

APPROVED FOR PUBLIC WATER AND PUBLIC SEWER.
HOWARD COUNTY HEALTH DEPARTMENT.

Joyce M. Brylows 5/20/77
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

Thomas L. Daniels 5-23-77
PLANNING DIRECTOR DATE

John W. Murrell 5-23-77
CHIEF DIVISION OF LAND DEVELOPMENT DATE

APPROVED FOR STORM DRAINAGE, PUBLIC SEWERAGE,
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

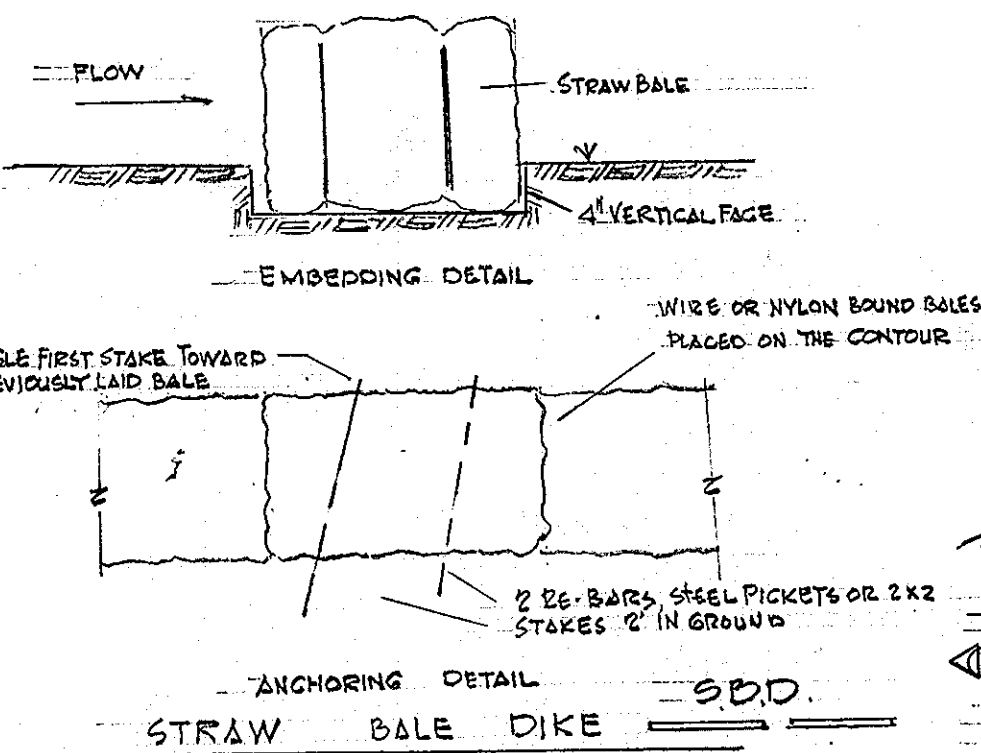
P. J. Ragan 5-18-77
DIRECTOR DATE

Annice W. McCreland 5/16/77
CHIEF, BUREAU OF HIGHWAYS DATE

SITE ANALYSIS
TOTAL AREA OF SITE : 2.52 AC.
DISTURBED AREA : 0.93 AC.
TOTAL AREA PAVED : 0.67 AC.
TOTAL CUT : 11,000 CU YD
TOTAL FILL : 11,000 CU YD.

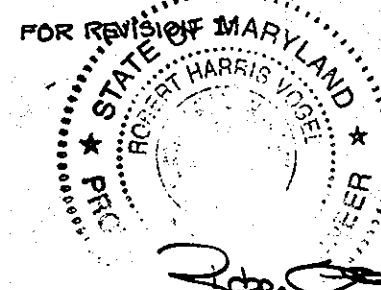
CONSTRUCTION SEQUENCE
1. INSTALL SEDIMENT CONTROL MEASURES
2. GRADE SITE
3. CONSTRUCT PAVEMENT & STORM DRAINS
4. CONSTRUCT BUILDING

5. FINISH OUT SITE.
ESTIMATED CONSTRUCTION TIME
STEPS 1 THRU 5 ABOVE
BEGIN MAY 15, 1977
FINISH NOV. 15, 1977



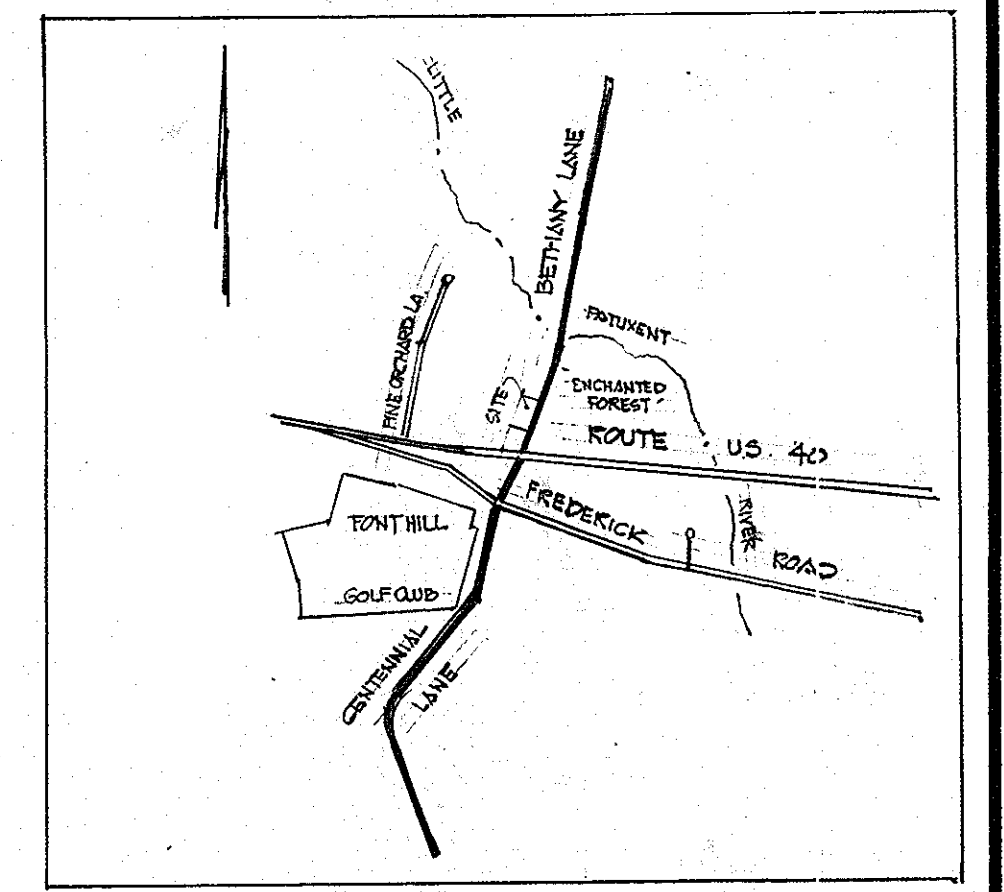
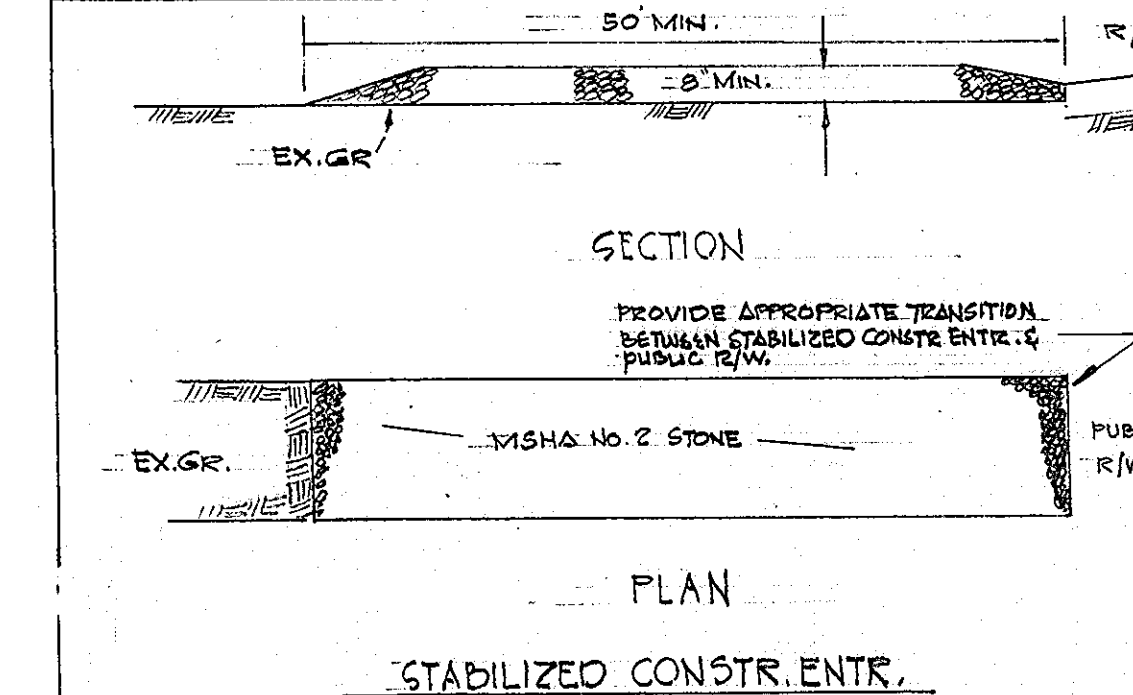
SEDIMENT CONTROL NOTES

- OBTAIN GRADING PERMIT
- THE HO. CO. BUREAU OF LICENSE, INSPECTION & PERMITS WILL BE GIVEN 24 HRS. NOTICE PRIOR TO ANY GRADING.
- ALL SEDIMENT CONTROL MEASURES SHOWN ON THIS PLAN UNLESS OTHERWISE SPECIFIED WILL BE INSTALLED & STABILIZED IN ACCORDANCE WITH NOTE #8
- ALL SLOPES TO BE MAX. 3:1
- FOLLOWING THE STABILIZATION OF ALL AREAS TO BE UPGRADED, THE AREA OF SEDIMENT CONTROL MEASURES MAY BE REMOVED & GRADED TO THE FINAL GRADE SHOWN & STABILIZED IMMEDIATELY.
- IN THE EVENT OF EXCESS MATERIAL, EXCESS WILL BE STOCKPILED WITH A MAX. SLOPE OF 3:1 IN AN AREA WHICH HAS BEEN CLEARED ON SITE. STOCK PILED MATERIAL SHALL BE STABILIZED IN ACCORDANCE WITH NOTE #8.
- SEDIMENT CONTROL MEASURES WILL NOT BE REMOVED UNTIL APPROVAL IS OBTAINED FROM THE HO. COUNTY BUREAU OF LICENSE, INSPECTION & PERMITS.
- TEMPORARY STABILIZATION
APPLY: 2000 LBS. PER AC. OR 11.5 LBS. PER SQ. FT. OF FULVERIZED LIMESTONE, 500 LBS. PER AC. OR 11.5 LBS. PER SQ. FT. OF 5-5-5 FERTILIZER, ELANTO RYE GRASS @ 40 LBS. PER AC., FERTILIZE WITH 5-10-10 & MULCH WITH STRAW @ 1 1/2 TONS PER AC. & ANCHOR PERMANENT STABILIZATION
- PERMANENT STABILIZATION
APPLY 2000 LBS. PER AC. OF FULVERIZED DOLOMITIC LIMESTONE 700 LBS. PER AC. OF 0-20-0 SUPER PHOSPHATE 1000 LBS. PER AC. OF 10-10-10 FERTILIZER SEED: 25 LBS. PER AC. OF KENTUCKY 31 TALL FESCUE.
CONTINUED - SEE ABOVE



LIGHTING
E.G.E. 400 WATT POWER FLOOD MERCURY VAPOR LAMP - HEIGHT 20 FT.

25 LBS. PER AC. OF ANNUAL RYE GRASS
NOTE: SEED BETWEEN MAR. 1 - MAY 1, OR AUG. 1 - OCT. 1 ONLY
MULCH: 2 TONS PER AC. OF UNWEATHERED WHEATSTRAW
BE DOWN MULCH WITH 400 GAL. PER AC. OF LIQUID ASPHALT.



SCALE: 1" = 200'
ADC MAP: 4815/GC

GENERAL NOTES
1. PARCEL NO. 992A BLOCK NO. 2 TAX MAP NO. 24
2. AREA OF PARCEL 120,745 SQ. FT. OR 2.7719 AC.
3. ZONING: B-1 ZONING MAP '24
4. PUBLIC WATER & PUBLIC SEWER
5. OWNER: STANLEY BOARDMAN
6. DEED REF. LIBER 621 FOLIO 450
7. PROPOSED USE: BICYCLE RETAIL & REPAIR
8. NO. OF EMPLOYEES: 5
9. PARKING: 12,383 SF RETAIL SALES, REPAIR & WAREHOUSE
NO. OF SPACES REQUIRED: 25

NO. OF SPACES SHOWN: 25, INCLUDING 2 HC SPACES
10. BUILDING SIZE EXISTING: 7,100 SF PROPOSED: 12,383 (TOTAL)
FIRST FLOOR: 14,021 SF (RETAIL, REPAIRS, WAREHOUSE)
MEZANINE: 2,362 SF (OFFICE & STORAGE)

STORM WATER MANAGEMENT
INLET I-2: 0.54 AC. REQUIRED STORAGE: 8800 CU FT. STORAGE SHOWN: 9150
MAX. DEPTH: 6 INCHES
DISCHARGE 10% STORM AFTER DEVELOPMENT @ 3.78
DISCHARGE 24% STORM BEFORE DEVELOPMENT @ 0.68 CFS
USE 7% NOTCH IN NORTH FACE OF I-2 (CATTERED) 0.5' DEEP X 1' LONG.

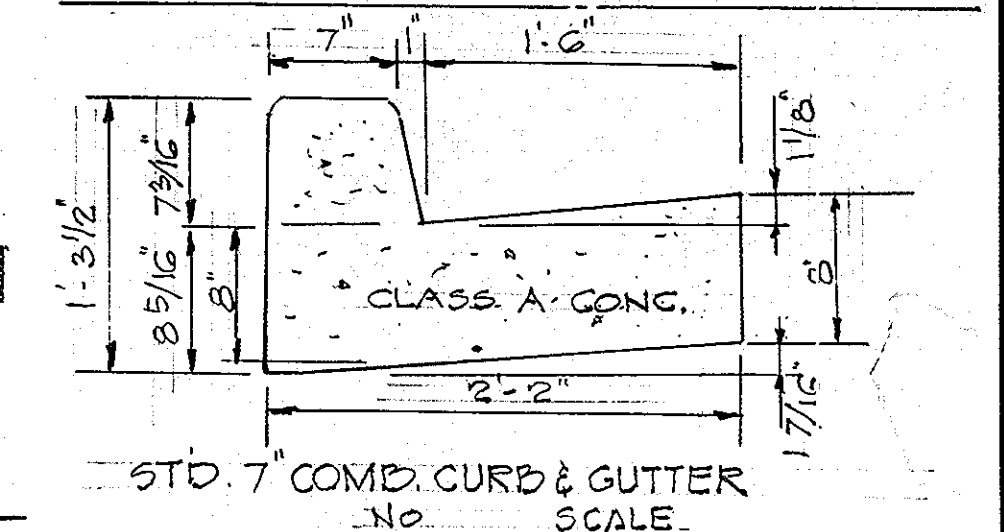
PARKING PER NEEDS ANALYSIS. ANY CHANGE IN USE WILL REQUIRE AN EVALUATION OF PARKING.

CONSTRUCTION DETAILS

BITUMINOUS CONG. SURFACE BAND C-3	1
BITUMINOUS CONG. BASE BAND C-2 OR G-3	4

CLEARING & GRADING ARTICLE C-1
SUBGRADE ART. C-2
BASE COURSE ART. C-3 OR C-3S
SURFACE ART. C-3
TO BE CONSTRUCTED IN ACCORDANCE WITH THE HO. CO. RD. CONSTRUCTION CODE & SPECS.

TYPICAL PAVING SECTION

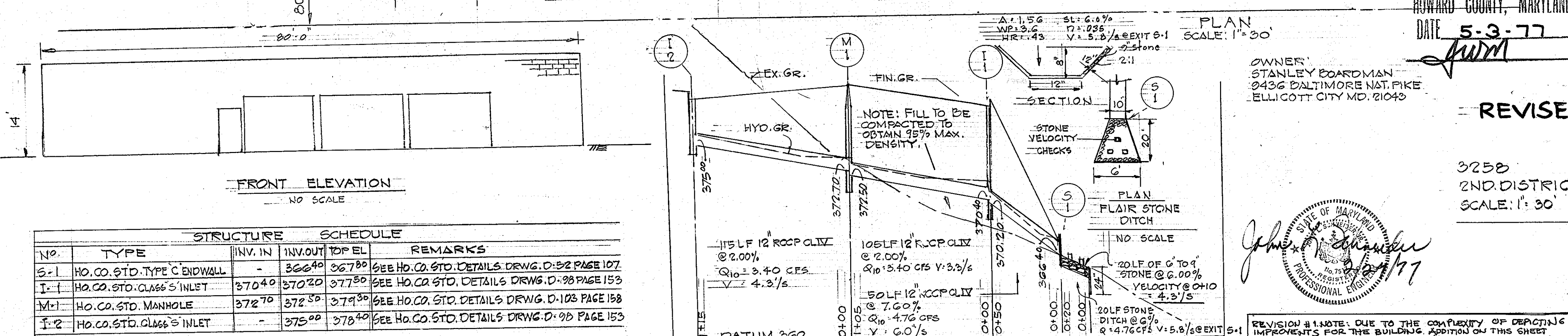
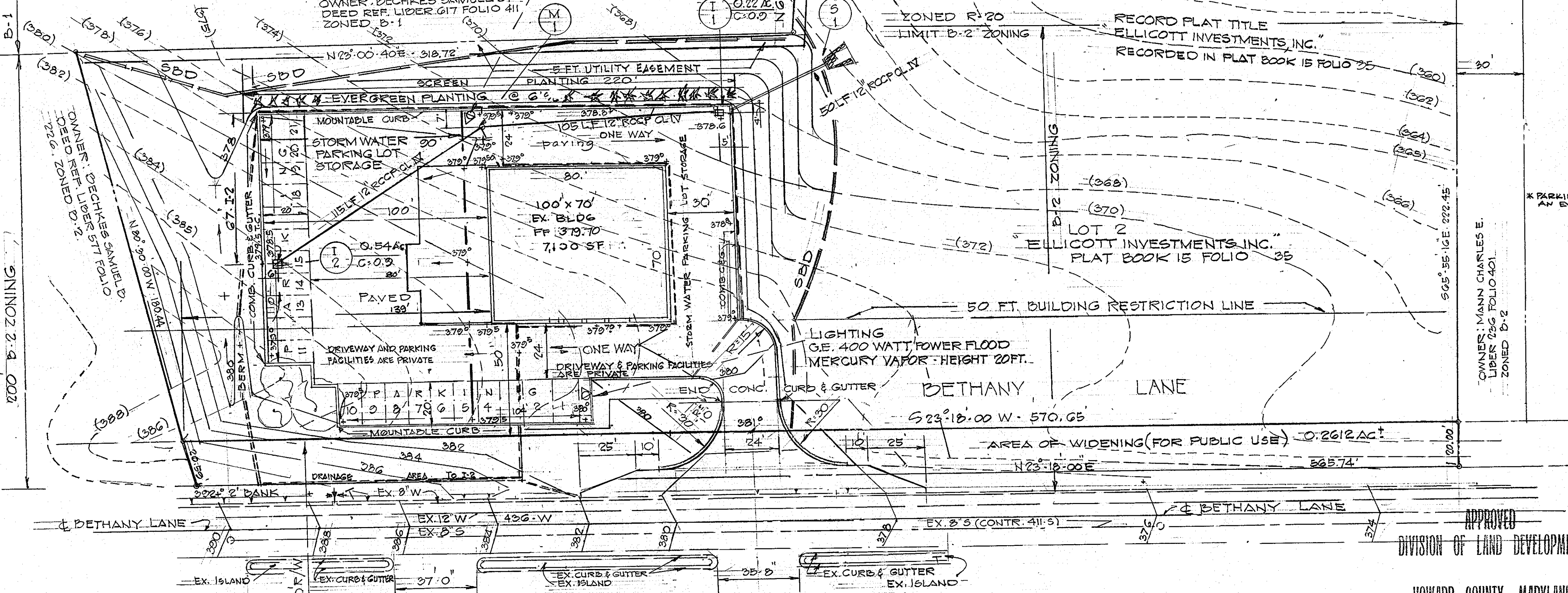


ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL & WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS & THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HO. SOIL CONSERVATION DISTRICT.
John R. Hollander 2/24/77
PROFESSIONAL ENGINEER DATE

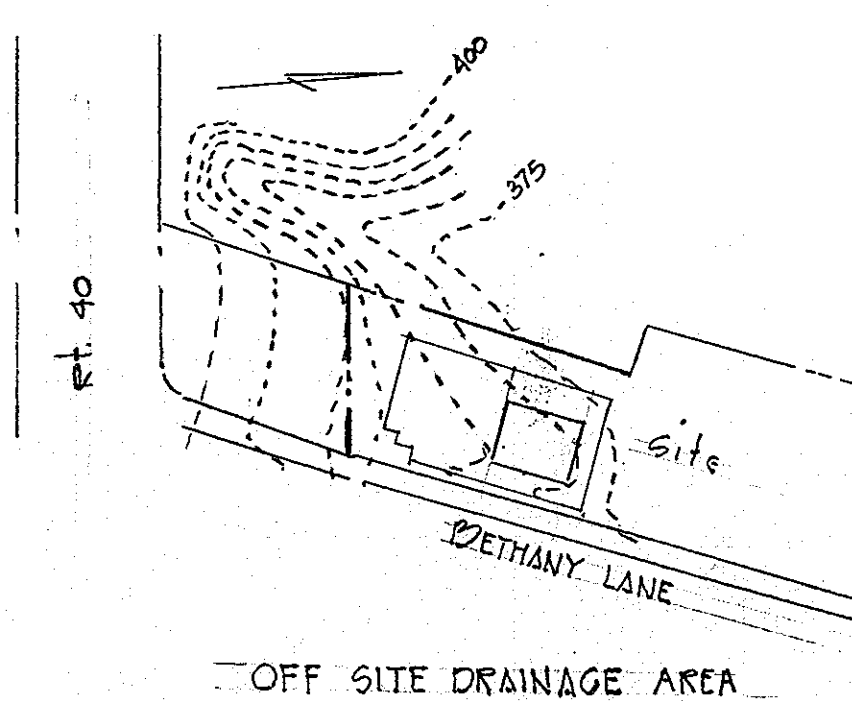
DEVELOPER'S CERTIFICATE
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT & PLAN FOR EROSION & SEDIMENT CONTROL. WE AUTHORIZE PERIODIC ON SITE INSPECTION BY THE HO. SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY. DEVIATION FROM PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HO. SOIL CONSERVATION DISTRICT.
Kenneth L. Jantz 2-23-77
DATE

REVIEWED FOR HO. SOIL CONSERVATION DISTRICT & MEETS TECHNICAL REQUIREMENTS.
Walter Bonetto 5-13-77
U.S. SOIL CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION & SEDIMENT CONTROL BY THE HO. SOIL CONSERVATION SERVICE.
John D. McVey 5-13-77
SOIL CONSERVATION DISTRICT DATE



STRUCTURE		SCHEDULE		REMARKS
NO.	TYPE	INV. IN	TOP EL.	
S-1	HO. CO. STD. TYPE C ENDWALL	366.40	367.80	SEE HO. CO. STD. DETAILS DRWG. D-52 PAGE 107
I-1	HO. CO. STD. CLASS 5 INLET	370.40	371.80	SEE HO. CO. STD. DETAILS DRWG. D-98 PAGE 153
M-1	HO. CO. STD. MANHOLE	372.70	372.90	SEE HO. CO. STD. DETAILS DRWG. D-103 PAGE 158
I-2	HO. CO. STD. CLASS 5 INLET	375.00	376.40	SEE HO. CO. STD. DETAILS DRWG. D-98 PAGE 153

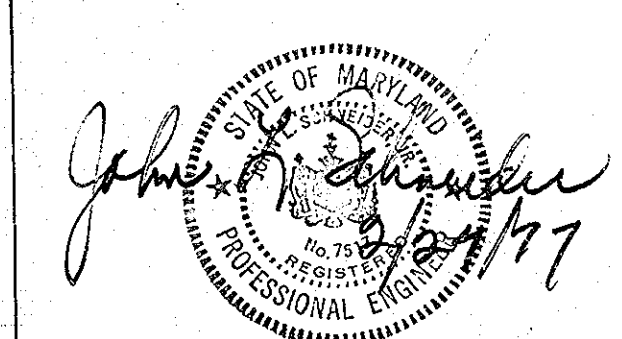


APPROVED
DIVISION OF LAND DEVELOPMENT
HOWARD COUNTY, MARYLAND
DATE 5-3-77
JWM

OWNER: STANLEY BOARDMAN
2436 BALTIMORE NAT. PIKE
ELLICOTT CITY MD. 21043

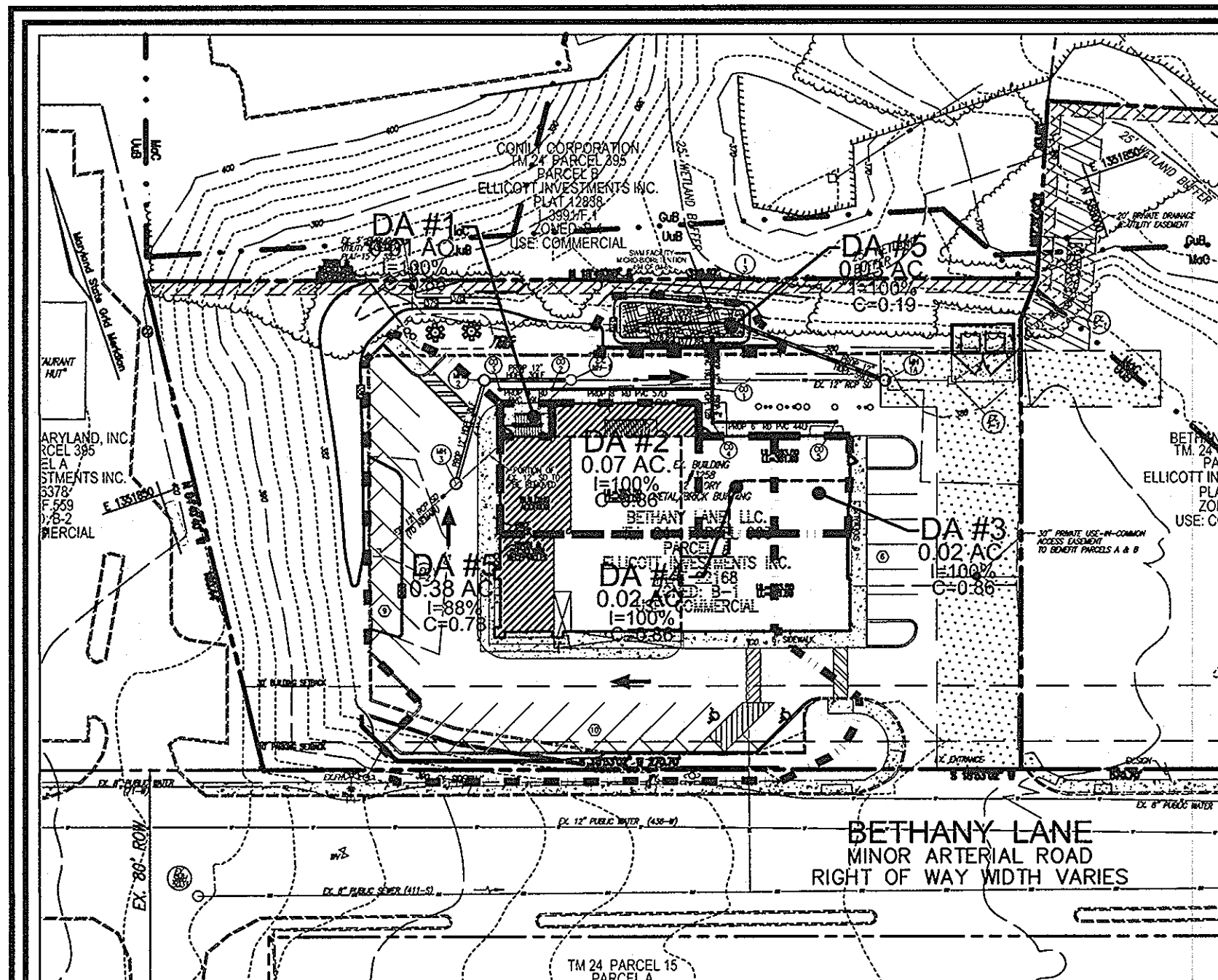
REVISION #1: NOTE: DUE TO THE COMPLEXITY OF DETAILING IMPROVEMENTS FOR THE BUILDING ADDITION ON THIS SHEET ALL EXISTING AND PROPOSED CONDITIONS FOR THE PROPOSED IMPROVEMENTS HAVE BEEN SHOWN ON SHEETS 2-5.

REVISION 1: 8/21/73 MODIFY EXISTING BUILDING TO ADD BUILDING ADDITION AND TO ADD PARKING.

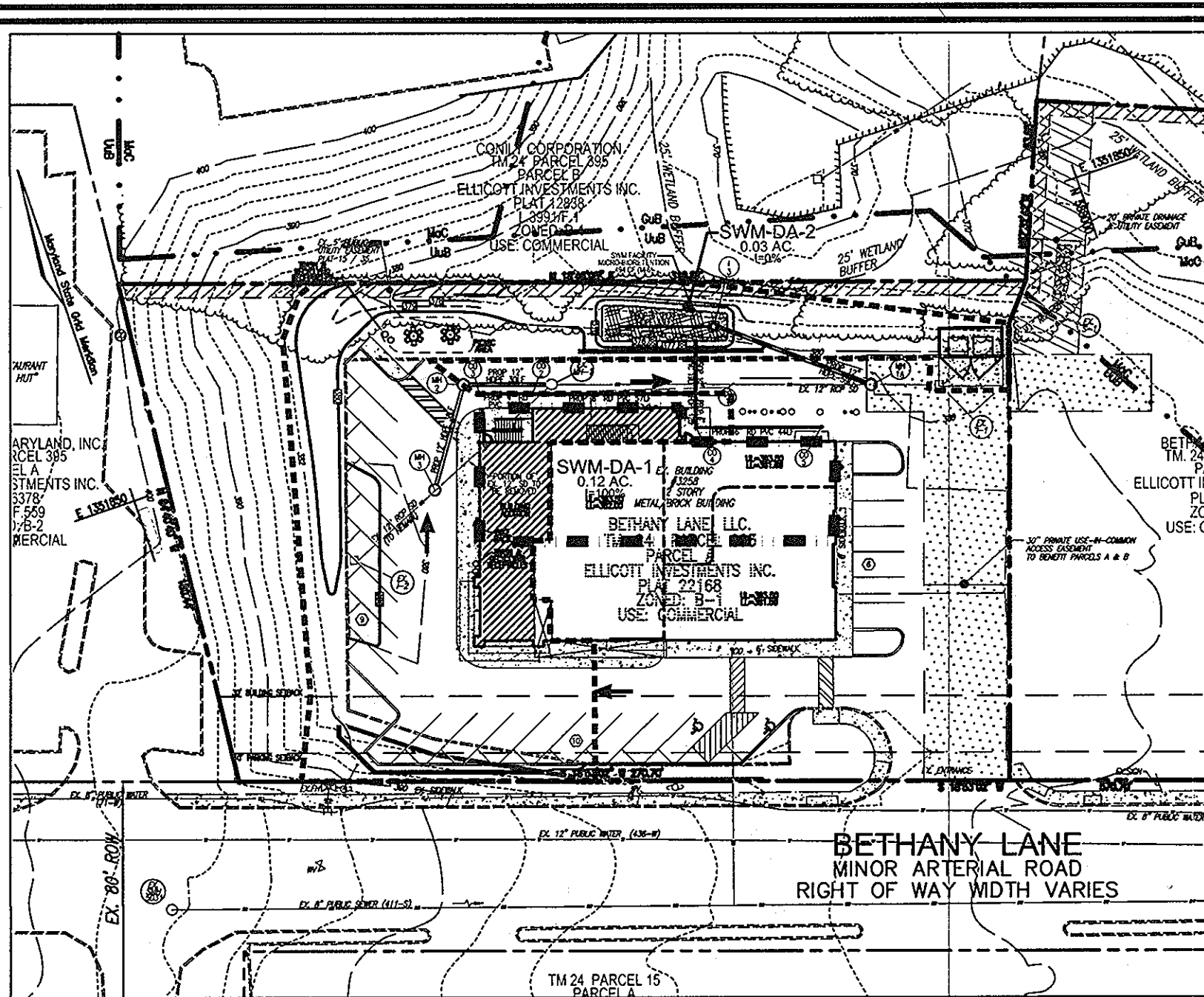


ENGINEERS OF LAND DEVELOPMENT CONSULTANTS
808 B TOWN & COUNTRY BLVD.
ELLICOTT CITY MD. 21043
TELEPHONE 465-8518

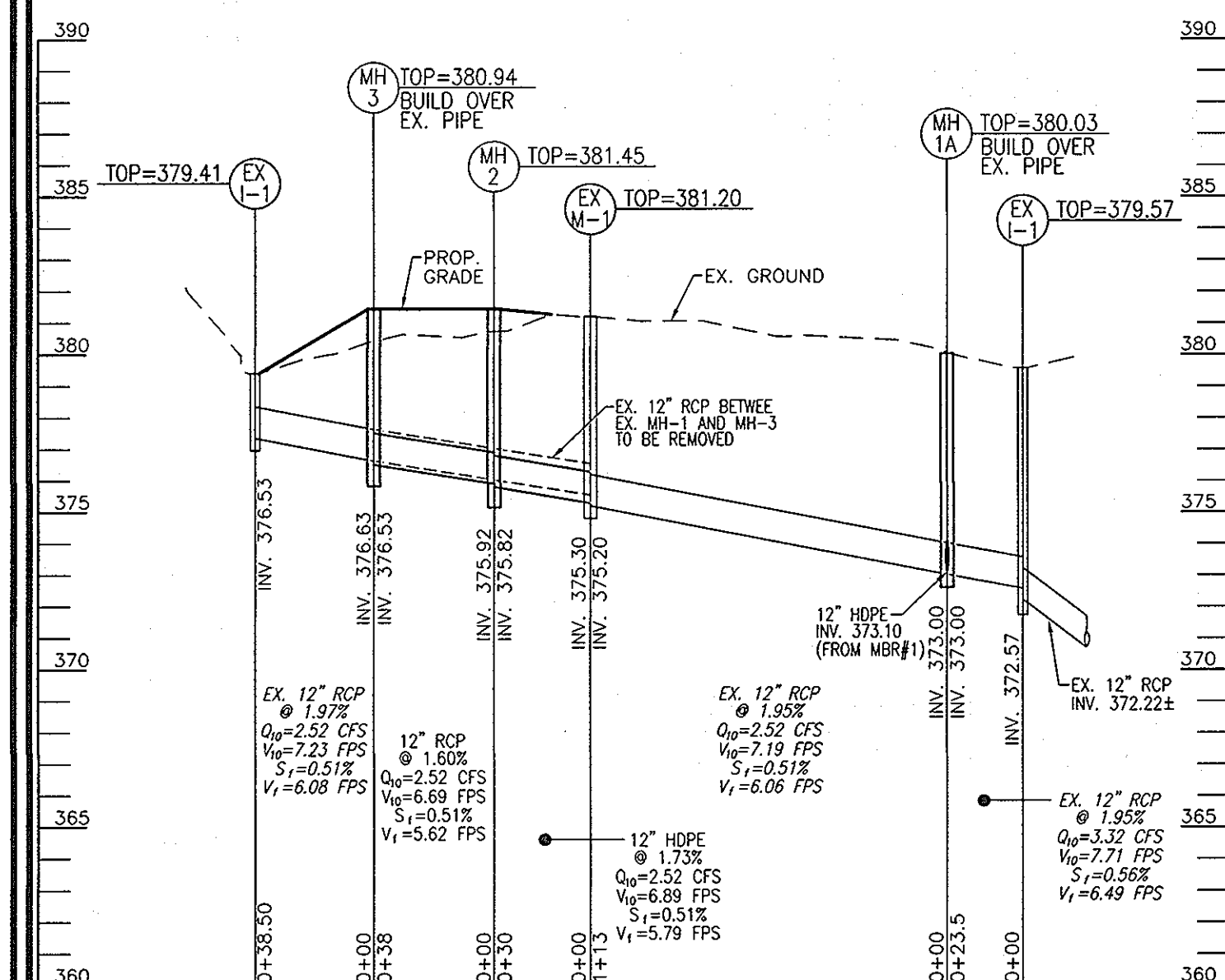
1	8/21/73	MODIFY EXISTING BUILDING TO ADD BUILDING ADDITION AND TO ADD PARKING.	SHEET 1 OF 5
REV	DATE	DESCRIPTION	BY



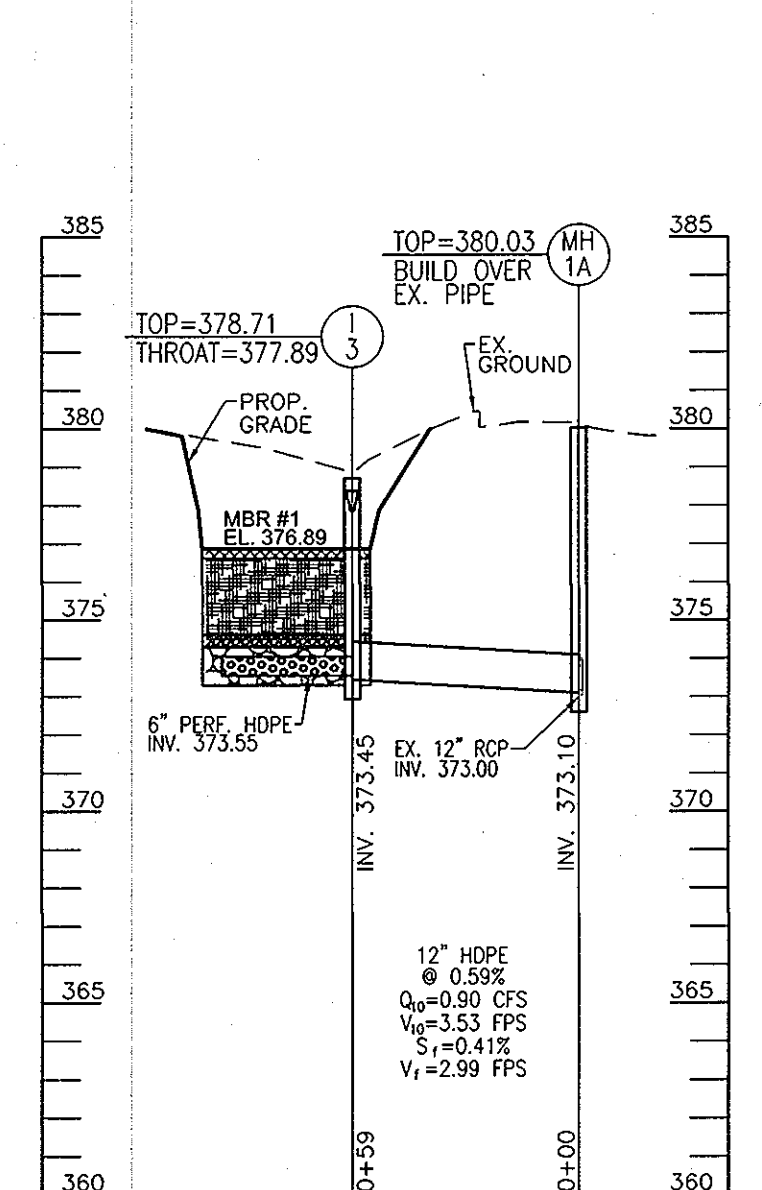
STORM DRAIN DRAINAGE AREA MAP
SCALE: 1"=50'



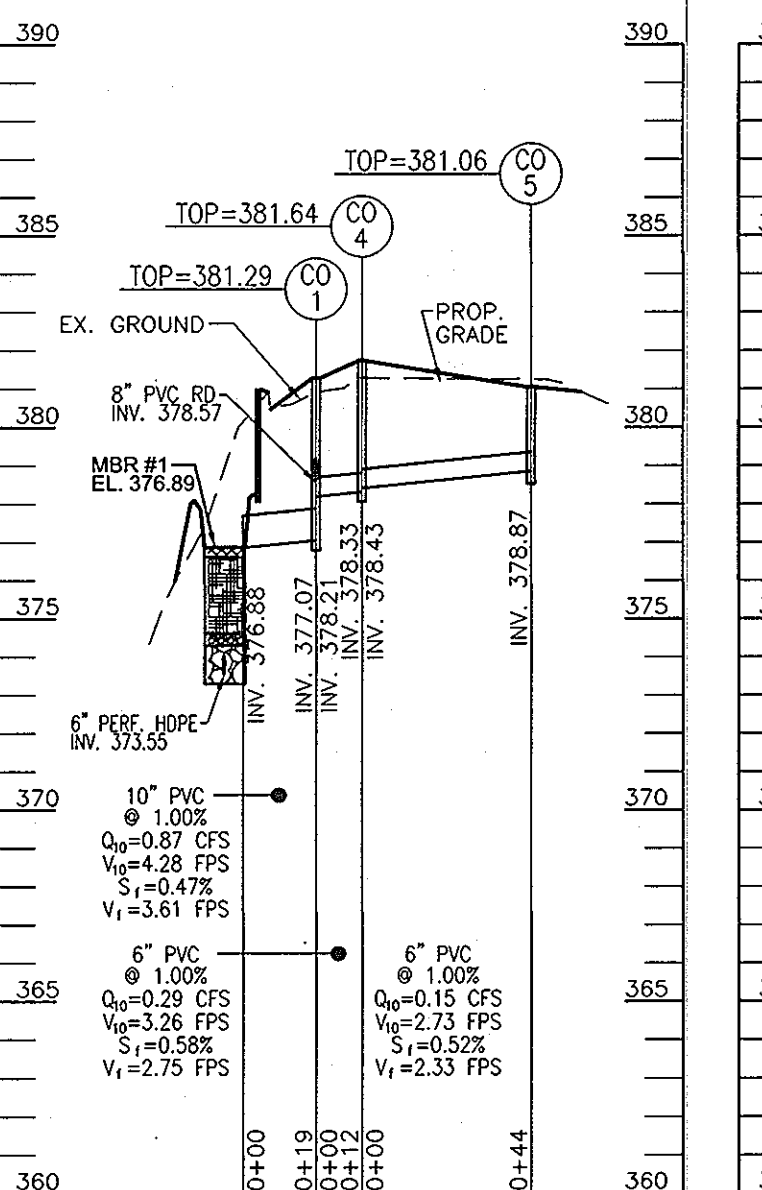
SWM DRAINAGE AREA MAP
SCALE: 1"=50'



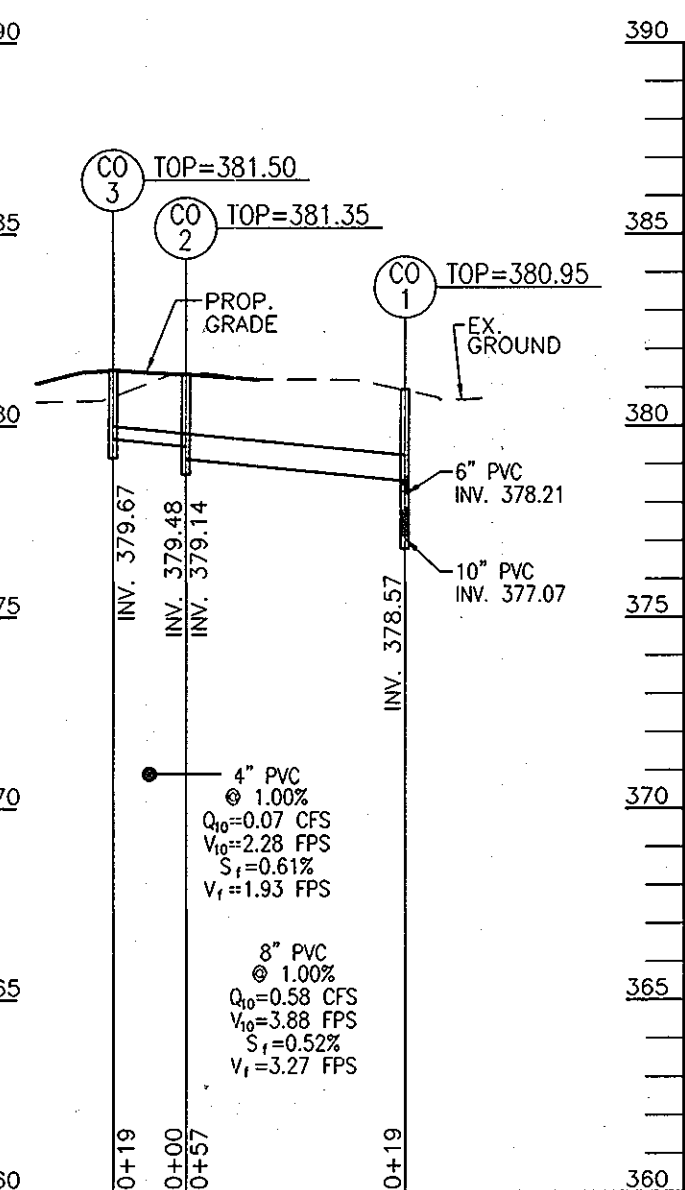
STORM DRAIN PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



STORM DRAIN PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



STORM DRAIN PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



STORM DRAIN PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

SIZE	TYPE	LENGTH
4"	PVC (SD)	19 LF
6"	PVC (SD)	56 LF
8"	PVC (SD)	57 LF
10"	PVC (SD)	19 LF
12"	HDPE (SD)	127 LF
6"	PERF. HDPE (SWM)	33 LF

NO.	TYPE	LOCATION	TOP EL	THROAT	INV IN	INV OUT	COMMENTS
1-3	TYPE 'D' INLET	N 587862.64 E 1351858.41	378.71	377.89	373.55	373.45	HO. CO. STD D-4-10
MH-1A	4'-0" STANDARD PRECAST MANHOLE	N 587968.17 E 1351895.67	380.03		373.60	373.60	HO. CO. STD G-5-11
MH-2	4'-0" STANDARD PRECAST MANHOLE	N 587712.76 E 1351849.11	381.45		373.92	373.82	HO. CO. STD G-5-11
MH-3	4'-0" STANDARD PRECAST MANHOLE	N 587751.16 E 1351880.82	380.94		339.32	335.39	HO. CO. STD G-5-11
CO-1	CLEAN OUT	N 587848.90 E 1351878.50	381.29		378.57	377.07	HO. CO. STD S-2-22
CO-2	CLEAN OUT	N 587794.64 E 1351860.00	381.35		379.48	379.14	HO. CO. STD S-2-22
CO-3	CLEAN OUT	N 587776.97 E 1351853.98	381.50			379.67	HO. CO. STD S-2-22
CO-4	CLEAN OUT	N 587845.03 E 1351889.86	381.64		378.43	378.33	HO. CO. STD S-2-22
CO-5	CLEAN OUT	N 587866.68 E 1351904.09	381.06			378.67	HO. CO. STD S-2-22

NOTE: 1. TOP ELEVATIONS ARE AT TOP MANHOLE COVER FOR ALL TYPE 'D' INLETS AND MANHOLES.
2. FOR TOP SLAB SLOPES SEE GRADING PLAN.

APPENDIX B.A.C SPECIFICATIONS FOR MICRO-BIOTRETION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

1. **MATERIAL SPECIFICATIONS**
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.A.1.

2. **FILTERING MEDIA OR PLANTING SOIL**
THE SOIL SHALL BE A UNIFORM MIX FREE OF STONES, STUMPS, ROOTS OR OTHER SHARP OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR PLACED WITH THE MIXTURE. THE MIXTURE SHALL BE PLACED TO A MINIMUM OF 12 INCHES TO ALLOW FOR A PROPER PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BENZENE, CHLORIDES, COPPER, LEAD, MERCURY, NICKEL, OR OTHER HARMFUL MATERIALS AS SPECIFIED UNDER COMPARISON TABLE B.A.1.

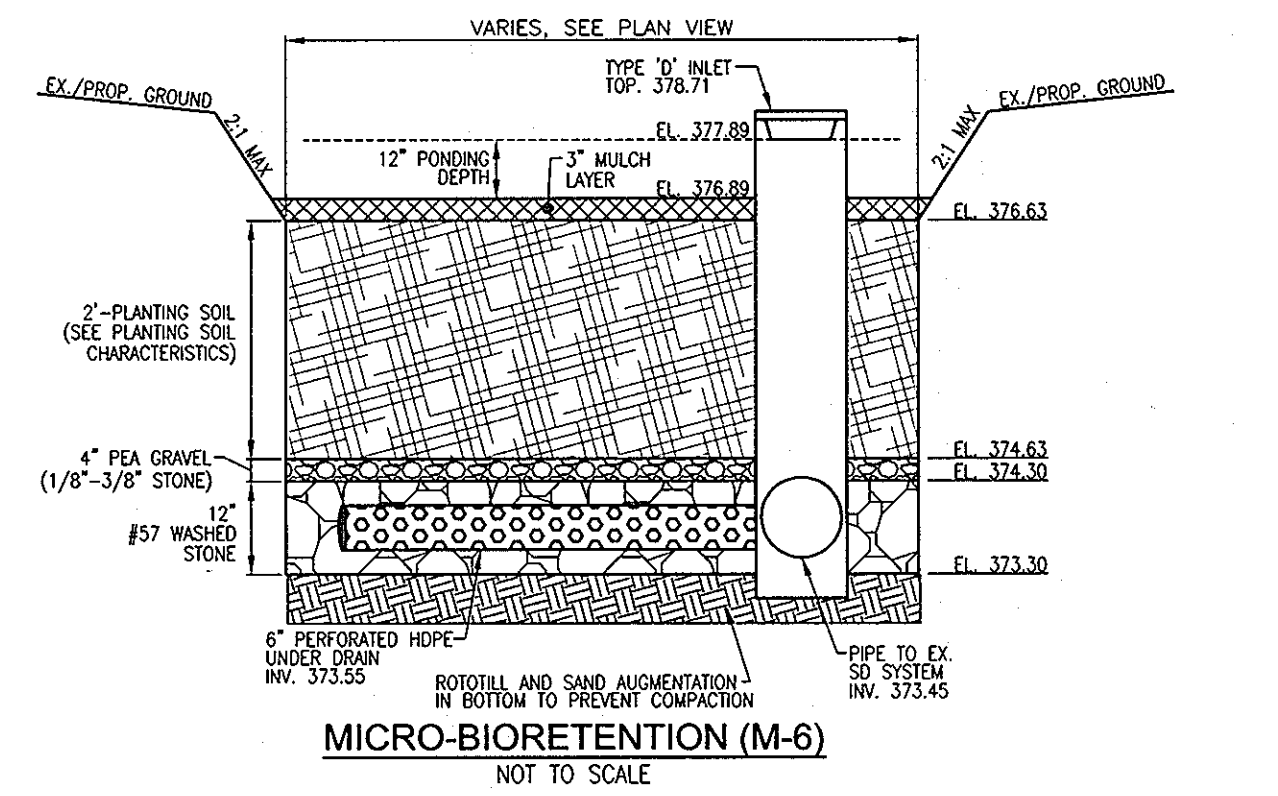
3. **COMPACTION**
IT IS VERY IMPORTANT TO MAINTAIN COMPACTNESS OF BOTH THE BASE OF BIOTRETION PRACTICES AND THE REDUCED BACKFILL. WHEN POSSIBLE, USE DIGGATION HOES TO REMOVE ORIGINAL SOIL. PRACTICES ARE EQUIVALENT USING LOADERS, THE COMPACTOR SHOULD USE WIDE TRACK OR WASH TRACK EQUIPMENT OR LIGHT EQUIPMENT WITH TUFF TIRE TRUCKS. USE OF EQUIPMENT WITH NARROW TRACKS OR WASH TRACKS, RUBBER TIRES WITH LARGE TRACKS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

4. **PLANT MATERIAL**
RECOMMENDED PLANT MATERIAL FOR MICRO-BIOTRETION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. **PLANT INSTALLATION**
A BETTER ORGANIC MATERIAL SOURCE IS LESS LIKELY TO FLAUNT AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN A UNIFORM THICKNESS OF 2" TO 4" SUFFICIENT TO COVER THE ENTIRE BIOTRETION AREA. THE ONLY ACCEPTED MULCH, PINE MULCH AND WOOD CHIPS WILL FLAUNT AND MOVE TO THE PERIPHERY OF THE BIOTRETION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL SEED (6 TO 10 MONTHS) FOR ACCEPTANCE. POSITIONING OF THE PLANT MATERIAL SHALL BE KEPT MOST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT SOIL SHALL BE PLANTED SO THAT THE PLANT IS ABOVE THE MULCH SURFACE. THE QUARTERS OF THE PLANTING SHALL BE AT LEAST SIX INCHES LARGER THAN THE QUARTERS OF THE PLANTING BALL. MULCH SHALL BE PLACED DURING THE PLANTING PROCESS. THROAT WELLS SHOULD BE COVERED AFTER INSTALLATION. STAKES 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.

6. **UNDERDRAINS**
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
* PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM 756, TYPE 28, OR ANSHTO-M-278) IN A GRAVEL LAYER.
* PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 1/8" DIAMETER LOCATED 6" ON CENTER WITH A MAXIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE SHIPPED WITH A 4" OR 4.5" HALL CHANNELS THROUGH DRAIN.
* GRAVEL - THE GRAVEL LAYER MUST BE 12" THICK AND BE PLACED ABOVE AND BELOW THE UNDERDRAIN.
* THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 4" SIZE.
* A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE PIPE.
* CONCRETE AND LEADIC SEEP SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLANTS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
* THE TOSSEL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIOTRETION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS, HERBICIDES, OR AT A MINIMUM, MARKERS THIS GOAL. ONLY AN FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTILLAGE USED FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

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



MICRO-BIOTRETION (M-6)
NOT TO SCALE

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

Material	Specification	Notes
Plantings	see Appendix A, Table A.4	plantings are site-specific
Flaming soil	heavy sand (60-65%) & compost (35-40%)	USDA mix types heavy sand or sandy loam; clay content < 5%
Perforated pipe	see Appendix A, Table A.4	NO. 8 OR NO. 9 (1/8" TO 3/8")
Gravel	see Appendix A, Table A.4	NO. 8 OR NO. 9 (1/8" TO 3/8")
Underdrain piping	F 756, Type 28 or ANSHTO M-278	4" to 6" rigid subgrade PVC or HDPE
Found in place concrete (if required)	MSHA Mix No. 3, F _c = 3500 psi @ 28 days, normal weight, air-entrained, reinforcing per ASTM A615-60	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 clear or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 308.8B; vertical loading (10 to 100) allowable horizontal loading (based on soil accuracy); and analysis of potential cracking.
Sand	ANSHTO M-6 or ASTM-C-33	0.075" to 0.04"

LEGEND:

- EXISTING CONTOUR
- - - - PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- PROPOSED SIDEWALK

SITE DATA
TAX MAP 24, GRID 2, PARCEL 993, PARCEL A
LOCATION: ELLICOTT CITY, MD.
2ND ELECTION DISTRICT
PRESENT ZONING: B-1
TOTAL PARCEL AREA: 1.1785 AC.
AREA OF STREAMS AND BUFFERS: 0.00 AC.
AREA OF 100 YEAR FLOODPLAIN ON SITE: 0.00 AC.
AREA OF FOREST ON SITE: 0.00 AC.
AREA OF STEEP SLOPES ON SITE: 0.00 AC.
AREA OF ERODIBLE SOILS ON SITE: 0.00 AC.
PROJECT AREA/LIMIT OF DISTURBED AREA: 0.68AC
AREA MANAGED BY ESDV (*THIS PLAN): 0.38 AC.
IMPERVIOUS AREA: 0.34 AC.
*GREEN AREA: 0.04 AC.

OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3), MICRO-BIOTRETION (M-6), RAIN GARDENS (M-7), BIOTRETION 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 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 PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, 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. TREAT DISEASED 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.

OWNER/DEVELOPER
VELO PROPERTIES ELLICOTT CITY, LLC
2834 COON CLUB ROAD
WESTMINSTER, MD 21157

NO.	REVISION FOR BUILDING ADDITION	DATE
1	REVISION	07-19-13

REVISED SITE DEVELOPMENT PLAN

STORM DRAIN AND SWM DRAINAGE AREA MAPS; SWM NOTES AND DETAILS

RACE PACE
3258 BETHANY LANE

TAX MAP 24, GRID 2, 2ND ELECTION DISTRICT

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

PROFESSIONAL CERTIFICATE

DESIGN BY: DZ
DRAWN BY: DZ
CHECKED BY: RHV
DATE: OCTOBER 2013
SCALE: AS SHOWN
W.O. NO.: 12-35

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. 11843 EXPIRATION DATE: 09-27-2014

4 SHEET OF 5

Race Pace

ESDv=PerforA/12
Rv=0.05+0.028H
V min=1.07 rai/fall (1.0r/RvA)/12
Vmax=1.97 rai/fall+0.07 (2.0r/RvA)/12

DA	% IMPERV	Rv	DA	ESDv	MINIMUM	MAXIMUM	VOLUME PROVIDED
18.2	69	0.67	0.15	586	364	947	494

TOTAL ESDv BY SUBAREA: 586 494

* Provided Volume is less than ESDv Require because Bio-retention utilized in each subarea at the rate of 75%.

DRAINAGE AREA #	AREA TREATED	FACILITY NUMBER	PERMEABLE PAVEMENT	ADD UNDER INFLTRATION	LANDSCAPE SWALK	PROVIOUS SWALE	BIO TRENCH	MICRO BIO	ESDv
1	6515	0	0	0	0	0	0	484	494
SUBTOTAL 1									0
TOTAL AREA									0.15 AC

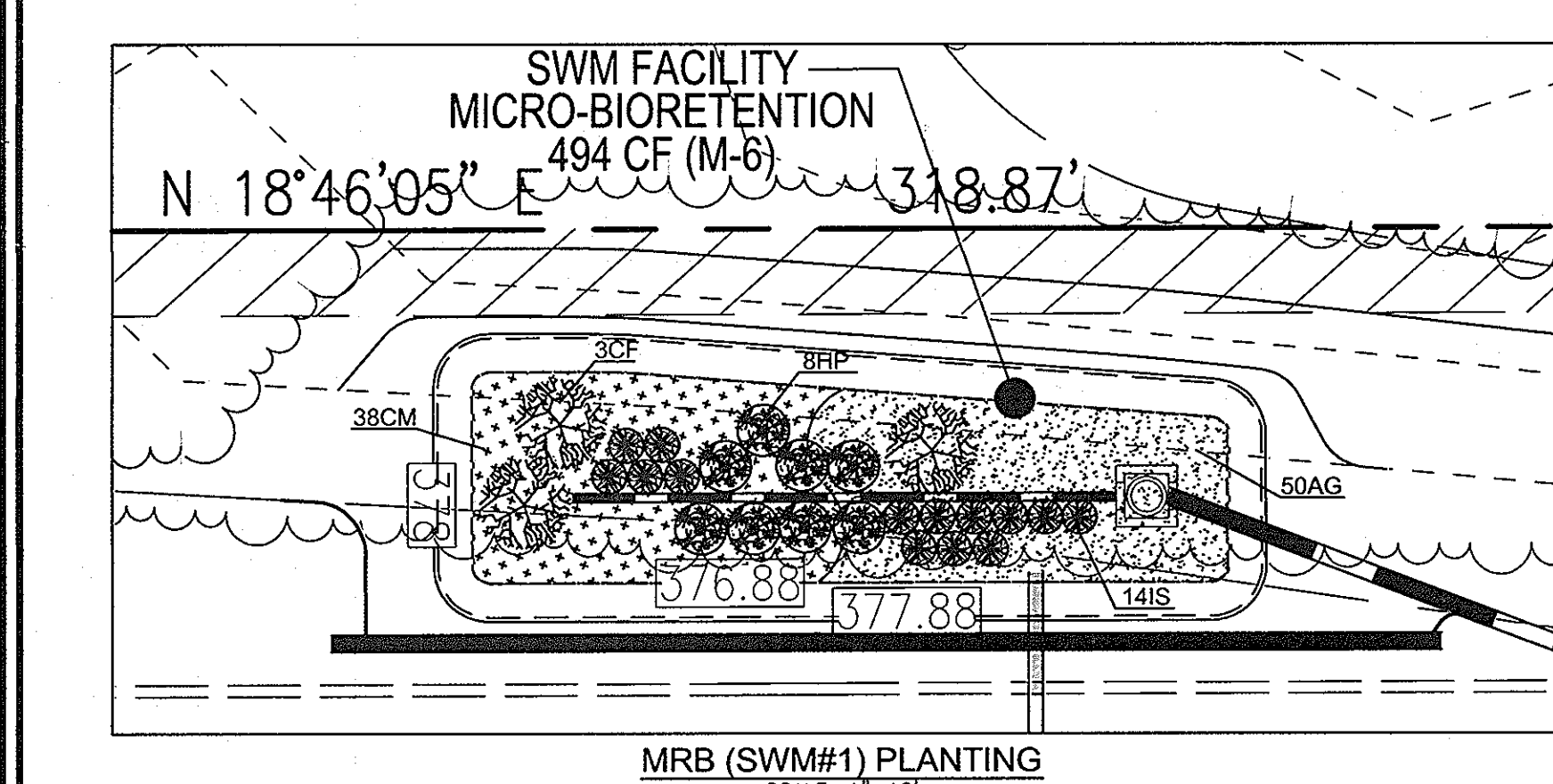
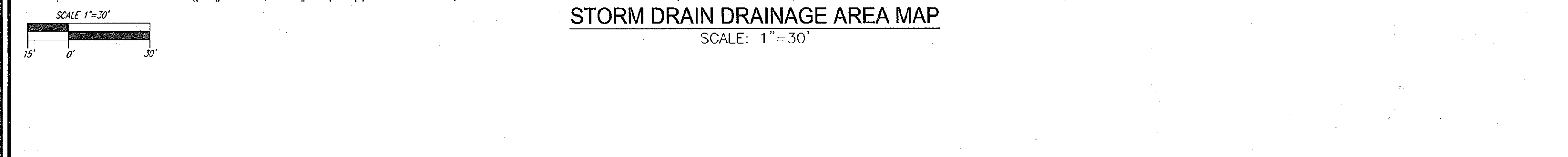
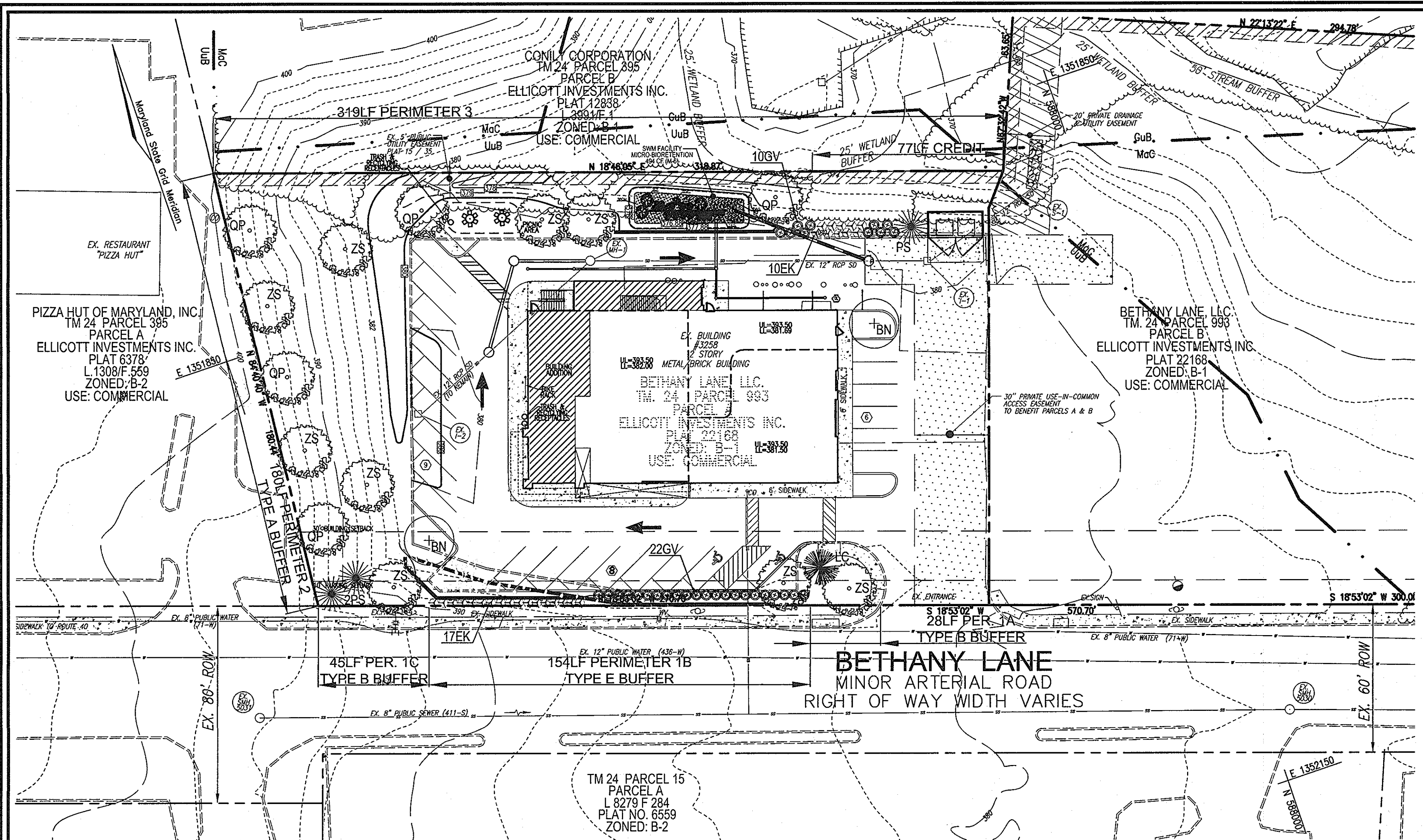
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edwards 11/12/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Neil DeLoach 11-19-13
CHIEF, DIVISION OF LAND DEVELOPMENT

David M. Weyler 11/19/13
DIRECTOR

CONTRACTOR TO TEST PIT ALL EXISTING UTILITY CROSSINGS AND TIE-INS PRIOR TO CONSTRUCTION



BIORETENTION PLANTING REQUIREMENTS				
NO.	AREA	STEMS REQUIRED	STEMS PROVIDED	
1	494 SF	12	25	

BIORETENTION PLANTING SCHEDULE				
NO.	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
92	1	RED BIRCH 'WOODRUFF BLUE'	1 GALLON	18" O.C.
53	1	HIBISCUS 'FRANKIE BLUE EYES'	1 GALLON	30" O.C.
56	1	GRAPES 'MAGNOLIA BLUE'	4" HT	SEE LANDSCAPE SPECIFICATION
20	1	ORANGE SCISSOR THORNBRUSH	4" HT	SEE LANDSCAPE SPECIFICATION
250	1	CONIFER 'MANTHAN'	1 QT.	12" O.C.
333	1	ADONIS GRANIBOUS 'DODY'	1 QT.	12" O.C.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edwards 11/12/13
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

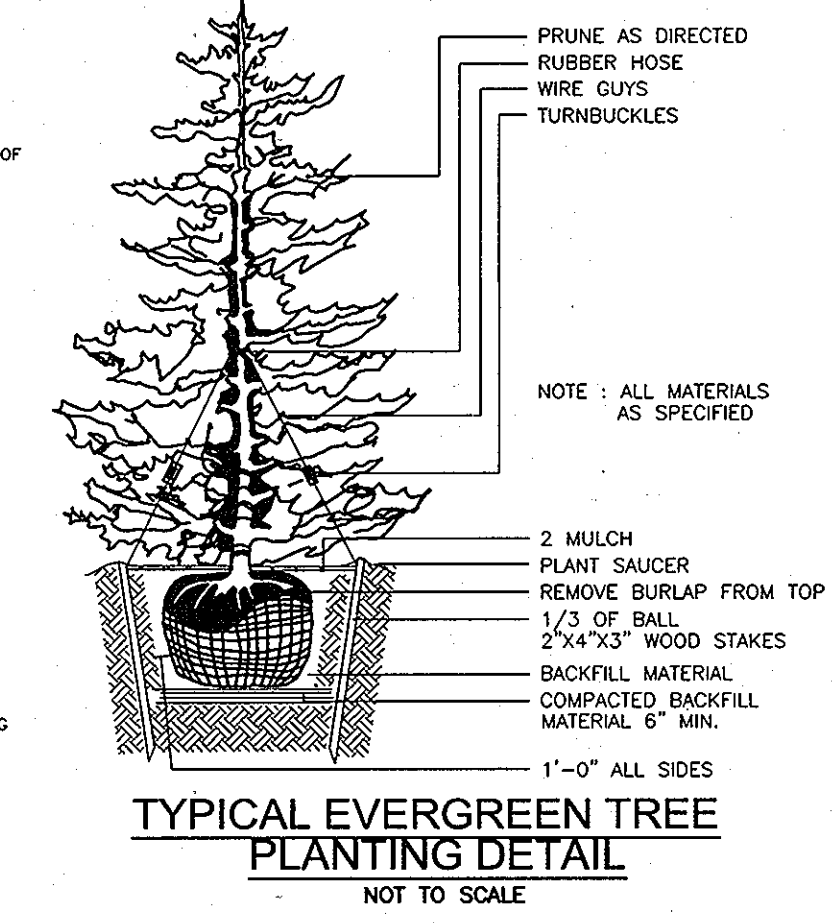
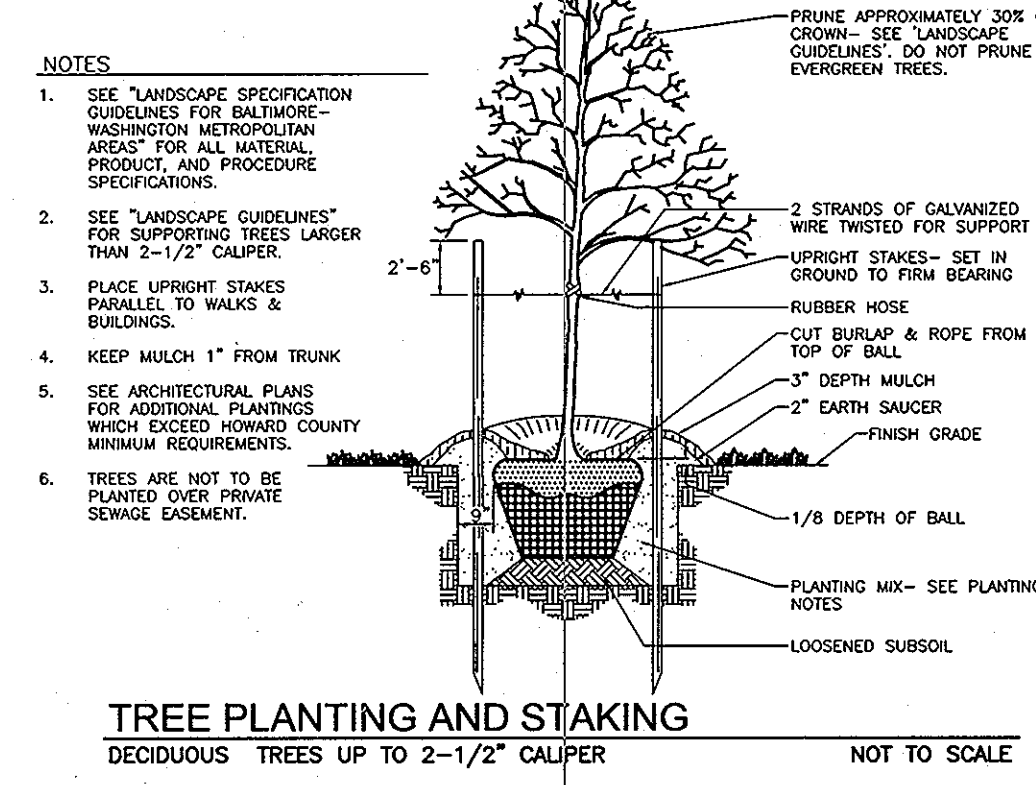
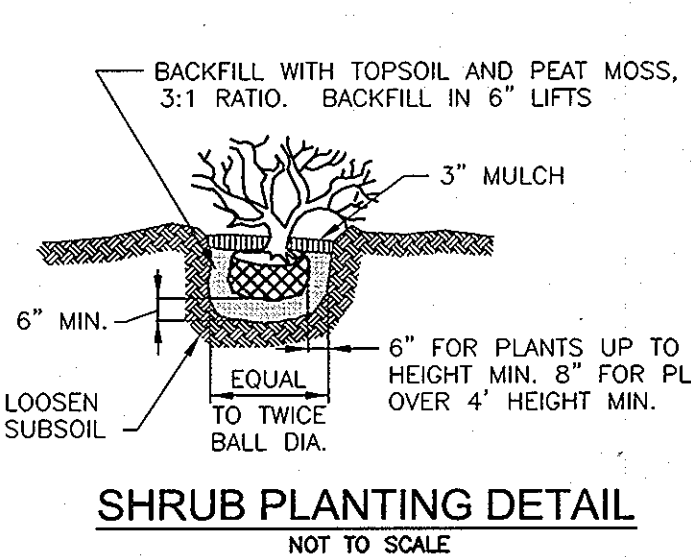
Kristen L. ... 11/19/13
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Martha ... 11/19/13
 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.

Michael ... 10/31/13
 SIGNATURE OF DEVELOPER DATE



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 BERM, 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.
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN 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.

GENERAL NOTES:

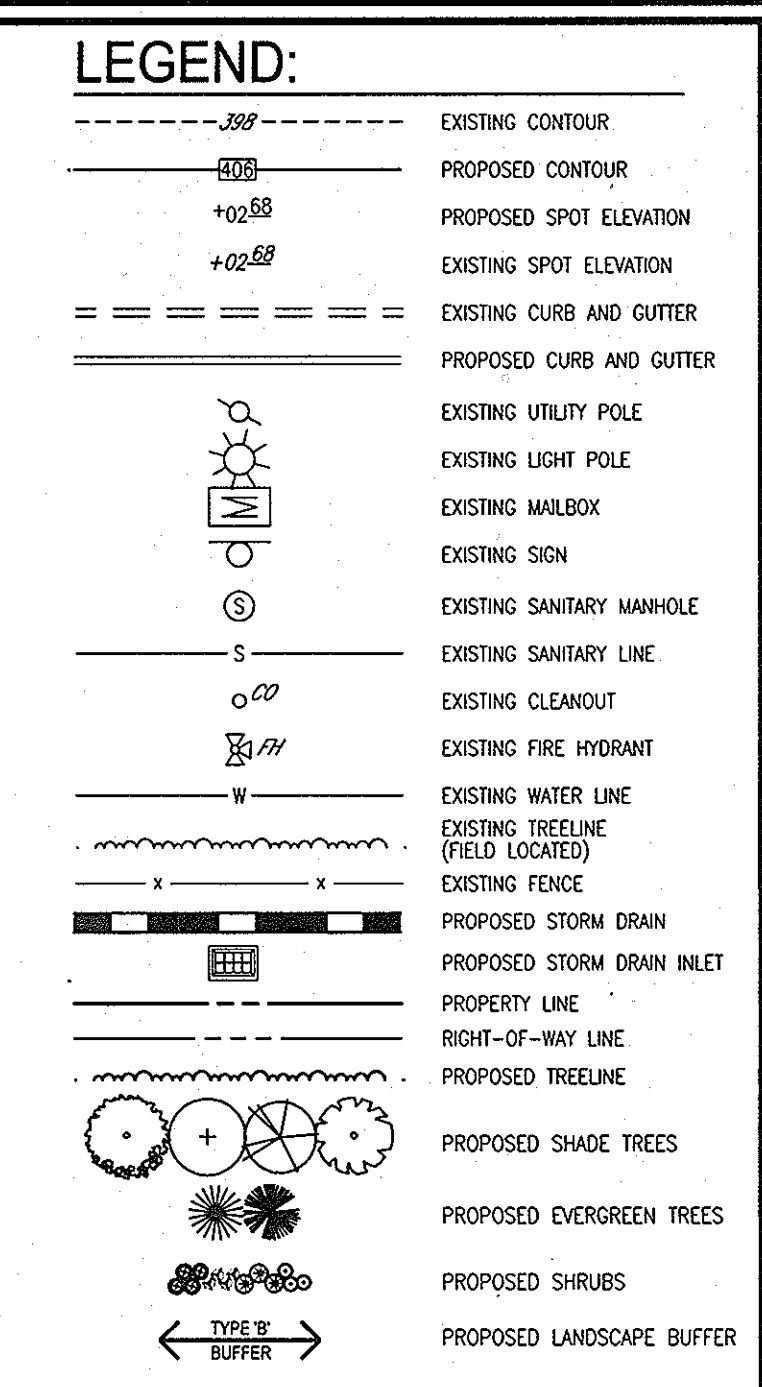
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY FOR THE LANDSCAPING IN THE AMOUNT OF \$7,020.00 FOR THE REQUIRED 17 SHADE TREES, 5 EVERGREENS, AND 39 SHRUBS SHALL BE POSTED WITH THE GRADING PERMIT.
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION, OR BUILDING AND GRADING PERMITS.
- THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED ON THIS PROPERTY.
- ANY EXISTING STREET TREES DAMAGED OR DESTROYED DURING CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR.
- LANDSCAPING IS NOT PERMITTED WITHIN 7.5' ON EACH SIDE OF THE FIRE DEPARTMENT CONNECTION. PROVIDE A CLEAR, UNOBSTRUCTED ACCESS PATH TO THE FIRE DEPARTMENT CONNECTION. NFPA-1 13.1.4.

SCHEDULE A PERIMETER LANDSCAPE EDGE									
CATEGORY	ADJACENT TO PERIMETER PROPERTIES AND ROADWAYS				ADJACENT TO DRIVEWAY		TOTAL		
	1A	1B	1C	2	3	4			
PERIMETER/FRONTAGE DESIGNATION	B	E	B	A	A	C			
LANDSCAPE TYPE									
LINEAR FEET OF ROADWAY - FRONTAGE/PERIMETER	28'	154'	45'	180'	319'	42'			
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	YES 77'	YES			
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO			
NUMBER OF PLANTS REQUIRED	1:50	1:40	4	1:50	1:60	3	242	1:40	15
SHADE TREES	1:40	1	1.4	39	1:40	2		1:20	7
EVERGREEN TREES									
SHRUBS									60
NUMBER OF PLANTS PROVIDED	1	1*	1	6*	5	-	9	-	9
SHADE TREES	1	-	-	2	-	-	1	-	3
EVERGREEN TREES	-	-	-	-	-	-	-	-	5
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-	-	20*	-	158
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	-	-	-	-	-
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED									

* 3 SHADE TREES REQUIRED FROM PERIMETER 1B PLANTED IN PERIMETER 2.
 ** 20 SHRUBS SUBSTITUTED FOR 1 SHADE TREES AND 1 EVERGREEN TREES IN PERIMETER 4.

LANDSCAPE SCHEDULE				
KEY	QUAN.	BOTANICAL NAME	SIZE	CAT.
ZS	9	ZELKOVA SERBATA 'VILLAGE GREEN'	2 1/2"-3" CAL.	B & B
OP	5	QUERCUS PALUSTRIS	2 1/2"-3" CAL.	B & B
BN	2	BETULA NIGRA 'HERITAGE'	2 1/2"-3" CAL.	B & B
PS	3	PRINUS STROBUS 'HERITAGE CLUMP RIVER BIRCH'	6'-8' HT.	B & B
LC	1	CUPRESSUS OCCIDENTALIS 'LEYLANDI'	6'-8' HT.	B & B
GV	32	BUXUS MICROPHYLLA 'GREEN VELVET'	2' - 2 1/2' HT.	B & B
EK	27	EUONYMUS KIAMTSCHOWICU 'MANHATTAN'	2' - 2 1/2' - 3' HT.	B & B

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PROPOSED PARKING SPACES	NUMBER OF TREES REQUIRED (1/20 SPACES)
25	2
NUMBER OF TREES PROVIDED	NUMBER OF TREES PROVIDED
2	2
SHADE TREES	OTHER TREES (2:1 SUBSTITUTION)
-	-



OWNER/DEVELOPER
 VELO PROPERTIES ELLICOTT CITY, LLC
 2834 COON CLUB ROAD
 WESTMINSTER, MD 21157

1	REVISE PLAN FOR BUILDING ADDITION	07-19-13
NO.	REVISION	DATE

REVISED SITE DEVELOPMENT PLAN
 STORM DRAIN AND SWM DRAINAGE AREA MAPS; SWM NOTES AND DETAILS

RACE PACE
 3258 BETHANY LANE
 L14583P-200 RETAIL/OFFICE

TAX MAP 24 GRID 2
 2ND ELECTION DISTRICT

PARCEL 993, PARCEL A
 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

DESIGN BY: DZ
 DRAWN BY: DZ
 CHECKED BY: RHV
 DATE: OCTOBER 2013
 SCALE: AS SHOWN
 W.O. NO.: 12-35

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. 18183 EXPIRATION DATE: 08-27-2014

5 SHEET OF 5