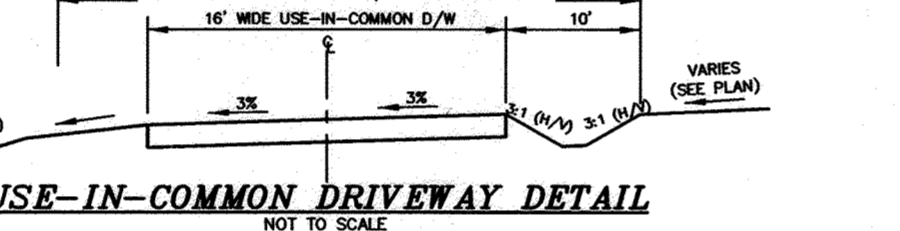
**DECIDUOUS TREE PLANTING DETAIL**  
NOT TO SCALE

**MICRO-BIORETENTION (M-6) DESIGN DATA**

FACILITY	LOT	TOP EL.	SIZE	PONDING DEPTH	TOP OF BERM	UNDERDRAIN INV.	INV. OUT.
MB-A1	LOT 1	309.0	138 SF	12"	310.20	305.92	305.00
MB-B1	LOT 2	311.0	260.0 S.F.	12"	312.0	308.6	307.45
MB-B2	LOT 2	312.0	260.0 S.F.	12"	313.0	308.6	308.40

**MATERIALS & SPECIFICATIONS FOR DRY WELLS**

MATERIAL	SPECIFICATION	SIZE	RE TYPE / NOTES
GRAVEL (CLASS)	ASTM M 43	1/2" TO 1 1/4"	NO. 10
UNDERDRAIN PIPE	P 753, TYPE 152 DR	12" DIA. 30' LENGTH	1" PER FOR. & 1/8" DIA. HOLES PER ROW. MIN. 2' OF GRAVEL OVER PIPES.
SAND	ASTM M-100 or ASTM C-33	4" TO 8"	SAND SUBSTITUTIONS SUCH AS ORNAMENTAL AND GRANITE (GASTO) WHO ARE NOT ACCEPTABLE. ALL SUBSTITUTIONS ARE ACCEPTABLE. NO ROCK DUST CAN BE USED FOR SAND.



**USE-IN-COMMON DRIVEWAY DETAIL**  
NOT TO SCALE

**DRY WELL (M-5) DESIGN DATA CHART**

LOT	DRY WELL #	LENGTH (FT)	WIDTH (FT)	TOP OF STONE ELEV.	DEPTH AT STONE (FT)	BOTTOM OF SAND ELEV.	BOTTOM OF SAND ELEV.
LOT 1	#1	12.0	8.0	311.0	3.5	307.50	306.50
LOT 1	#1	12.0	8.0	309.0	3.5	305.50	304.50
LOT 3	#2	10.0	8.0	312.0	3.0	309.00	308.00
LOT 3	#2	10.0	8.0	311.0	3.0	307.00	307.00
LOT 3	#4	10.0	8.0	316.9	3.0	313.90	312.90

**PERIMETER LANDSCAPE REQUIREMENT PLANTING SCHEDULE**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
4	(Symbol)	ACER RUBRUM (AR)	RED MAPLE	2 1/2" - 3" CAL.
2	(Symbol)	ACER RUBRUM (AR)	RED MAPLE	3" - 4" CAL.
10	(Symbol)	PRUNUS SARGENTII (PS)	SARGENT CHERRY	2 1/2" - 3" CAL.
5	(Symbol)	CRUS CANADENSIS (CC)	EASTERN REDBUD	2 1/2" - 3" CAL.

TOTAL: 21 TREES (16 SHADE TREES, 5 ORNAMENTAL)

\* 2 ADDITIONAL RED MAPLES PROVIDED AS PER APPROVAL CONDITION OF WP-15-018 FOR REMOVAL OF ONE SPECIMEN TREE.

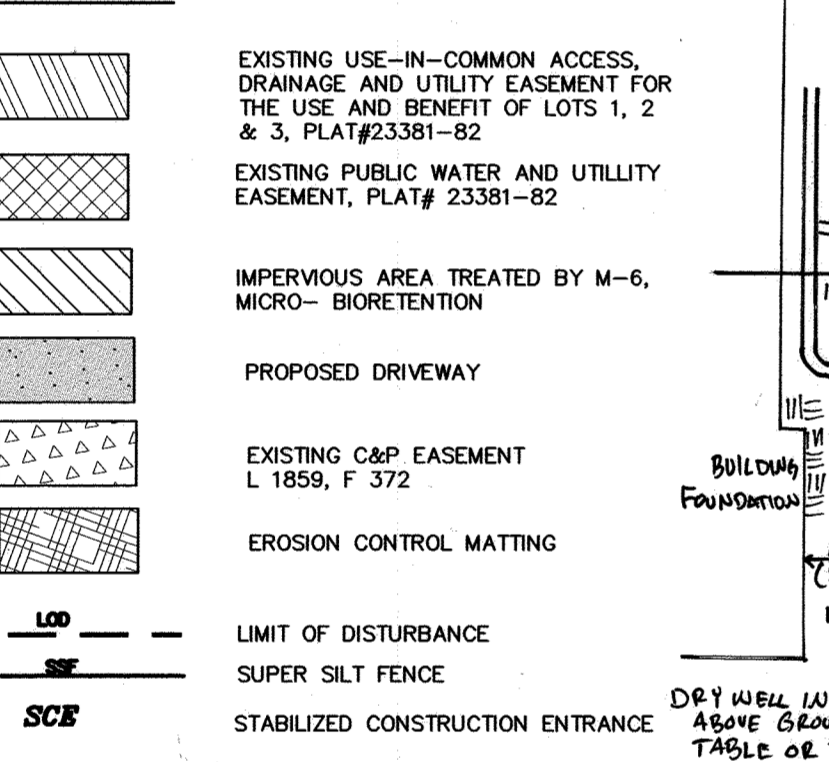
**SCHEDULE A - PERIMETER LANDSCAPED EDGE**

CATEGORY	ADJACENT TO PERIMETER PROPERTIES	TOTAL				
LANDSCAPE TYPE	A (PERIMETER 1)	A (PERIMETER 2)	A (PERIMETER 3)	A (PERIMETER 4)		
	367 LF	121 LF	382 LF	105 LF		
	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	NO	NO	NO	N/A
	NUMBER OF PLANTS REQUIRED	6 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	2 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	6 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	2 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	16 SHADE TREES 0 EVERGREEN TREE 0 SHRUBS
CREDIT FOR EXISTING VEGETATION	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	N/A	0 SHADE TREES 1 EVERGREEN TREES 0 SHRUBS	N/A	0 SHADE TREES 1 EVERGREEN TREES 0 SHRUBS	
	NUMBER OF PLANTS PROVIDED	6 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	4 SHADE TREE 0 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	5 SHADE TREES 1 EVERGREEN TREES 1 SUBSTITUTION TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 4 SUBSTITUTION TREES 0 SHRUBS	15 SHADE TREES 1 EVERGREEN TREES 5 SUBSTITUTION TREES 0 SHRUB

**B.A.C. SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDENS, LANDSCAPE INFILTRATION & INFILTRATION BERMS**

- MATERIAL SPECIFICATIONS**  
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.A.1.
- FILTERING MEDIA OR PLANTING SOIL**  
THE SOIL SHALL BE UNIFORM MIX. FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DAMPED 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 BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.
- PLANTING SOIL**  
THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:  
- SOIL COMPONENT (SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION))  
- ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974) IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (80%-85%) AND COMPOST (30%-40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).  
- CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.  
- PH RANGE - SHOULD BE BETWEEN 5.5-7.0. AMENDMENTS (E.G., LIME, HIGH SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE PH.
- TESTING**  
THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TEST OF ORGANIC MATTER AND SCURBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL WAS EXCAVATED, A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.
- CONSTRUCTION**  
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH EQUIPMENT, OR LIGHT EQUIPMENT WITH TIRE TYPE TIRES. USE OF EQUIPMENT WITH HOLLOW TRACKS OR MARSH TIRES, RUBBER TIRES WITH LARGE LUGS, 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 CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILTING OPERATION SUCH AS A CHisel PLow, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACURE THE SOIL PROFILE. EQUIPMENT SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
- RETENTION LAYER**  
OPTIONAL 2-3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP UP PONDED WATER BEFORE PREPARING ROTOTILLING BASE.
- BACKFILLING**  
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3-4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.
- EQUIPMENT**  
WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.
- PLANT MATERIAL**  
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.
- PLANT INSTALLATION**  
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE PLANTING AND OTHER AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" - 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. FINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AERATED (6-12 MONTHS) FOR ACCEPTANCE.
- ROOTSTOCK**  
ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOTS SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHOULD BE AT LEAST 4" 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.
- STAKES**  
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.
- MULCH**  
GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
- TOPSOIL**  
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 DEFEATS OR AT A MINIMUM IMPEDES THIS GOAL. 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 OF SURFACE AREA.
- UNDERDRAINS**  
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:  
- PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS 28 OR ASHTO M-278) IN A GRAVEL LAYER. THE PERFORATED MATERIAL IS SLOTTED, 4" RIGID PIPE (PVC OR HDPE).  
- PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE AT LEAST 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4X) GALVANIZED HARDWARE CLOTH.  
- GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.  
- A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE FOR EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAR-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.  
- A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND THE UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO 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 CONSTRUCTED AT A MINIMUM SLOPE OF 0.05% OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER 1,000 SQUARE FEET OF SURFACE AREA).
- MISCELLANEOUS**  
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE HAS BEEN STABILIZED.

**CHANNEL DETAIL**



LEGEND:  
EXISTING USE-IN-COMMON ACCESS, DRAINAGE AND UTILITY EASEMENT FOR THE USE AND BENEFIT OF LOTS 1, 2 & 3, PLAT #23381-82  
EXISTING PUBLIC WATER AND UTILITY EASEMENT, PLAT # 23381-82  
IMPERVIOUS AREA TREATED BY M-6, MICRO-BIORETENTION  
PROPOSED DRIVEWAY  
EXISTING CAP EASEMENT L 1859, F 372  
EROSION CONTROL MATTING  
LIMIT OF DISTURBANCE  
SUPER SILT FENCE  
STABILIZED CONSTRUCTION ENTRANCE  
ROOF DRAIN LEADER  
EXISTING TREELINE  
PROPOSED TREELINE  
SEWER HOUSE CONNECTION  
WATER HOUSE CONNECTION

**DEVELOPERS CERTIFICATE**

I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY 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. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO PERIODIC ON-SITE INSPECTION.

09/23/2015  
DATE  
Signature of Developer: *Faramarz Sadeghi-Bajgirani*  
PRINTED NAME OF DEVELOPER

**ENGINEER'S CERTIFICATE**

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.

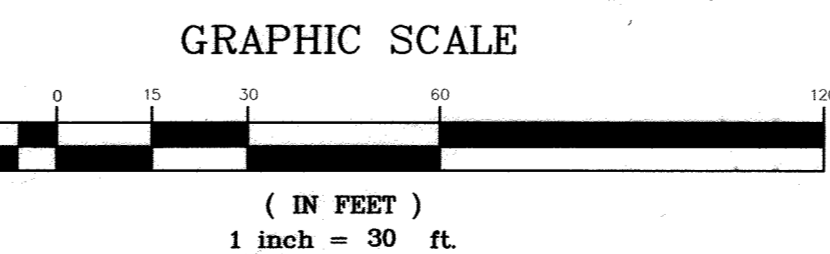
9/22/15  
DATE  
Signature of Engineer: *Jacob Hikmat*  
PRINTED NAME OF ENGINEER  
R JACOB HIKMAT, PE  
FORWARD SOIL CONSERVATION DISTRICT  
DATE: 9/30/15

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

10-19-15  
DATE  
Signature: *John E. Starnes*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
10-21-15  
DATE  
Signature: *John E. Starnes*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
10-21-15  
DATE  
Signature: *John E. Starnes*  
DIRECTOR

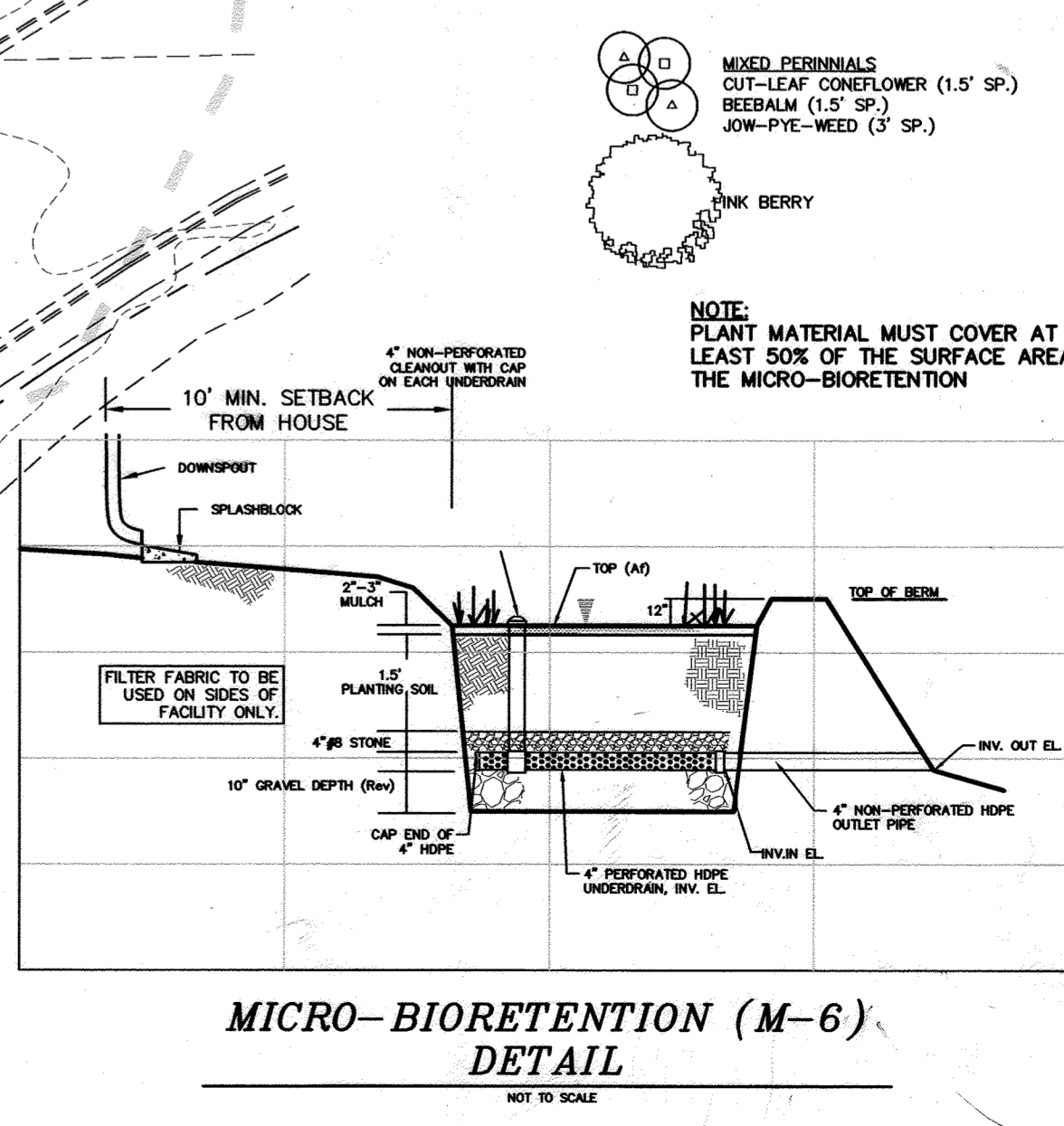
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16.

9/22/15  
DATE  
Signature: *Faramarz Sadeghi-Bajgirani*  
OWNER / DEVELOPER  
FARAMARZ SADEGHI-BAJGIRAN  
6043 MAJORS LANE, APT 5  
COLUMBIA, MARYLAND 21044  
(443)825-8507



Professional Certification. 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. 21443 Expiration Date: 12-21-18  
For Revisions by Benchmark Engineering, Inc. Only Revisions 1,2,3,4, only.

**TYP. MICRO-BIORETENTION (M-6) DETAIL**



Project: FAZ PROPERTY, LOTS 1 THRU 3  
Date: 9-22-2015  
Scale: 1" = 30'  
Project: 14-005  
Date: 1-5-2012  
Scale: 1" = 30'  
Project: 14-005  
Date: 4-14-2019  
Scale: 1" = 30'  
Project: 14-005  
Date: 5-22-2017  
Scale: 1" = 30'  
Project: 14-005  
Date: 8-12-2018  
Scale: 1" = 30'

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers, Planners, Surveyors  
7850-B Grace Drive, Columbia, Maryland 21044  
(410) 997-0238 Fax

**FAZ PROPERTY, LOTS 1 THRU 3**  
SINGLE FAMILY DETACHED  
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MD. TAX MAP 37, PARCEL 508, GRID 20  
SITE DEVELOPMENT PLAN

2 OF 3  
SDP-15-054

