

SCHEDULE A : PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO ROAD	TOTAL
LANDSCAPE TYPE	A (PERIMETER 1)	A (PERIMETER 2)	(PERIMETER 3)
LINEAR FEET OF PERIMETER	106.07 LF	199.69 LF	N/A
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES*	YES**	N/A
NUMBER OF PLANTS REQUIRED	2 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS
NUMBER OF PLANTS PROVIDED	1 SHADE TREES 0 EVERGREEN TREES 0 OTHER TREES (2:1 SUBSTITUTION)	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS

* EXISTING 24" HICKORY HAS BEEN CREDITED TO PERIMETER #1.
** 3 EXISTING MAPLES HAVE BEEN CREDITED TO PERIMETER #2.

LANDSCAPE REQUIREMENT PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	TOTAL
1		ACER BUERGERIANUM OR EQUIVALENT AS OUTLINED IN THE HOWARD COUNTY LANDSCAPE MANUAL	TRIDENT MAPLE OR EQUIVALENT AS OUTLINED IN THE HOWARD COUNTY LANDSCAPE MANUAL	2.5"-3" CAL.	1 SHADE TREE

SOIL DESCRIPTION:

SYMBOL	RATING	NAME	K FACTOR/MAP NO.	COMMENTS
LoB	(C)	LEGORE-MONTALTO-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	13	

GEOTECHNICAL SUMMARY - BORINGS

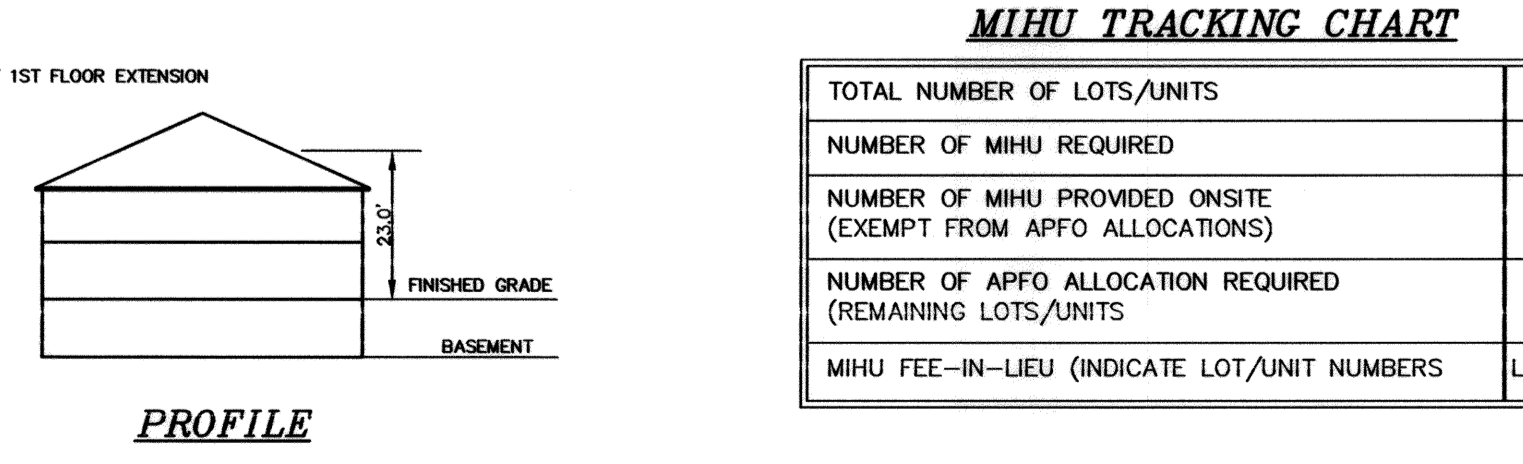
HAND AUGER NO.	DEPTH TO GROUNDWATER	DEPTH TO REFUSAL	BORING TERMINATION DEPTH	DATE
HA-1	N/A	N/A	63 IN	12/28/2013
HA-2	N/A	N/A	63 IN	04/25/2014
HA-3	N/A	N/A	65 IN	04/25/2014

SWM PRACTICE CHART

LOT	ADDRESS	MICRO-BIORETENTION M-6 (NUMBER OF)
25	4216 CLUB COURT	1

ADDRESS CHART

LOT	ADDRESS
25	4216 CLUB COURT, ELLICOTT CITY, MD 21042

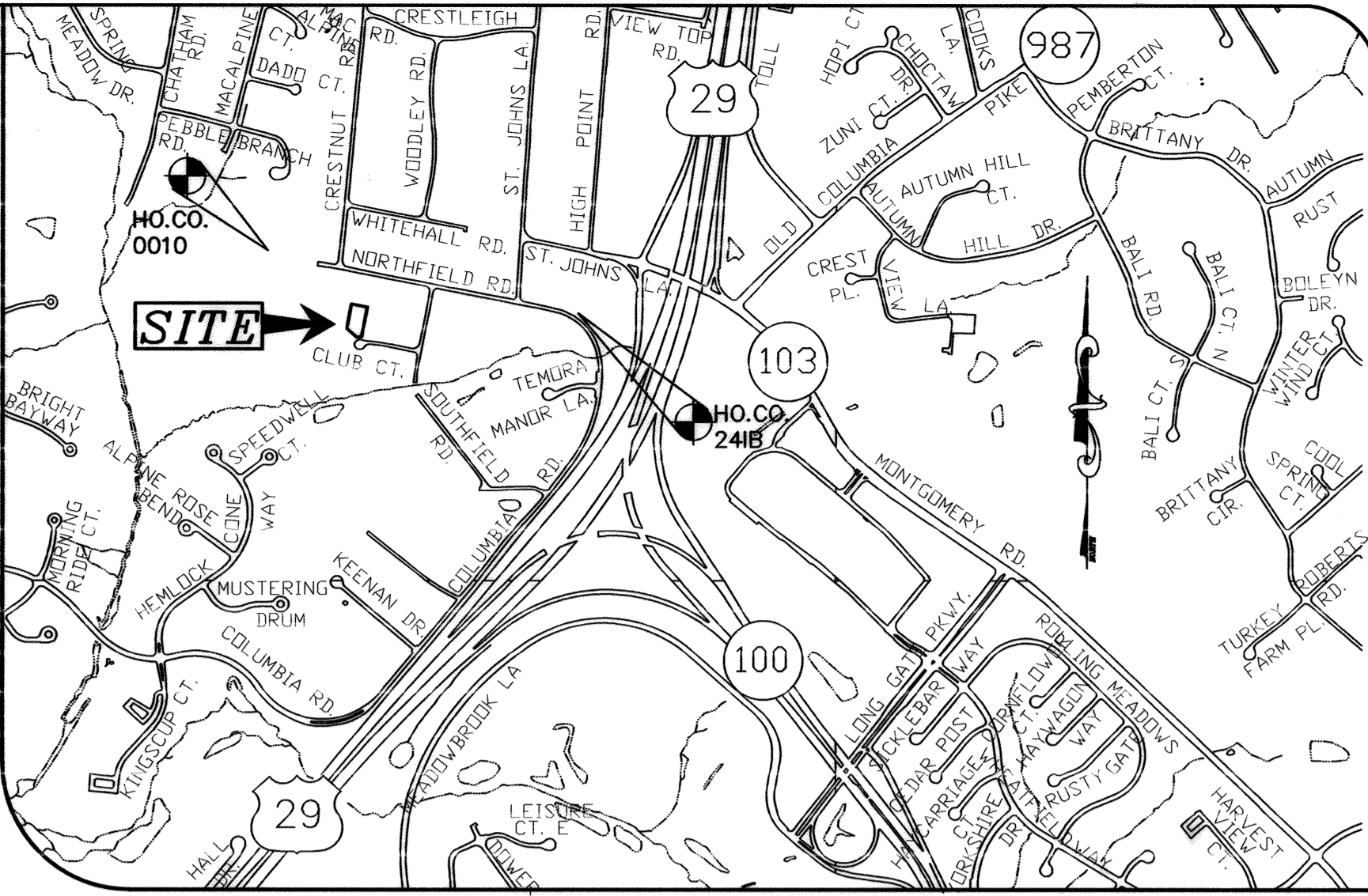


INDEX OF DRAWINGS

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

PERMIT INFORMATION BLOCK

SUBDIVISION NAME:	SECTION/AREA:	PARCEL:			
CRESTLEIGH	2	696			
PLAT NO.	BLOCK(S)	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
PLAT 25406	BLOCK 23	R-20	24	SECOND	6023.06



GENERAL NOTES:

- SUBJECT PROPERTY ZONED "R-20" PER 10/16/13 COMPREHENSIVE ZONING REGULATIONS
- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS.
- SITE ANALYSIS DATA:
LOCATION: TAX MAP : 24 PARCEL: 696 LOT: 25 GRID: 23 ELECTION DISTRICT : SECOND
ADDRESS: 4216 CLUB COURT, ELLICOTT CITY, MD, 21042
ZONING: R-20
TOTAL AREA: 0.47 AC.±, 20,254 S.F.±
AREA OF ROAD DEDICATION: 0
LIMIT OF DISTURBED AREA: 0.31 AC.±, 13,500 S.F.±
PROPOSED USE FOR SITE: RESIDENTIAL
TOTAL NUMBER OF UNITS: 1
TYPE OF PROPOSED UNIT: SFD
COUNTY FILES: ECP-14-022, ECP-15014, SDP-14-050, F-15-057.

- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 2418 AND 0010.
STA. No. 2418 N 576,753.5105, E 1,362,302.9147, ELEV. 390.5419
STA. No. 0010 N 579,167.0667, E 1,360,260.357, ELEV. 357.136
- THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY MILDBERG, BOENDER AND ASSOC. INC. PERFORMED ON OR ABOUT MAY 2015.
- THIS PLAN WAS PREPARED IN ACCORDANCE WITH SECTION 16.124 OF HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY OF \$300.00 FOR A SHADE TREE WILL BE POSTED WITH THE GRADING PERMIT.
- FOREST CONSERVATION OBLIGATIONS UNDER SECTION 16.1200 OF THE HOWARD COUNTY CODE WERE MET FOR THIS LOT UNDER F-15-057.
- IN ACCORDANCE WITH SECTION 128.0 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.
- NO WETLANDS, FLOODPLAIN, STREAMS OR THEIR BUFFERS OR STEEP SLOPES EXIST ON OR IMPACT THIS PARCEL AS PER PLAT NO. 25406.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE).
SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2 INCH MINIMUM).
GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45-FOOT TURNING RADIUS.
STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE. MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST 48 HOURS PRIOR TO EXCAVATION WORK BEING DONE.
MISS UTILITY 800-257-7777 (410) 725-9976
VERIZON TELEPHONE COMPANY (410) 313-4200
HOWARD COUNTY BUREAU OF UTILITIES (410) 393-3533
AT&T CABLE LOCATION DIVISION (410) 685-0123
BALTIMORE GAS & ELECTRIC STATE HIGHWAY ADMINISTRATION (410) 531-5533
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTIONS AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- EXISTING UTILITIES ARE BASED ON ACTUAL FIELD LOCATIONS, IN COMBINATION WITH EXISTING WATER AND SEWER CONTRACTS.
- ANY DAMAGE TO THE COUNTY RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- SEWER HOUSE CONNECTION ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE OR EASEMENT LINE.
- FOR DRIVEWAY ENTRANCE DETAILS, REFER TO HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD DETAIL R-6.06.
- NO CEMETERIES OR HISTORIC STRUCTURES EXIST ON SITE.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER WILL BE UTILIZED UNDER CONTRACT NUMBERS: 129-S AND 9-W.
- STORMWATER MANAGEMENT IS PROVIDED VIA MICRO-BIORETENTION FACILITY (M-6), IN ACCORDANCE WITH THE 2000 MDE STORMWATER DESIGN MANUAL REVISED MAY 2009, WHICH WILL BE PRIVATELY OWNED AND MAINTAINED. 2016 ASSOCIATION YEAR EVENT MANAGED.
- THE PROPERTY IS LOCATED IN THE PLUMTREE BRANCH WATERSHED. AS PER HOWARD COUNTY RESOLUTION CR123-2019 THE 24 HOUR 10 AND 100 YEAR STORMS, AS WELL AS THE 3.5 HOUR 6.6 INCH STORM MUST BE CONTROLLED. CALCULATIONS SHOWING THIS CONTROL WERE PERFORMED USING TR-20.
- ENVIRONMENTAL CONCEPT PLAN, ECP-15-014, FOR THIS RESUBDIVISION WAS APPROVED ON SEPT 30, 2014. ESD PRACTICES HAVE BEEN CHANGED TO REFLECT REQUIRED CONTROL OF 24 HR. 10 YR. 100 YR. AND 3.5 YEAR 6 HR STORMS. THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE MICRO-BIORETENTION FACILITY SHOWN IN THESE PLANS. A DECLARATION OF COVENANTS (DOC) WILL BE REQUIRED.
- 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 PLANTS MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- 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 BE A MINIMUM OF 2 1/2 TO 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE LANDSCAPE MANUAL.
- COMMUNITY MEETING REQUIREMENTS UNDER SECTION 16.147(B) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WERE MET UNDER F-15-057
- MIHU AGREEMENT WAS RECORDED IN THE LAND RECORDS OF HOWARD COUNTY LIBER 19341 FOLIO 317.
- A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE OWNER / DEVELOPERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.
- USE-IN-COMMON DRIVEWAY MAINTENANCE AGREEMENT FOR LOTS 24 AND 25 RECORDED WITH THE RECORDING OF PLAT 25406 IN THE LAND RECORDING OFFICE. LIBER 19341 FOLIO 313.

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 EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *W.M. Scott Goodstein* DATE: 07/21/20

Signature: *Michael G. Kretsch, P.E.* DATE: 8/3/20

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 8/26/20
CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 9/12/20
DIRECTOR DATE: 9/12/20

OWNER/DEVELOPER

HARMONY BUILDERS INC.
4228 COLUMBIA ROAD
ELLICOTT CITY, MARYLAND 21042
410-461-0833

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.

Signature: *Michael G. Kretsch, P.E.* DATE: 07/21/20

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. 34027, EXP DATE 01/16/2021

Signature: *Michael G. Kretsch, P.E.* DATE: 9/12/20

DEVELOPERS 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: *Michael G. Kretsch, P.E.* DATE: 07/21/20

PERMIT INFORMATION BLOCK

SUBDIVISION NAME:	SECTION/AREA:	PARCEL:			
CRESTLEIGH	2	696			
PLAT NO.	BLOCK(S)	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
PLAT 25406	BLOCK 23	R-20	24	SECOND	6023.06

LOT 25 IN THIS PROJECT IS SUBJECT TO THE MODERATE INCOME HOUSING UNIT (MIHU) FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID BY THE PERMIT APPLICANT TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE.

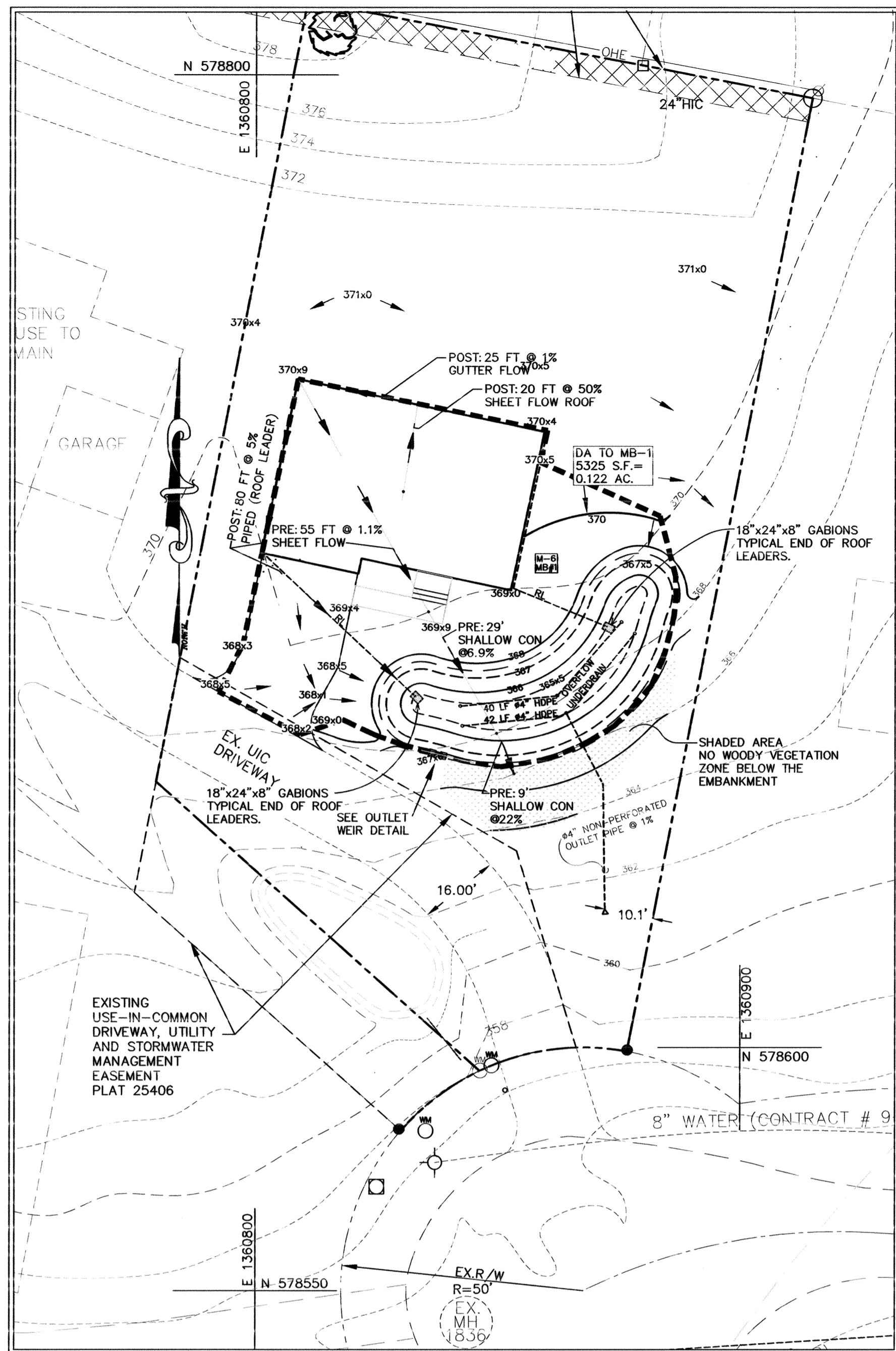
MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Crace Drive, Columbia, Maryland 21044
(410) 997-0296 Tel. (410) 997-0298 Fax.

CRESTLEIGH, SECTION 2, LOT 25
TAX MAP 24 PARCEL 696 LOT 25, BLOCK 23, CRESTLEIGH SECTION 2
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SITE DEVELOPMENT PLAN

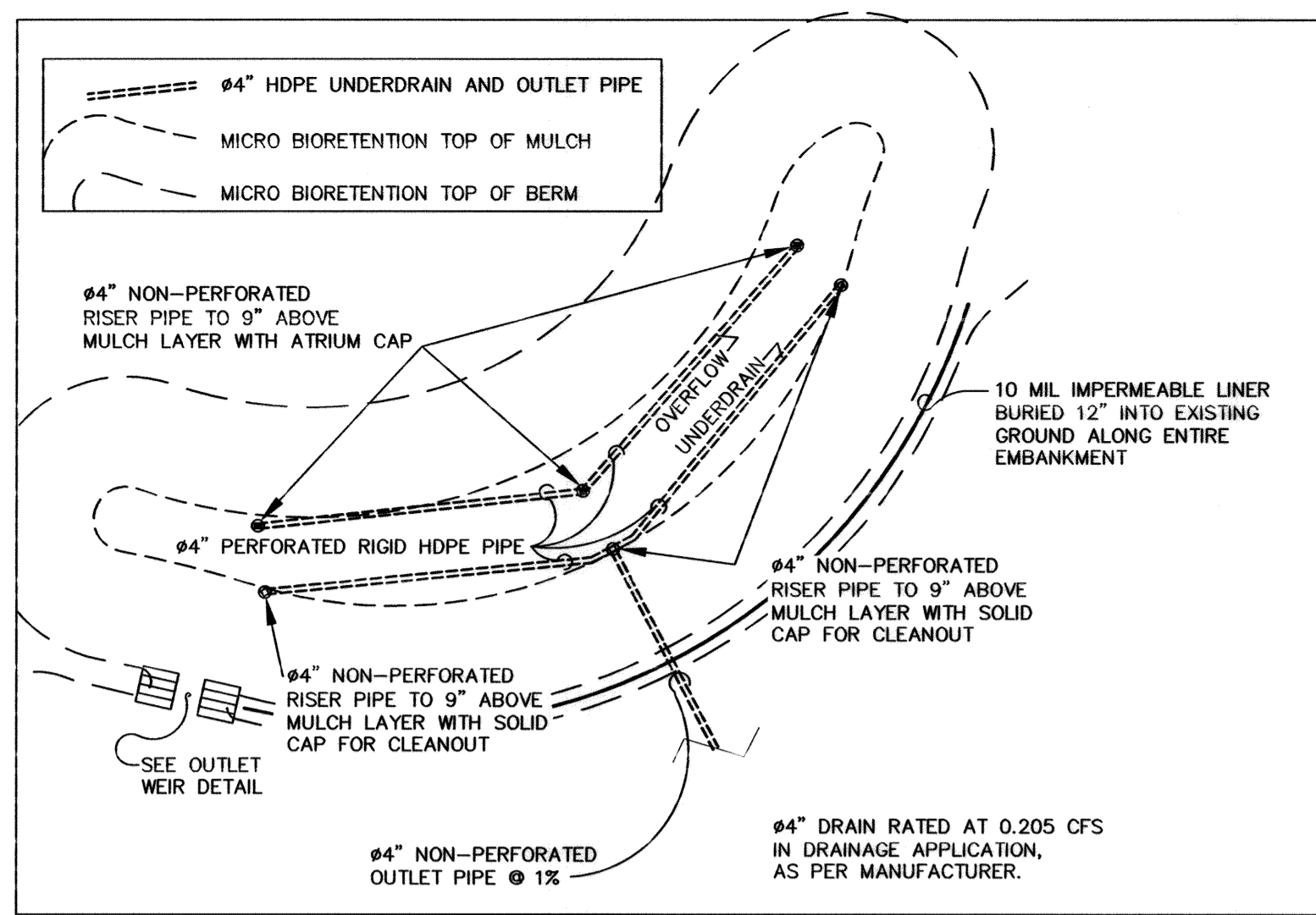
Project: 13-014 JUL 2020
Illustration: MGR
Scale: 1"=30'
Approval: SAA

1 OF 3

SDP-20-046



DRAINAGE AREA, Tc PATH AND MB-1 GRADING DETAIL
SCALE: 1"=20'

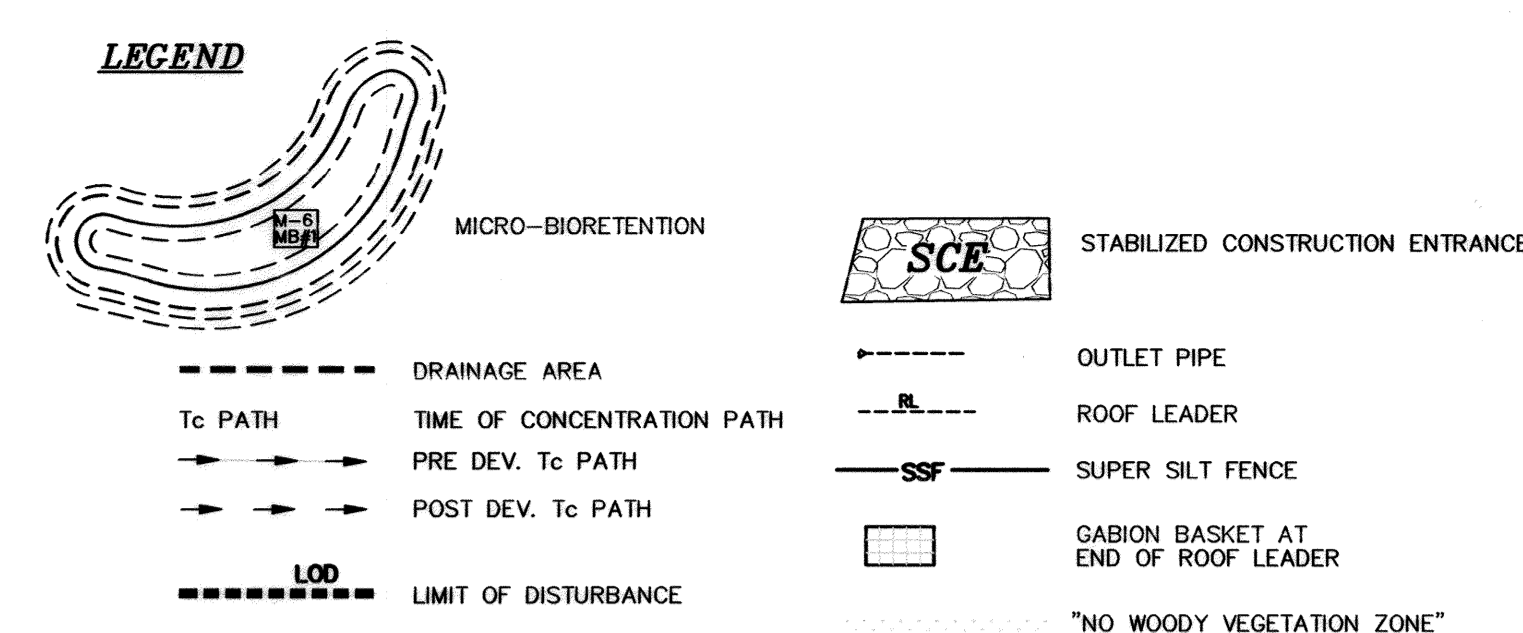


MB-1 PIPE AND UNDERDRAIN DETAIL

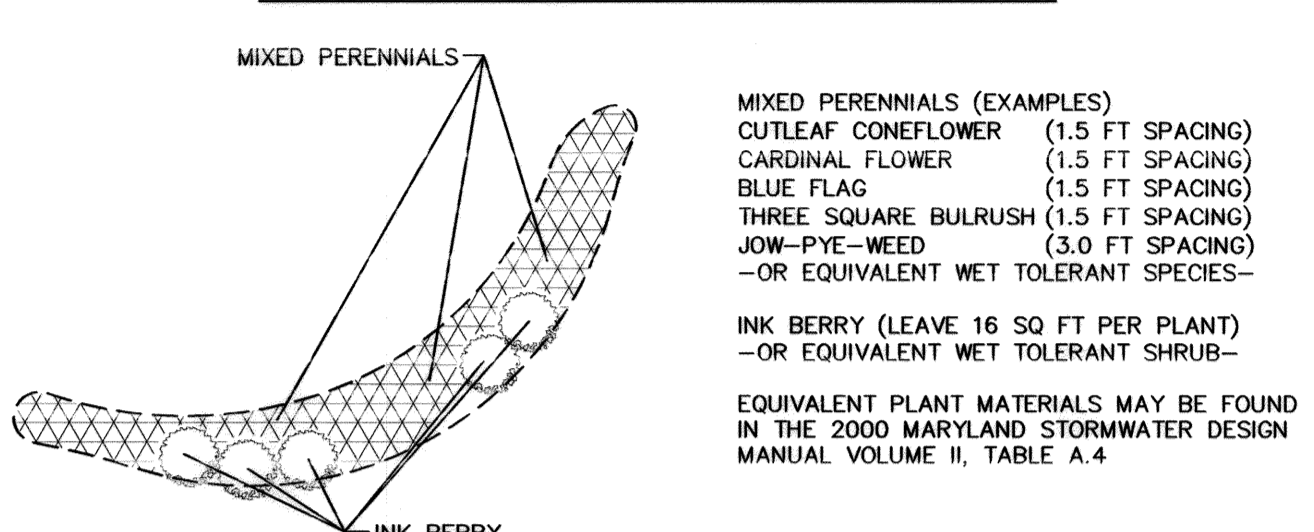
SCALE: 1"=10'

TIME OF CONCENTRATION CALCULATION

TIME OF CONCENTRATION CALCULATIONS:	PRE DEVELOPMENT	POST DEVELOPMENT
FLOW REGIME:	SHEET FLOW	SHEET FLOW
$T_t = 0.007(nL)^{.8} / ((p2^2 \cdot S)^{.4})$		
Tt = TRAVEL TIME IN HOURS	0.347	.005
n = MANNING'S n	0.15	0.015
L = FLOW LENGTH IN FEET	55	20
S = SLOPE IN FT/FT	0.011	0.5
p2 = 24 HOUR 2 YEAR RAINFALL INCHES	3.19	3.19
ASSUMPTIONS MADE FOR SHALLOW CONCENTRATED FLOWS IN GRASS AND ROOF LEADER FLOWS: DEPTH OF FLOW IS 0.05 FT IN GRASS; n = 0.15, GUTTER SLOPE IS 1%, n = 0.012 SHALLOW CONCENTRATED FLOW IN GRASS USING THE UNIT FLOW SECTION METHOD, Pw = 1, Aw = DEPTH MANNING EQUATION: $V = 1.49/n \times (Aw/Pw)^{.48} (S)^{.48}$, $T_t = L/3600V$		
FLOW REGIME:	SHALLOW CONCENTRATED	GUTTER (6 IN 'K' TYPE)
Tt = TRAVEL TIME IN HOURS	0.023	.002
V = VELOCITY IN FT/SECOND	0.4	3.3
n = MANNING'S n	0.15	0.012
L = FLOW LENGTH IN FEET	29	25
S = SLOPE IN FT/FT	0.069	.01
Aw = WETTED AREA	0.05	0.14
Pw = WETTED PERIMETER	1.0	1.0
ASSUMPTIONS MADE FOR SHALLOW CONCENTRATED FLOWS IN GRASS AND ROOF LEADER FLOWS: DEPTH OF FLOW IS 0.05 FT IN GRASS; n = 0.15, LEADER SLOPE IS 3%, n = 0.012 SHALLOW CONCENTRATED FLOW IN GRASS USING THE UNIT FLOW SECTION METHOD, Pw = 1, Aw = DEPTH MANNING EQUATION: $V = 1.49/n \times (Aw/Pw)^{.48} (S)^{.48}$, $T_t = L/3600V$		
FLOW REGIME:	SHALLOW CONCENTRATED	LEADER (#4" HDPE PIPE)
Tt = TRAVEL TIME IN HOURS	0.004	.004
V = VELOCITY IN FT/SECOND	0.64	5.25
n = MANNING'S n	0.15	0.012
L = FLOW LENGTH IN FEET	9	80
S = SLOPE IN FT/FT	0.22	.05
Aw = WETTED AREA	0.05	0.09
Pw = WETTED PERIMETER	1.0	1.05
TOTAL TIME OF CONCENTRATION IN HOURS	0.374	0.012

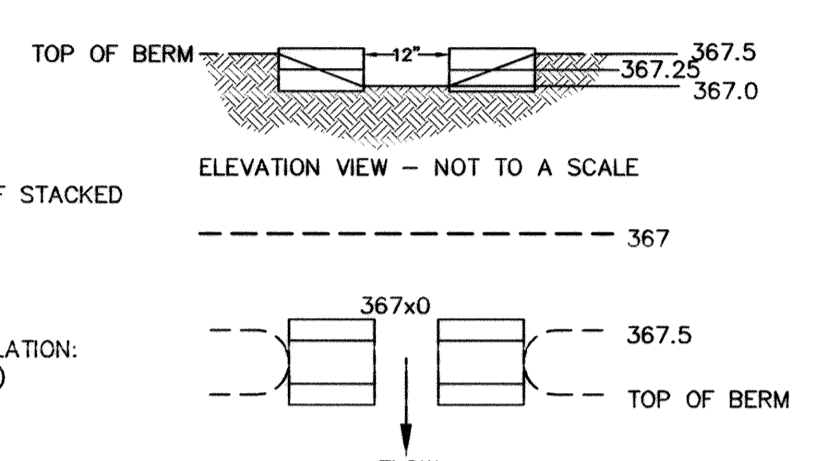


MICRO-BIORETENTION PLANTING DETAILS

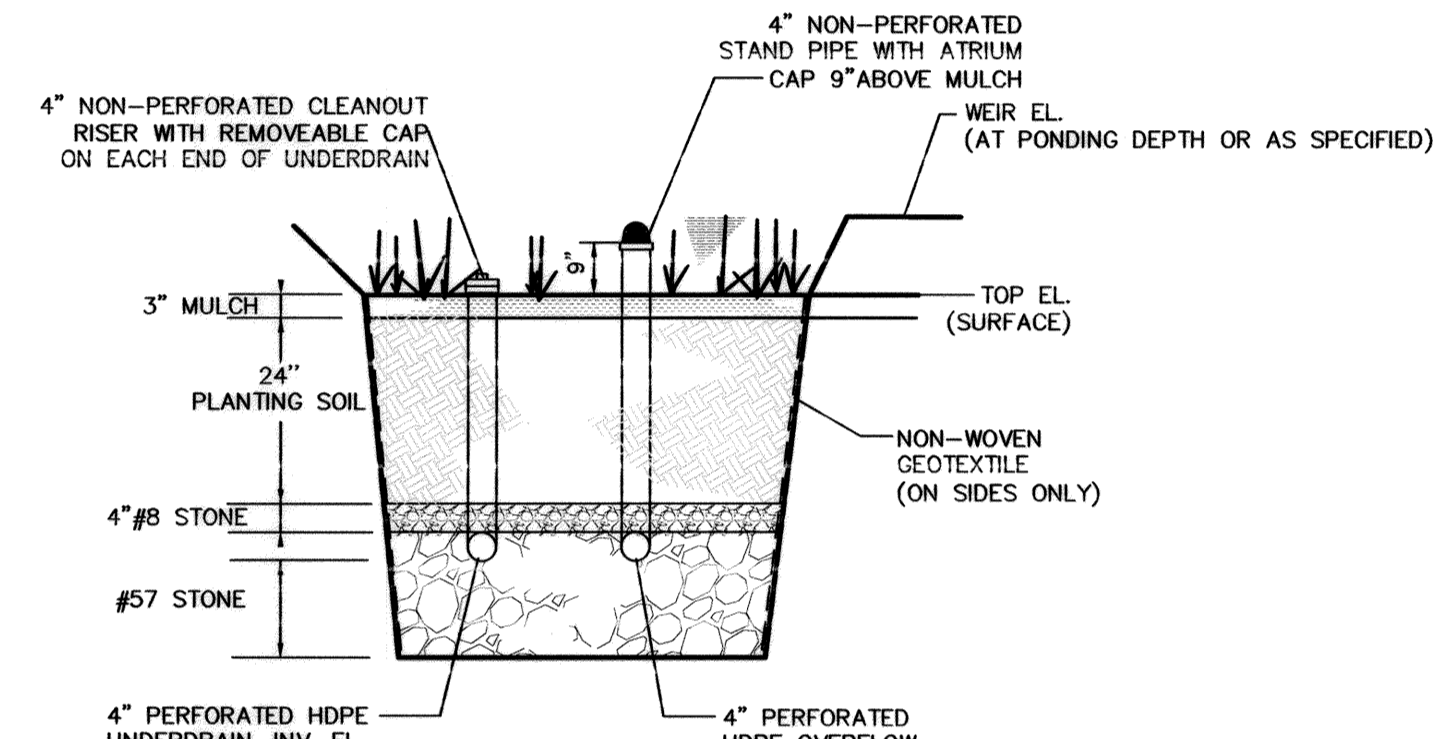


OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

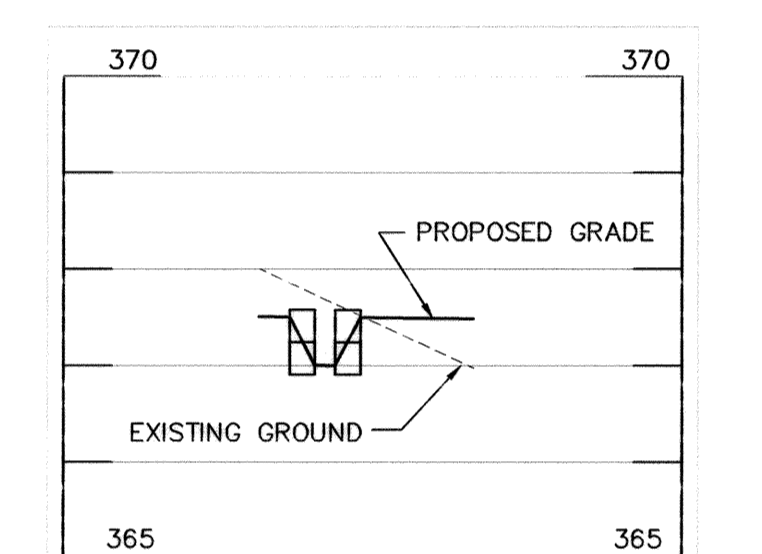
- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.



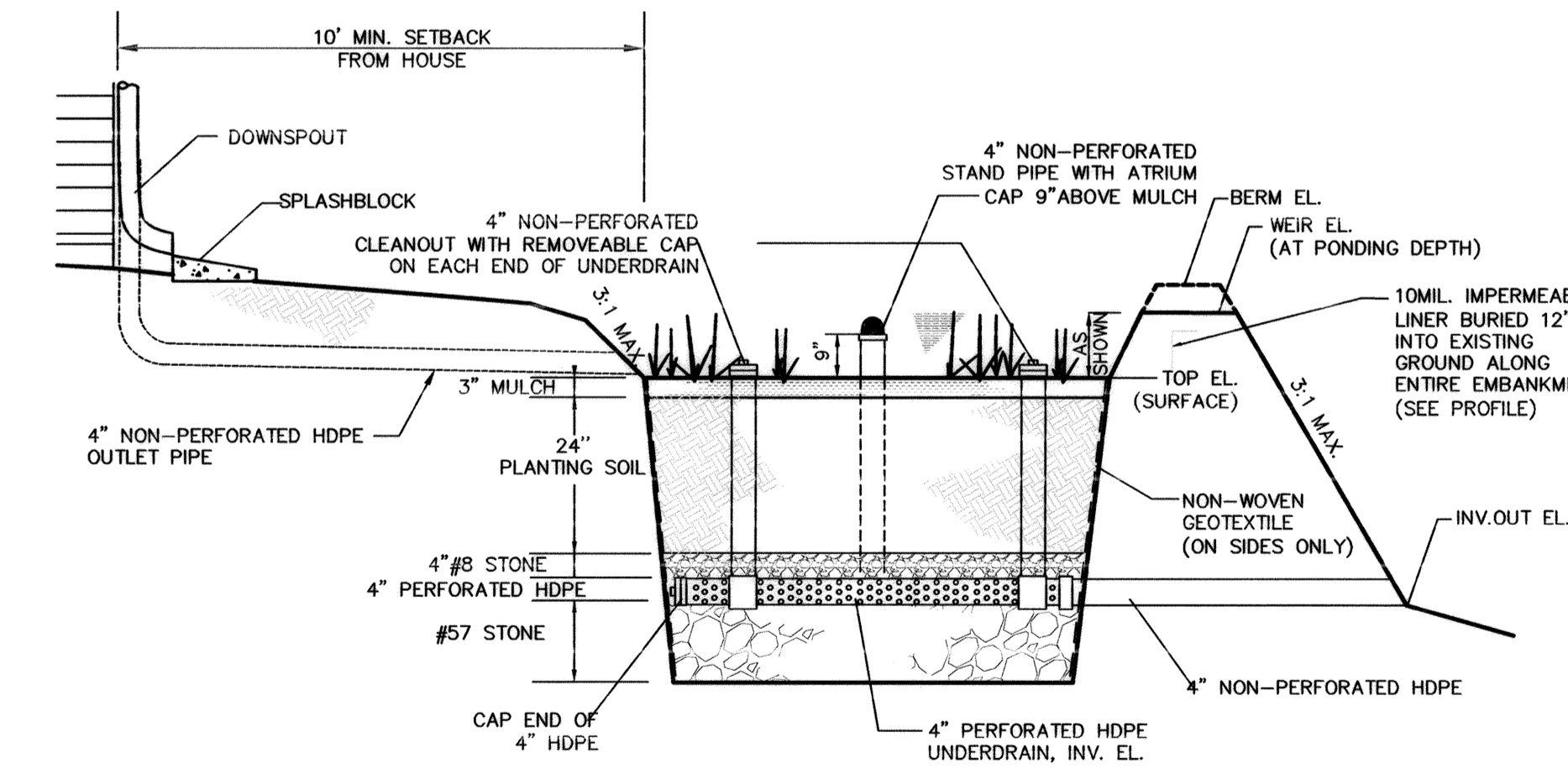
OUTLET WEIR DETAIL
PLAN VIEW - NOT TO A SCALE
NOTE: OUTLET IS IN CUT



TYPICAL MICRO-BIORETENTION SECTION
NTS



OUTLET WEIR SECTION
1" = 2 FT VERTICAL, 1" = 10 FT HORIZONTAL



TYPICAL MICRO-BIORETENTION PROFILE
NTS

STAGE - DISCHARGE - STORAGE TABLE

ELEVATION	STAGE	DISCHARGE (CFS)	STORAGE (CU.FT.)	STORAGE (AC.FT.)	REMARKS
365.5	0.00	0.00	0	0.000000	POND VOLUME ONLY
365.75	0.25	0.00	96	0.002204	
366.00	0.50	0.00	230	0.005269	
366.25	0.75	0.00	623	0.014378	1 YR VOLUME
366.50	1.00	0.190	826	0.018961	POND AND STONE VOID
366.75	1.25	0.197	1054	0.024190	10 YR STORM
367.00	1.50	0.205	1310	0.033413	100 YR STORM
367.25	1.75	0.760	1597	0.036655	3.5HR 6.6IN STORM
367.50	2.00	1.774	1914	0.043936	

MICRO-BIORETENTION SCHEDULE

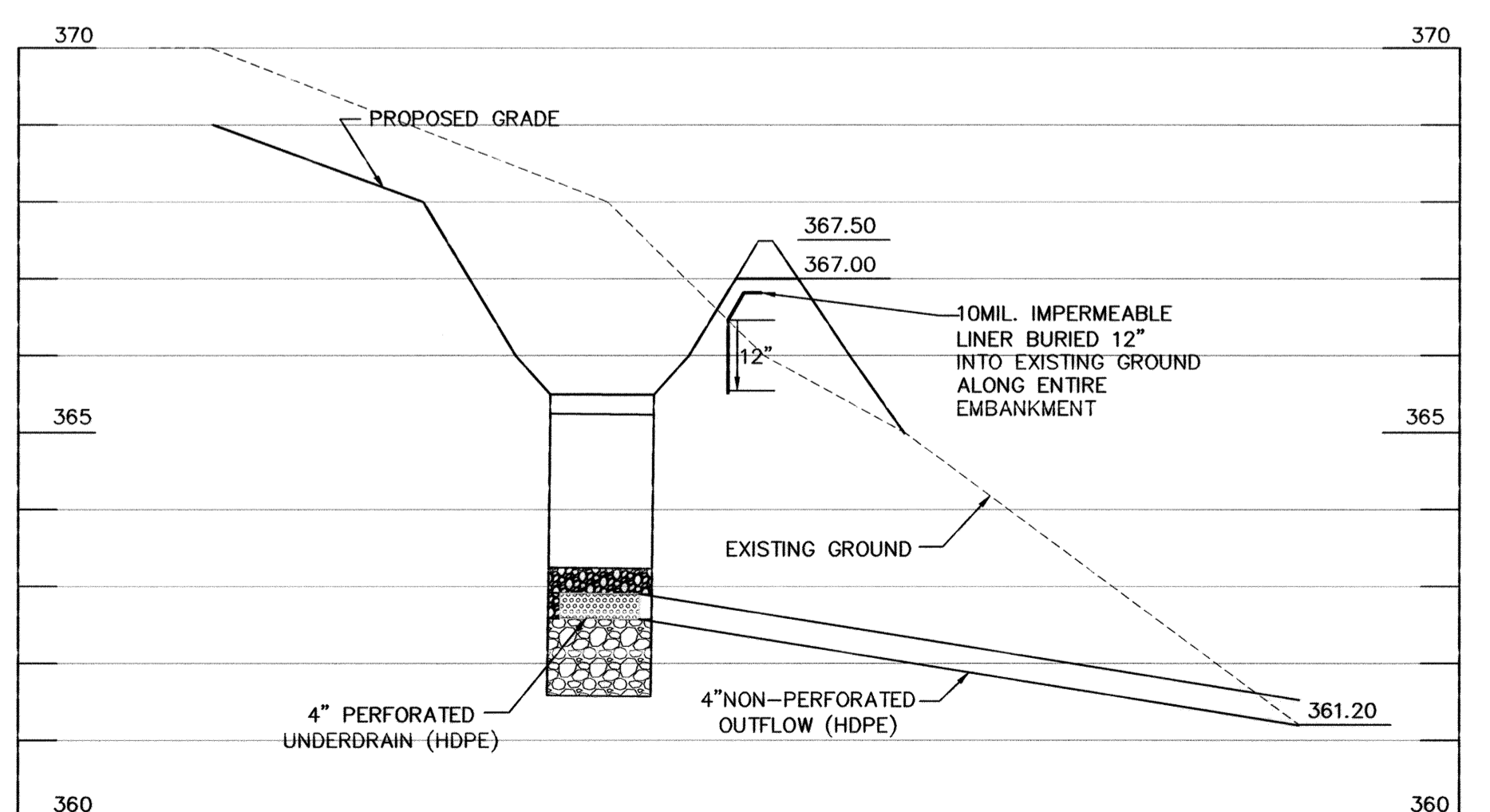
FACILITY	TOP EL. (SURFACE)	WEIR EL. (PONDING)	BERM EL.	UNDRAIN INV. IN.	UNDRAIN INV. OUT.	SURFACE AREA	PONDING AREA	PONDING DEPTH	GRAVEL DEPTH BELOW UNDERDRAIN
MB-1	365.50	367.00	367.50	362.58	361.20	336 S.F.	636 S.F.	6"	12"

SWM PRACTICES SCHEDULE

AREA	PROPOSED PRACTICES	REQUIRED ESDv	PROVIDED ESDv
LOT 25	M-6, (#1) MICRO-BIORETENTION	216 C.F.	364 C.F.

TR-20 STORM ANALYSIS SUMMARY

DESIGN STORM	PRE-DEVELOPMENT Q PEAK	POST-DEVELOPMENT Q PEAK	POND VOLUME REQUIRED
24-HOUR 100 YR STORM	0.6 CFS	0.4 CFS	1413 CU.FT.
24-HOUR 10 YR STORM	0.2 CFS	0.2 CFS	1063 CU.FT.
3.5-HOUR 6.6 IN STORM	0.7 CFS	0.7 CFS	1551 CU.FT.



PROFILE FROM HOUSE CORNER TO OUTLET
1" = 2 FT VERTICAL, 1" = 10 FT HORIZONTAL

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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature of Developer: *W.M. Scott Godstley*
DATE: 07/2/20

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.

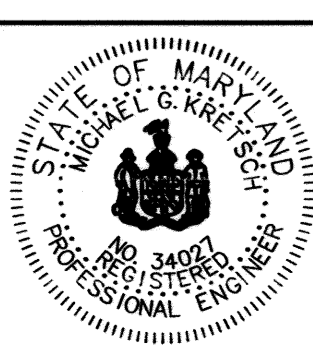
Signature of Engineer: *Michael G. Kretsch*
DATE: 8/5/20

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Signature: *John R. P... Howard Soil Conservation District*
DATE: 8/5/20

APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION
Signature: *Michael G. Kretsch*
DATE: 8/26/20

APPROVED: CHIEF, DIVISION OF LAND DEVELOPMENT
Signature: *John R. P...*
DATE: 9/2/20

APPROVED: DIRECTOR
Signature: *John R. P...*
DATE: 9/2/20



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. 34027, EXP DATE 01/16/2021

Signature: *Michael G. Kretsch*
DATE: 8/26/20

OWNER/DEVELOPER
HARMONY BUILDERS INC.
4228 COLUMBIA ROAD
ELLICOTT CITY, MARYLAND 21042
410-461-0833

project: 13-014 date: JUL 2020
illustration: MKG engineering
scale: 1"=30' approval: SAA

CRESTLEIGH, SECTION 2, LOT 25
TAX MAP 24 PARCEL 696 LOT 25, BLOCK 23, CRESTLEIGH SECTION 2
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
STORMWATER MANAGEMENT DETAILS

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7850-B Cross Drive, Columbia, Maryland 21044
(410) 997-0236 Tel. (410) 997-0238 Fax.

2 OF 3
SDP-20-046

STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD...

- 2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THEREOF.

6. SITE ANALYSIS: TOTAL AREA OF SITE: 0.465 ACRES AREA DISTURBED: 0.31 ACRES AREA TO BE ROOFED OR PAVED: 0.06 ACRES AREA TO BE VEGETATIVELY STABILIZED: 0.25 ACRES TOTAL CUT: 660 CU. YDS. TOTAL FILL: 660 CU. YDS. OFFSITE WASTE/BORROW AREA LOCATION: [blank]

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID, THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY, AND THE NEXT DAY AFTER EACH RAIN EVENT... INSPECTION DATE: [blank] INSPECTION TIME (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT): [blank]

9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUDE DATE, TIME AND LOCATION): USE I AND IP MARCH 1 - JUNE 15 USE II AND IP MARCH 1 - APRIL 30 USE IV MARCH 1 - MAY 31

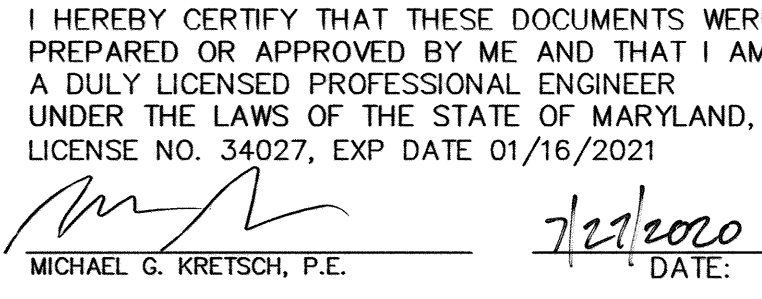
16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

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...

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.

OWNER/DEVELOPER HARMONY BUILDERS INC. 4225 COLUMBIA ROAD ELLICOTT CITY, MARYLAND 21042 410-461-0833

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. 34027, EXP DATE 01/16/2021



(B-4-2) STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION. PURPOSE TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

- 1. SOIL PREPARATION a. TO PREPARE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. b. TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

- 2. TOPSOILING a. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. b. TOPSOIL SALVAGED FROM AN EXISTING SITE WILL BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS.

- 3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH. b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

(B-4-8) STANDARDS AND SPECIFICATION FOR STOCKPILE AREA

DEFINITION A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES. PURPOSE TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION AND CHANGES TO DRAINAGE PATTERNS.

- 1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN. 2. THE FOOTPRINT OF STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1.

(B-4-3) STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER. PURPOSE TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

- 1. SOIL PREPARATION a. TO PREPARE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. b. TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

- 2. MULCHING a. MULCH MATERIALS (IN ORDER OF PREFERENCE) 1. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR, STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THEREOF.

- 3. ANCHORING a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. b. MULCH ANCHORING SHALL BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD.

(B-4-4) STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION TO STABILIZE DISTURBED SOIL WITH VEGETATION FOR UP TO 6 MONTHS. PURPOSE TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURB SOIL.

- 1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS.

TEMPORARY SEEDING FOR SITE STABILIZATION TABLE with columns: PLANT SPECIES, SEEDING RATE (LB/AC), SEEDING DEPTH (INCHES), RECOMMENDED SEEDING DATED BY PLANT HARDNESS ZONE (SB AND 6A, 6B, 7A AND 7B).

(B-4-5) STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION TO STABILIZE DISTURBED SOIL WITH PERMANENT VEGETATION. PURPOSE TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER OF DISTURBED AREAS.

- 1. SEEDING a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND ENTER THEM IN THE PERMANENT SEEDING SUMMARY.

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: a. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERMETER DIKES, SWALES, DITCHES, PERMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1 HORIZONTAL TO 1 VERTICAL (3:1), AND b. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

EROSION AND SEDIMENT CONTROL NOTES

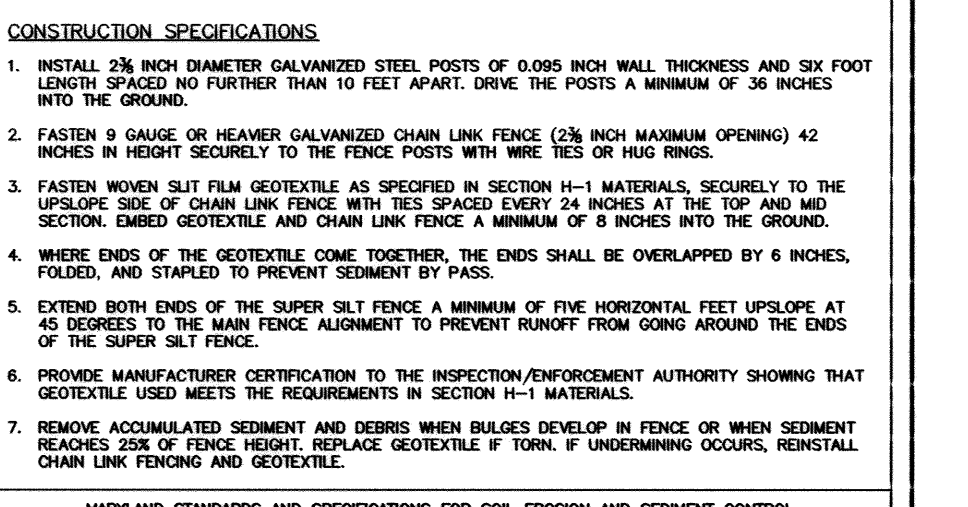
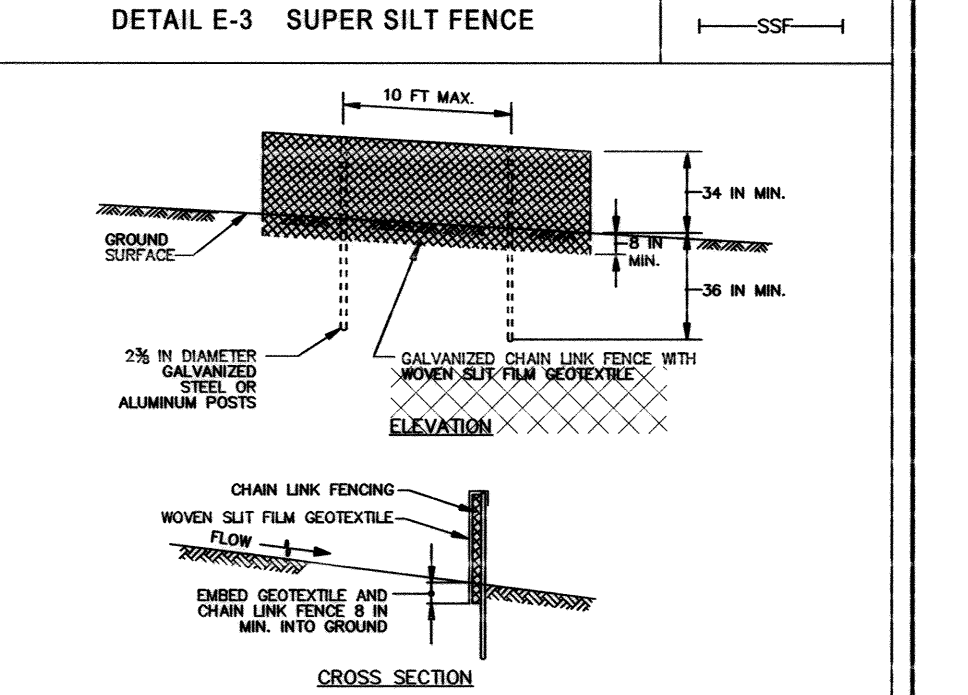
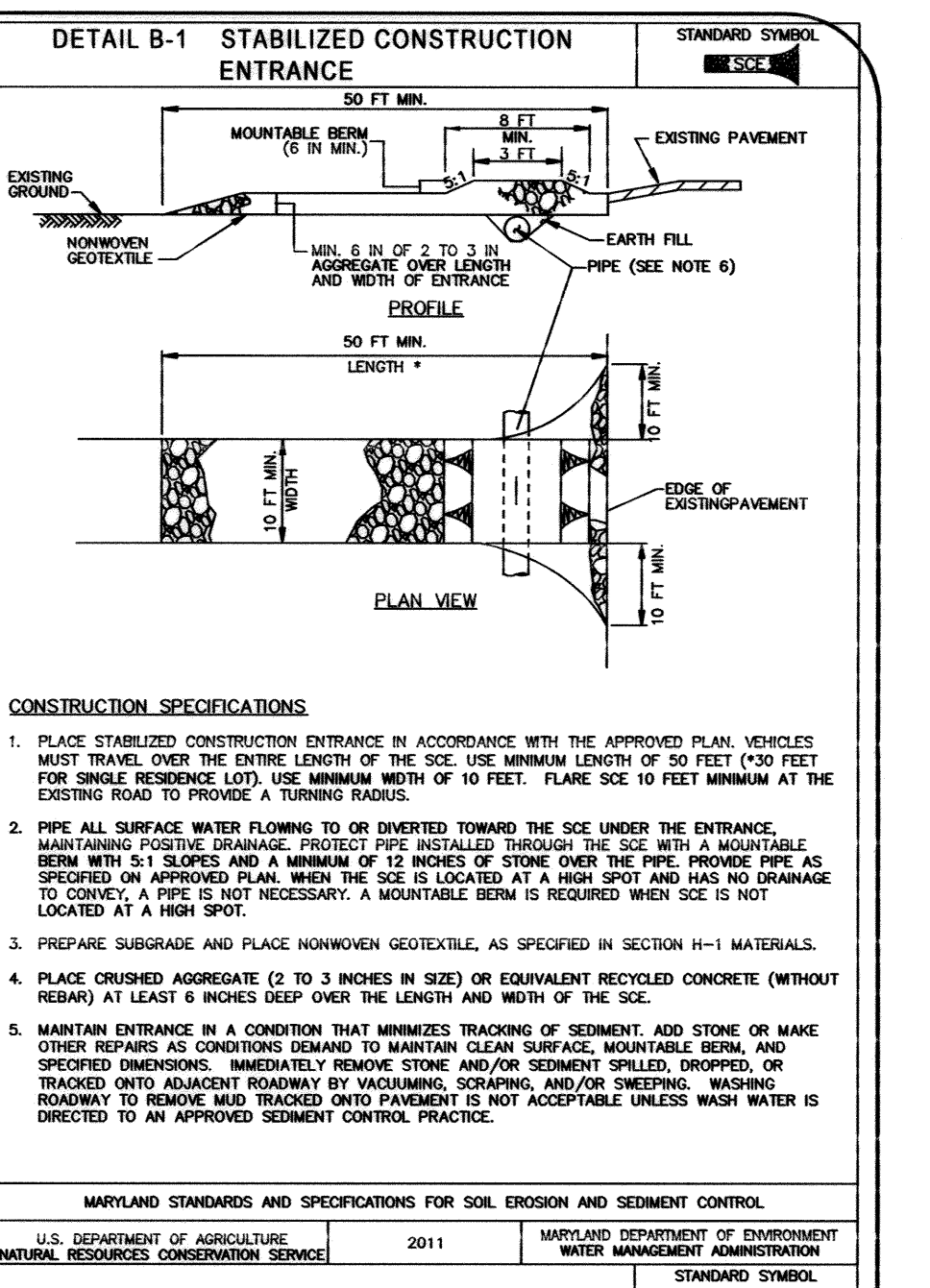
- 1. ALL SEDIMENT CONTROL OPERATIONS ARE TO BE DONE IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY VOLUME IV DESIGN MANUAL AND THE STANDARDS AND SPECIFICATIONS FOR SEDIMENT CONTROL IN DEVELOPING AREAS.

TABLE B.1 MATERIALS SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDENS & LANDSCAPE INFILTRATION

Table with columns: MATERIAL, SPECIFICATION, SIZE, NOTES. Lists materials like Plantings, Mulch, Organic Content, etc.

PERMANENT SEEDING SUMMARY

Table with columns: HARDNESS ZONE (FROM FIGURE B.3), SEED MIXTURE (FROM TABLE B.3), APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS, N (45 LBS PER ACRE), P2O5 (1 LB./1000 SF), K2O (2 LB./1000 SF), LIME RATE.



CONSTRUCTION SPECIFICATIONS 1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED FINAL PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SIDE. USE MINIMUM LENGTH OF 50 FEET (150 FEET FOR SINGLE RESURFACE) LONG. USE MINIMUM WIDTH OF 10 FEET. FLARE SIDE TO FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING BASKET.

CONSTRUCTION SPECIFICATIONS 2. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. 3. ALL EXCAVATED MATERIALS SHALL BE STOCKPILED ON THE UPGRADE SIDE OF THE MAIN TRENCH.

Project Information: Project 13-014, Date 07/20/20, Engineer MKG, Approved MKG, Scale 1"=30', Date 07/20/20.

Crestleigh, Section 2, Lot 25. Tax Map 24, Parcel 696 Lot 25, Block 23, Crestleigh Section 2, Howard County, Maryland. Second Election District. Sediment Control Notes and Details.

Mildenberg, Boender & Assoc., Inc. Engineers, Planners, Surveyors. 7350-B Grace Drive, Columbia, Maryland 21044. (410) 997-0298 Fax.