

SCHEDULE A PERIMETER LANDSCAPE EDGE		
Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	N/A	A
Linear Feet of Roadway Frontage/Perimeter	N/A	2122'
Credits for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	N/A	YES-670 L.F.
Credits for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	N/A	ALTERNATIVE COMPLIANCE YES - 929 L.F.
Number of Plants Required	N/A	BASED ON 523 L.F. 160-9
Number of Plants Provided	N/A	9 Shade 4 Shade - Ex

LANDSCAPE PERIMETER TABLE			
Perimeter No.	Perimeter Length	Buffer Type	Adjacent Land Use
1	757 L.F.	A	SFD
2	1265 L.F.	A	SFD
Total	2122 L.F.		

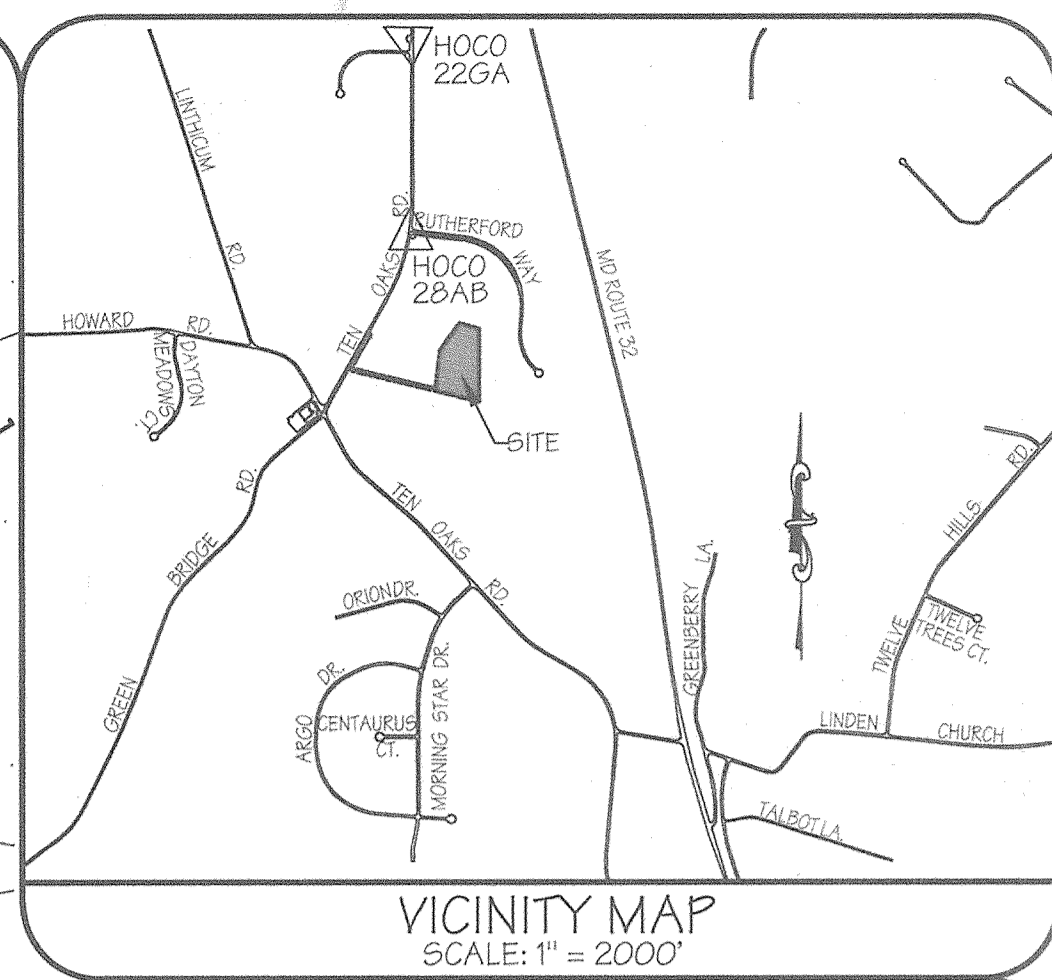
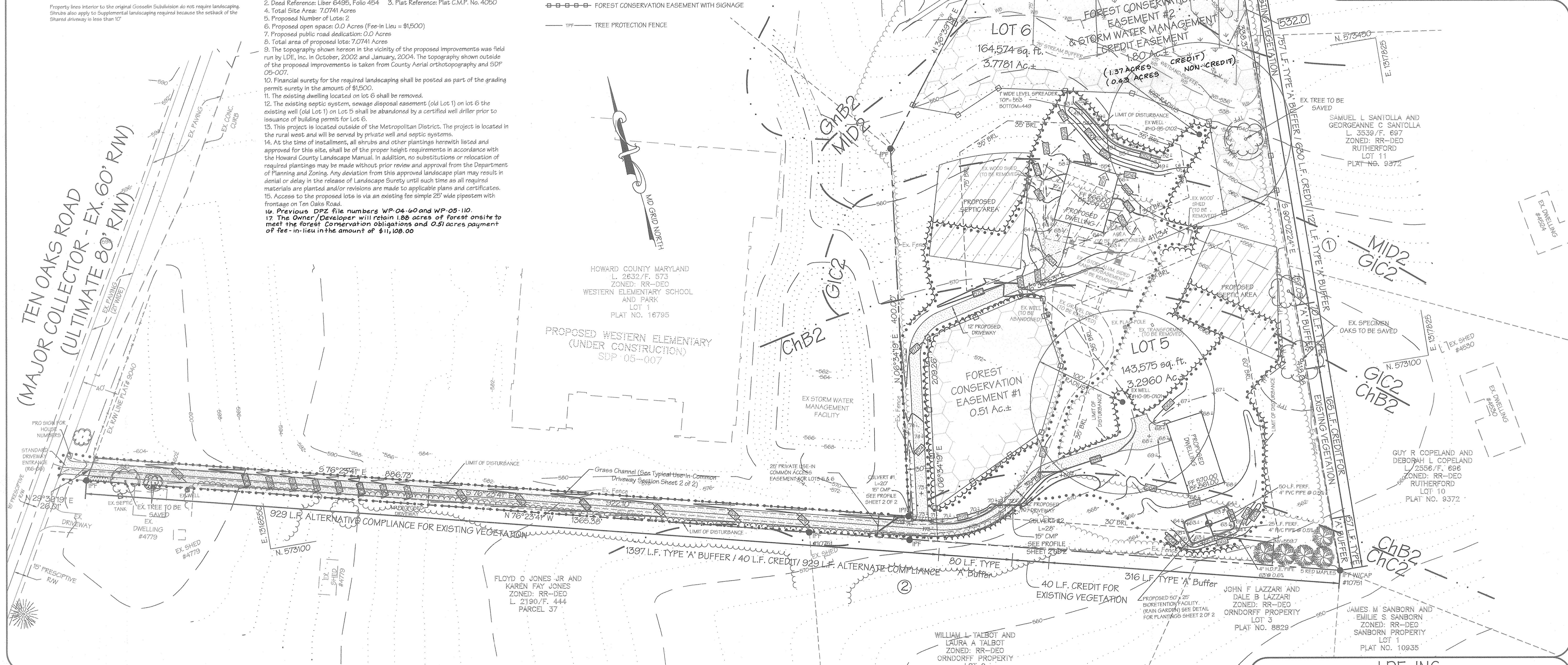
LANDSCAPE SCHEDULE				
SYMB.	COMMON NAME	BOTANICAL NAME	QTY	REMARKS
	Red Maple	<i>Acer Rubrum</i>	5	2' - 1/2" - 3" cal. 20' O.C.
	October Glory			Minimum

LEGEND

- 538.0 --- EXISTING CONTOURS
- 540.0 --- PROPOSED CONTOURS
- ● ● ● ● LIMIT OF DISTURBANCE
- GmB2 --- SOILS BOUNDARY
- MID2 --- EX. TREELINE
- PRO. TREELINE
- DRAINAGE FLOW
- PROPOSED WELL
- ⊕ SOIL BORING
- FOREST CONSERVATION EASEMENT WITH SIGNAGE
- TREE PROTECTION FENCE

NOTES:

- Existing Zoning: RR-DEO
- Deed Reference: Liber 6495, Folio 454
- Plat Reference: Plat C.M.P. No. 4050
- Total Site Area: 7.0741 Acres
- Proposed Number of Lots: 2
- Proposed open space: 0.0 Acres (Fee-In Lieu = \$1500)
- Proposed public road dedication: 0.0 Acres
- Total area of proposed lots: 7.0741 Acres
- The topography shown hereon in the vicinity of the proposed improvements was field run by LDE, Inc. in October, 2002 and January, 2004. The topography shown outside of the proposed improvements is taken from County Aerial orthotopography and SDP 05-007.
- Financial surety for the required landscaping shall be posted as part of the grading permit surety in the amount of \$1,500.
- The existing dwelling located on lot 6 shall be removed.
- The existing septic system, sewage disposal easement (old Lot 1) on lot 6 and the existing well (old Lot 1) on lot 5 shall be abandoned by a certified well driller prior to issuance of building permit for Lot 6.
- This project is located outside of the Metropolitan District. The project is located in the rural west and will be served by private well and septic systems.
- At the time of installation, all shrubs and other plantings herewith 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.
- Access to the proposed lots is via an existing fee simple 25' wide pipestem with frontage on Ten Oaks Road.
- Previous DPZ file numbers WP-04-60 and WP-05-110.
- The Owner/Developer will retain 1.88 acres of forest onsite to meet the forest Conservation obligations and 0.51 acres payment of fee-in-lieu in the amount of \$11,108.00



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division 1/15/06 DATE

Chief, Division of Land Development 1/18/06 DATE

SOILS LEGEND		
HYDROLOGIC SOIL GROUP	SOIL SYMBOL	DESCRIPTION
B	ChB2	Chester Silt Loam, 3% to 8% slopes moderately eroded.
B	ChC2	Chester Silt Loam, 8% to 15% slopes moderately eroded.
B	CgB2	Chester gravelly-silt loam, 3% to 8% slopes, moderately eroded
C	GmB2	Glenville silt loam, 3% - 8% slopes moderately eroded.
B	MID2	Manor loam, 15% to 25% slopes moderately eroded.
B	GIC2	Glenelg loam, 8% to 15% slopes moderately eroded.

STATE OF MARYLAND
DEPARTMENT OF PLANNING AND ZONING
REGISTERED PROFESSIONAL ENGINEER
1/18/06

Private Use-In-Common Access Easement

Forest Conservation Easement Credit

Forested Floodplain Non-Credit

DEVELOPER'S / BUILDER'S CERTIFICATION

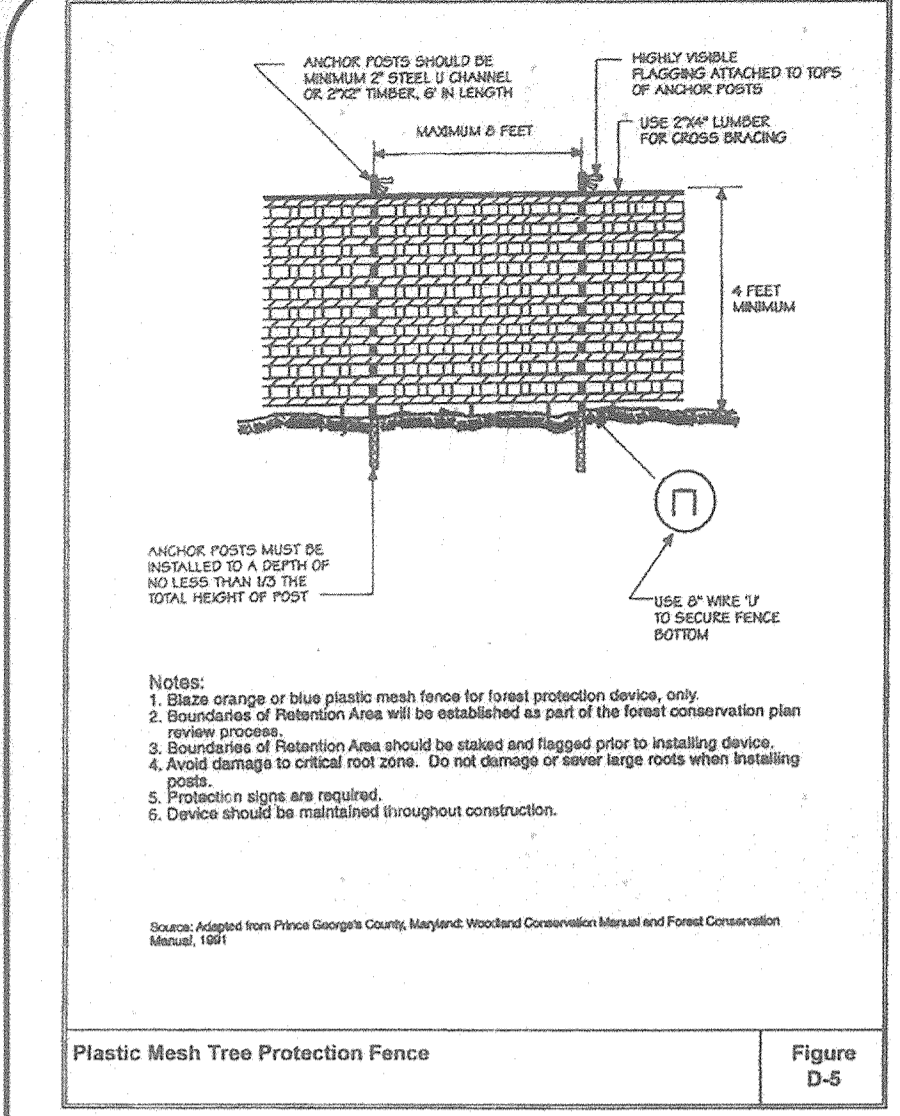
I certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I further certify that upon completion a Certificate of Landscape Installation, accompanied by an executed One Year Guarantee of Plant Materials will be submitted to the Department of Planning and Zoning.

Mercer
SIGNATURE OF DEVELOPER / BUILDER 1-5-06 DATE

REVISIONS		
No.	Date	Description

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED	SUPPLEMENTAL PLAN		SCALE
SDH	ROBERT L. GOSSELIN PROPERTY		1" = 50'
DRAWN	JOB NO.		DRAWING
JLM	LOT 5 & LOT 6 A RESUBDIVISION OF ROBERT L. GOSSELIN PROPERTY, LOT 1 Plat No. 4050		1 of 3
CHECKED	JOB NO.		DRAWING
BDB	5th Election District - Howard County, Maryland Tax Map No. 28 - Grid No. 8 - Parcels 301		02-041
DATE	FILE NO.		
12/2005	OWNER / DEVELOPER: Philip T. Mercer / Gray Mercer 11208 Ridermark Row Columbia, MD 21044 Phone No. 410-364-9515		F04-123



FOREST CONSERVATION WORKSHEET

NET TRACT AREA:
 A. Total tract area: 7.0 Ac.
 B. Area within 100 year floodplain: 0.42 Ac.
 C. Area to remain in agricultural production: 0.0 Ac.
 D. Net tract area: 6.6 Ac.

LAND USE CATEGORY
 Input the number "1" under the appropriate land use zoning, and limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	1	0	0	0	0

E. Afforestation threshold: 20% x D = 1.3 Ac.
F. Conservation threshold: 25% x D = 1.7 Ac.

EXISTING FOREST COVER:
 G. Existing forest cover (excluding floodplain): 4.8 Ac.
 H. Area of forest above afforestation threshold: 3.5 Ac.
 I. Area of forest above conservation threshold: 3.1 Ac.

BREAK EVEN POINT:
 J. Forest retention above threshold with no mitigation: 2.5 Ac.
 K. Clearing permitted without mitigation: 2.5 Ac.

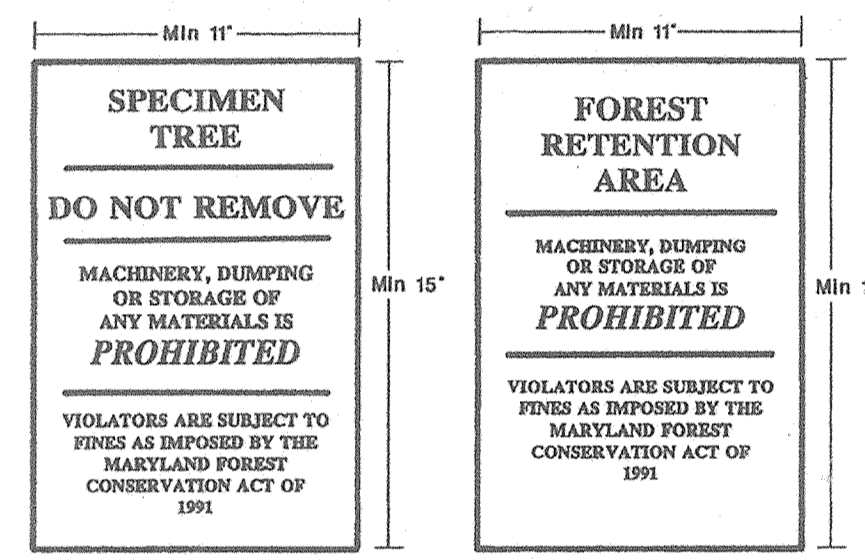
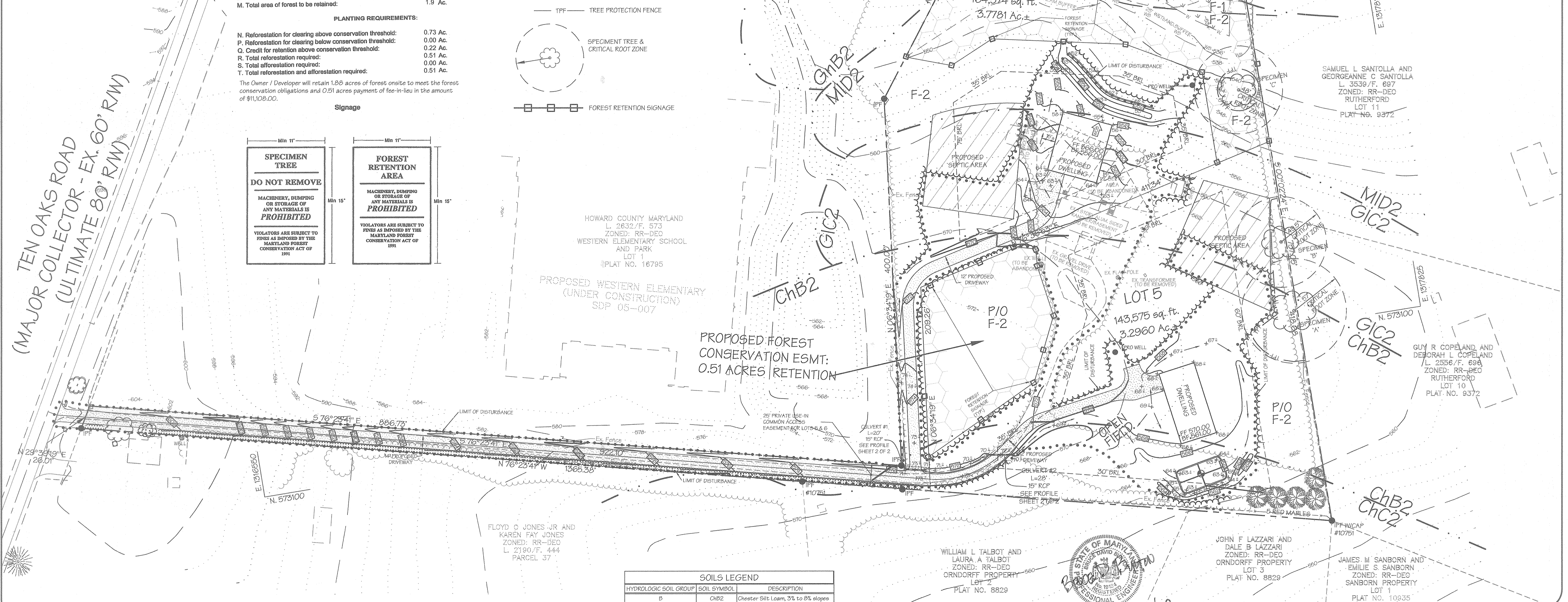
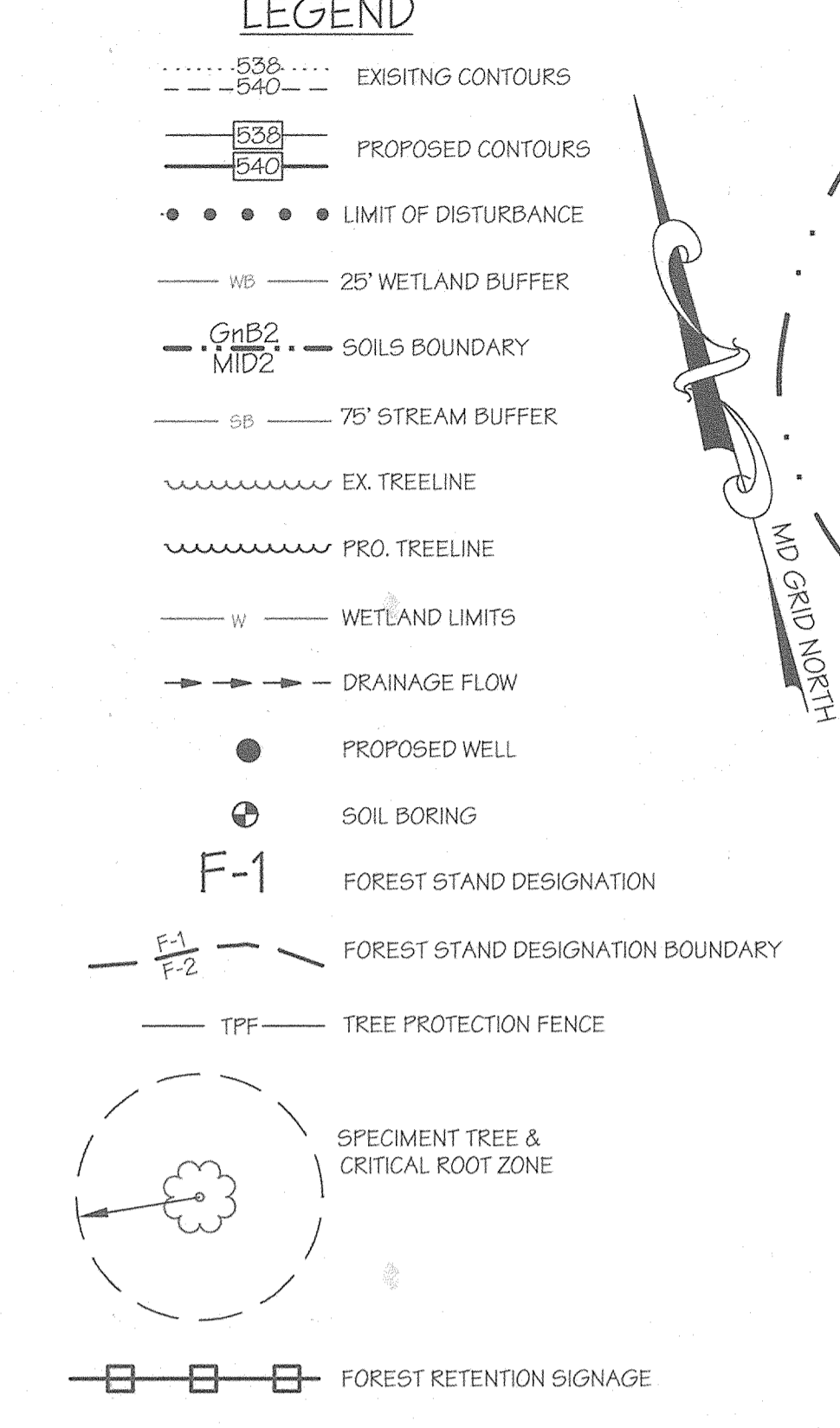
Break even formula: $0.20 \times \text{area of forest above conservation threshold} + \text{the conservation threshold}$

PROPOSED FOREST CLEARING:
 L. Total area of forest to be cleared (cannot exceed existing): 2.9 Ac.
 M. Total area of forest to be retained: 1.9 Ac.

PLANTING REQUIREMENTS:
 N. Reforestation for clearing above conservation threshold: 0.73 Ac.
 P. Reforestation for clearing below conservation threshold: 0.00 Ac.
 O. Credit for retention above conservation threshold: 0.22 Ac.
 R. Total reforestation required: 0.51 Ac.
 S. Total afforestation required: 0.00 Ac.
 T. Total reforestation and afforestation required: 0.51 Ac.

The Owner / Developer will retain 1.88 acres of forest onsite to meet the forest conservation obligations and 0.51 acres payment of fee-in-lieu in the amount of \$11,108.00.

Signage



APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature]
 CHIEF, DEPARTMENT ENGINEERING DIVISION

[Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT

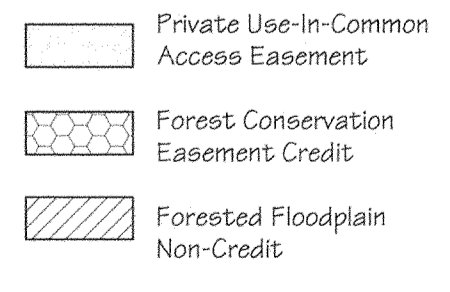
NOTES:

- GROSS SITE AREA: 7.0 ACRES
- AREA OF ONSITE FLOODPLAIN: 0.42 ACRES
- NET SITE AREA: 6.6 ACRES

DESIGNATION	SIZE	TYPE	CONDITION	PROP. STATUS
A	36"	RED OAK	FAIR	TO BE SAVED
B	33"	RED OAK	POOR	TO BE SAVED
C	32"	TULIP POPLAR	GOOD	TO BE SAVED
D	36"	RED OAK	FAIR	TO BE SAVED

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[Signature] 1/5/06
 SIGNATURE OF DEVELOPER / BUILDER DATE

REVISIONS

No.	Date	Description

PROFESSIONAL CERTIFICATION:

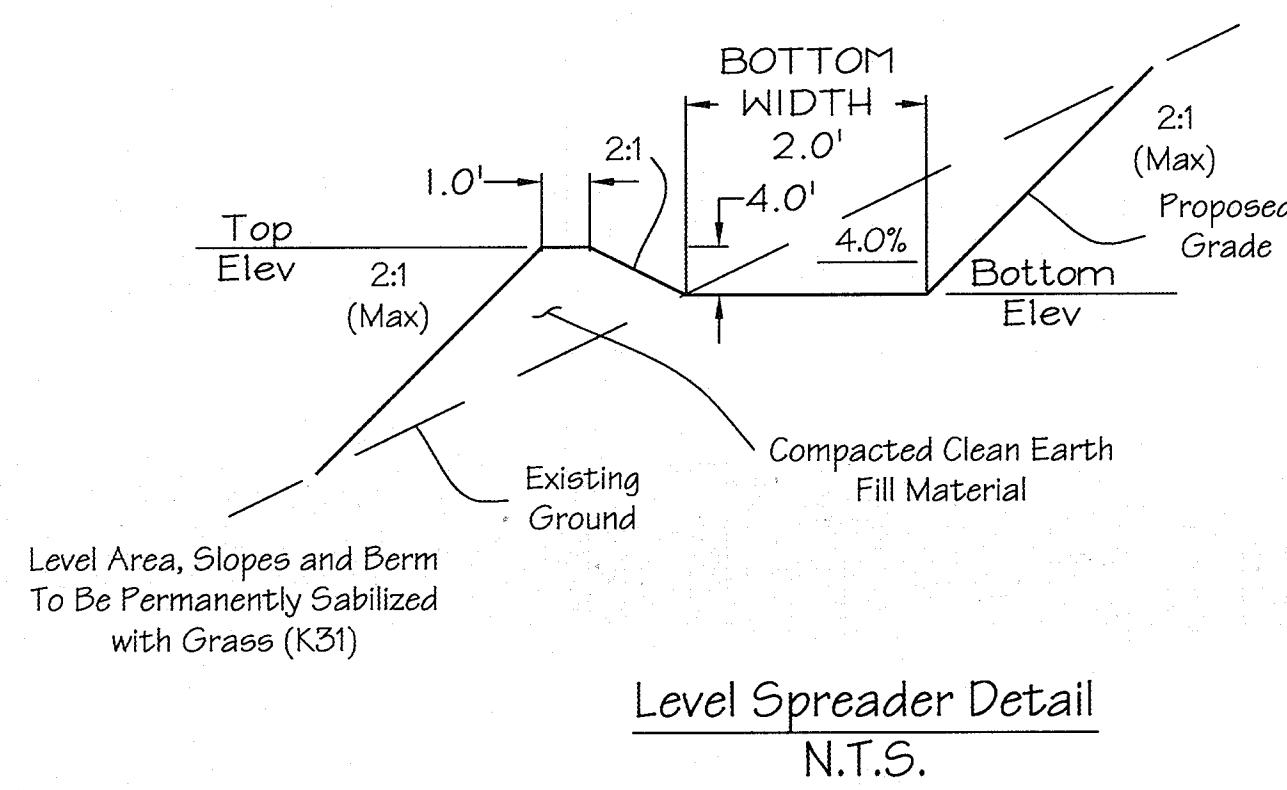
[Signature] 1/5/06
 Steve Heiss, Qualified Professional, MDPCA

LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED SDH	SIMPLIFIED FOREST STAND DELINEATION / FOREST CONSERVATION PLAN ROBERT L. GOSSELIN PROPERTY	SCALE 1" = 50'
DRAWN JLM		DRAWING 3 of 3
CHECKED BDB		JOB NO. 02-041
DATE 10/20/05		FILE NO. FO4-123

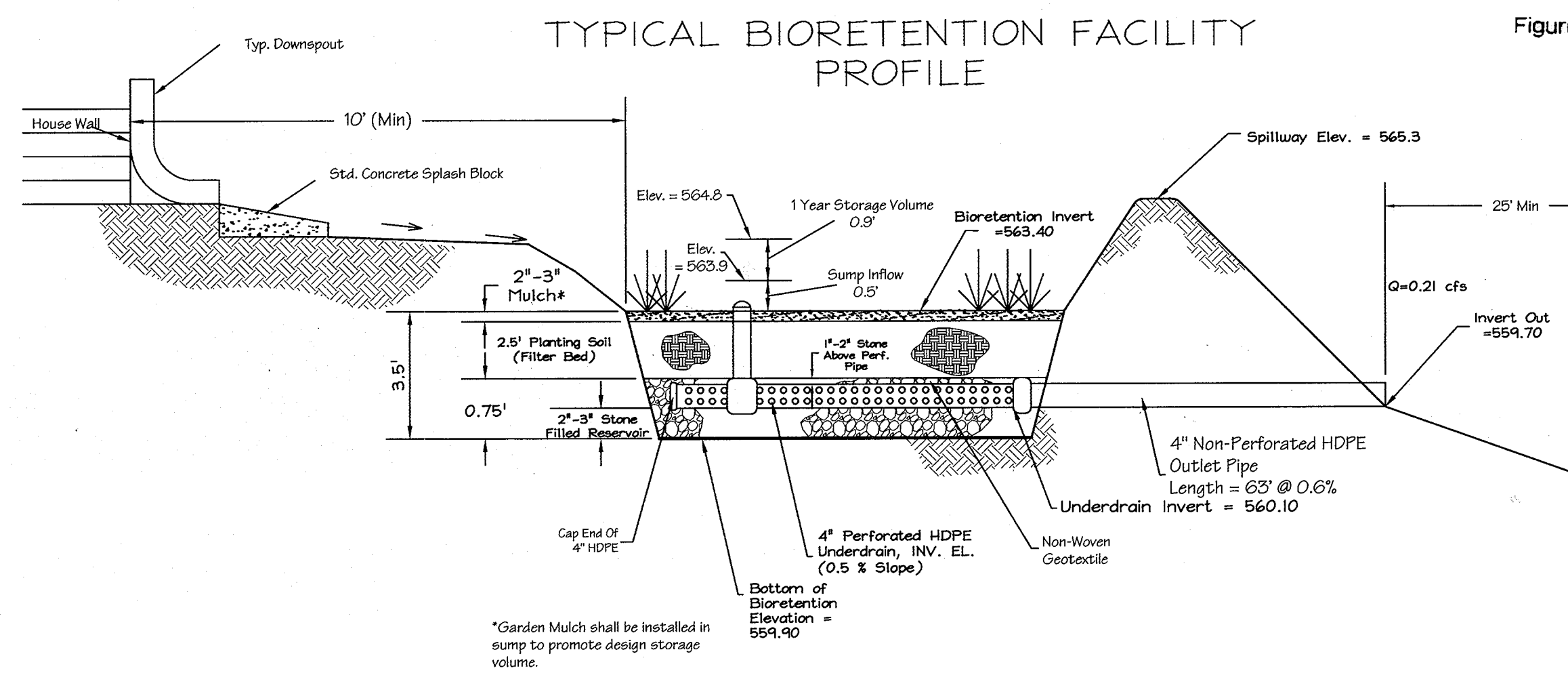
LOT 5 & LOT 6
 A RESUBDIVISION OF ROBERT L. GOSSELIN PROPERTY, LOT 1
 Plat No. 4050
 5th Election District - Howard County, Maryland
 Tax Map No. 29 - Grid No. 8 - Parcel 301
 Previous Submittals: F-78-178; WF-77-158; WF-04-60; WF-05-10; TU-05-009

OWNER / DEVELOPER: Philip T. Mercer / Gay Mercer
 11208 Ridermark Row
 Columbia, MD 21044
 Phone No. 410-964-9815



Level Spreader Detail
N.T.S.

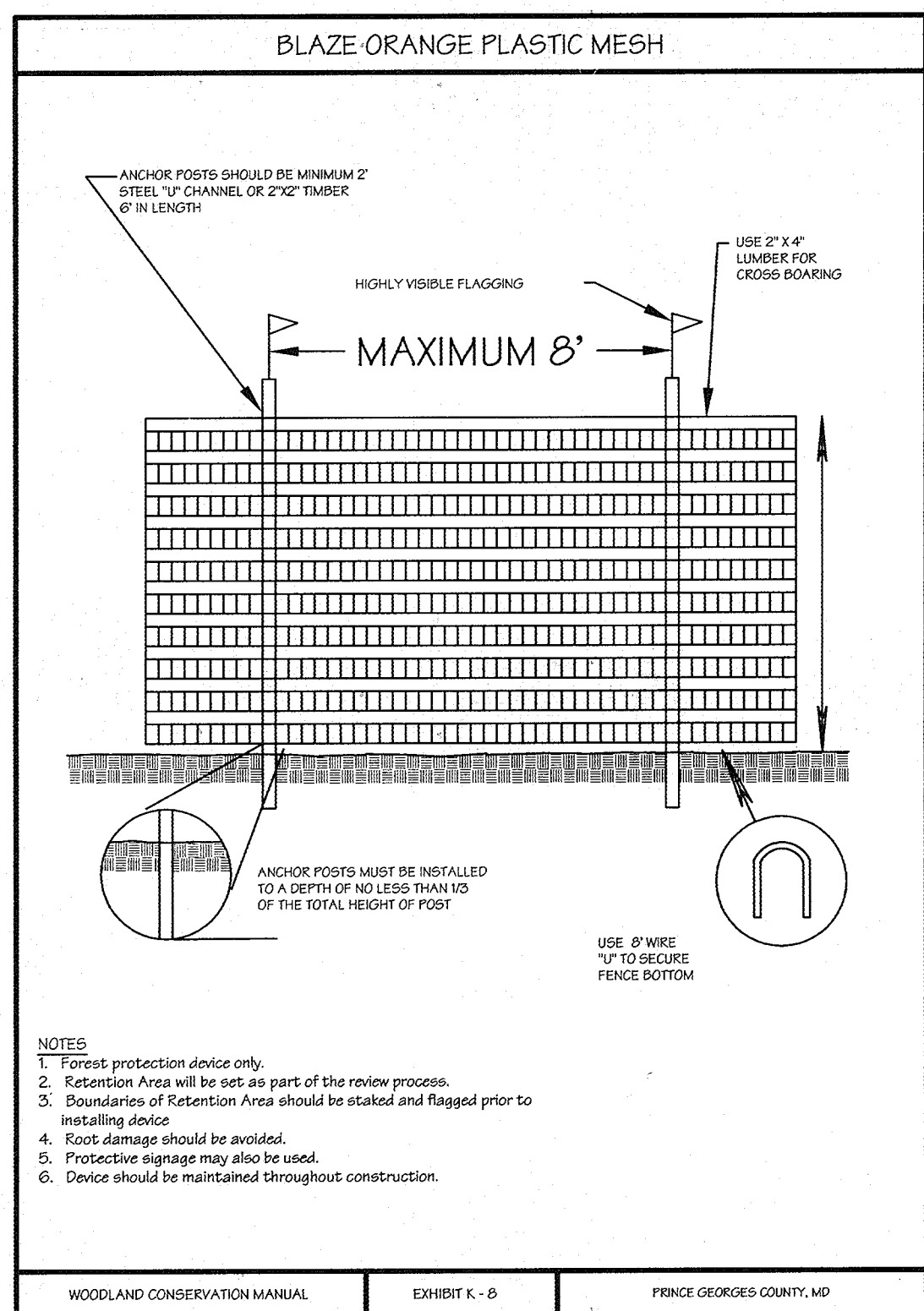
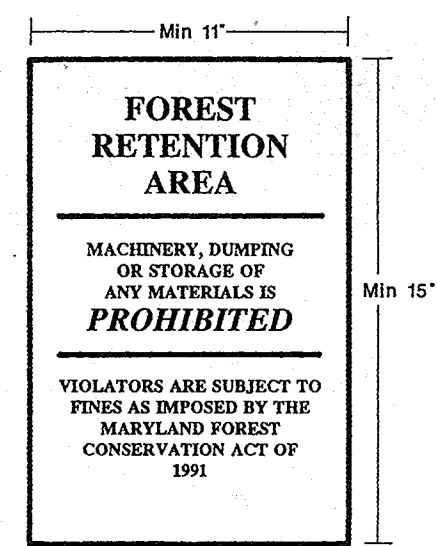
BOTTOM LENGTH	BOTTOM WIDTH	TOP ELEV.	BOTTOM ELEV.
114'	2'	553.00	549.00



N.T.S.

Specifications for Bioretention (Rain Garden)

- Material Specifications:**
The allowable materials to be used in bioretention area are detailed in Table B.3.2.
- Planting Soil:**
The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance 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.
The planting soil shall be tested and shall meet the following criteria:
pH range 5.2 - 7.0
organic matter 1.5 - 4% (by weight)
magnesium 35 lb./ac
phosphorus (phosphate-P2O5) 75 lb./ac
potassium (potash-K2O) 85 lb./ac
soluble salts not to exceed 500 ppm
All bioretention areas shall have a minimum of one test. Each test shall consist of both the standard soil test for pH, phosphorus, and potassium 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 texture analysis shall be performed for each location where the top soil was excavated.
Since different labs calibrate their testing equipment differently, all testing results shall come from the same testing facility.
Should the pH fallout of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.
- Compaction:**
It is very important to minimize compaction of both the base of the bioretention area and the required backfill. When possible, use excavation hoes to remove original soil. If bioretention 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 tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to restructure the soil profile through 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 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded 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 final grade.
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 soil and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.
- Plant Material:**
Recommended plant material for bioretention areas can be found in Appendix A, Section A.2.3.
- Plant Installation:**
Mulch should be placed to a uniform thickness of 2" to 3". Shredded hardwood mulch is the only accepted mulch. Pine 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 aged (6 to 12 months) for acceptance.
Root stock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting 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 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.
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.
- Underdrains:**
Underdrains are to be placed on a 3'-0" wide section of filter cloth. Pipe is placed next, followed by the gravel bedding. The ends of underdrain pipes not terminating in an observation well shall be capped.
The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).
- Miscellaneous:**
The bioretention facility may not be constructed until all contributing drainage area has been stabilized.

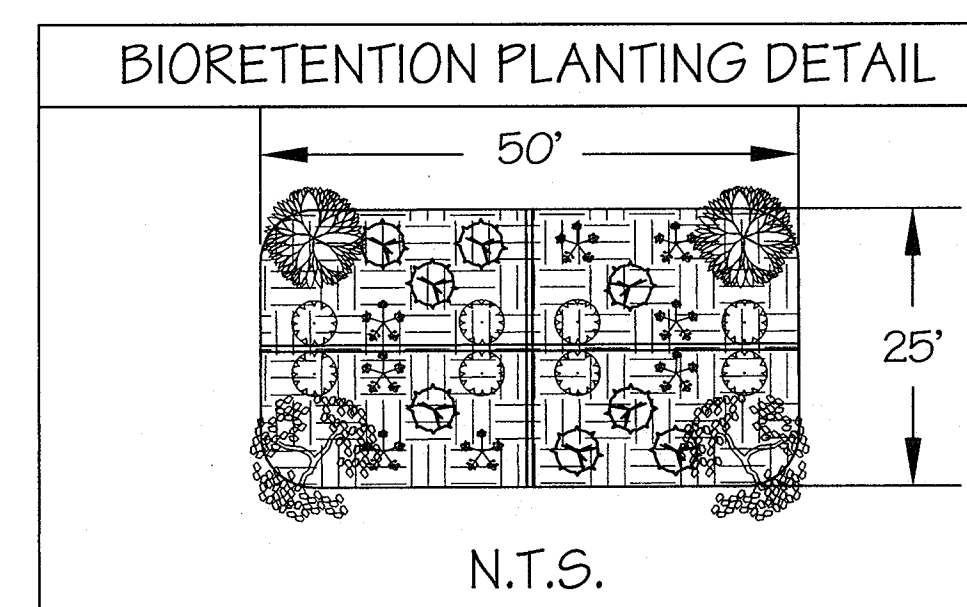
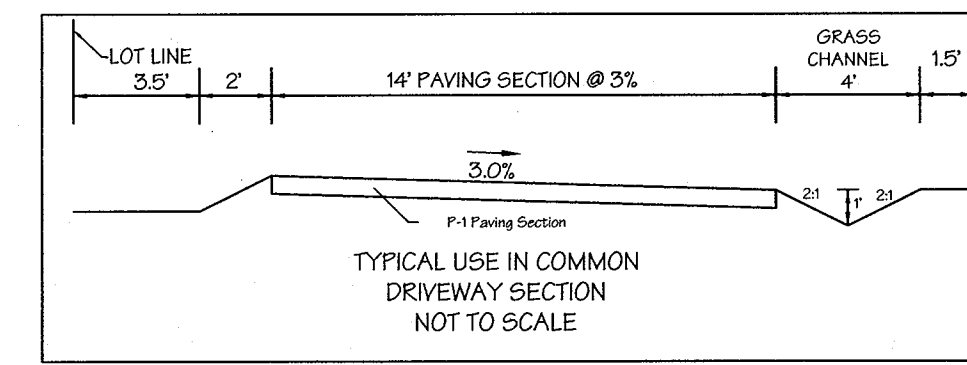
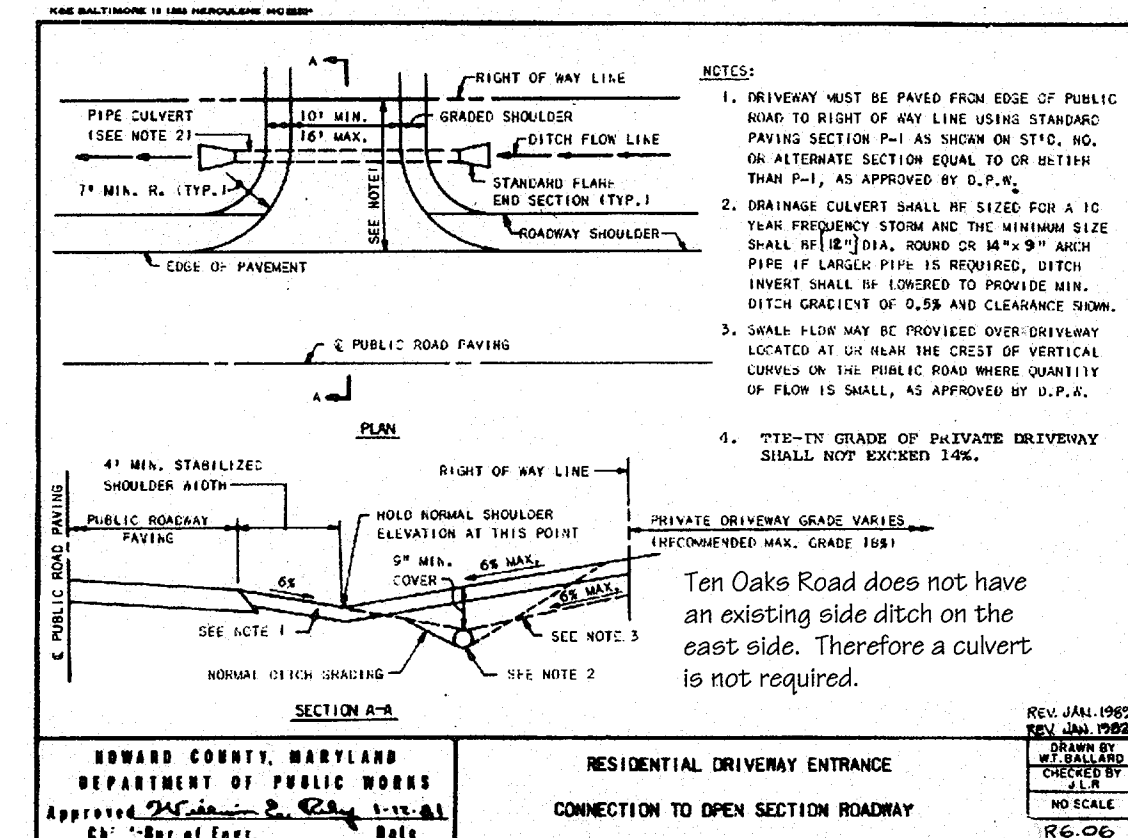
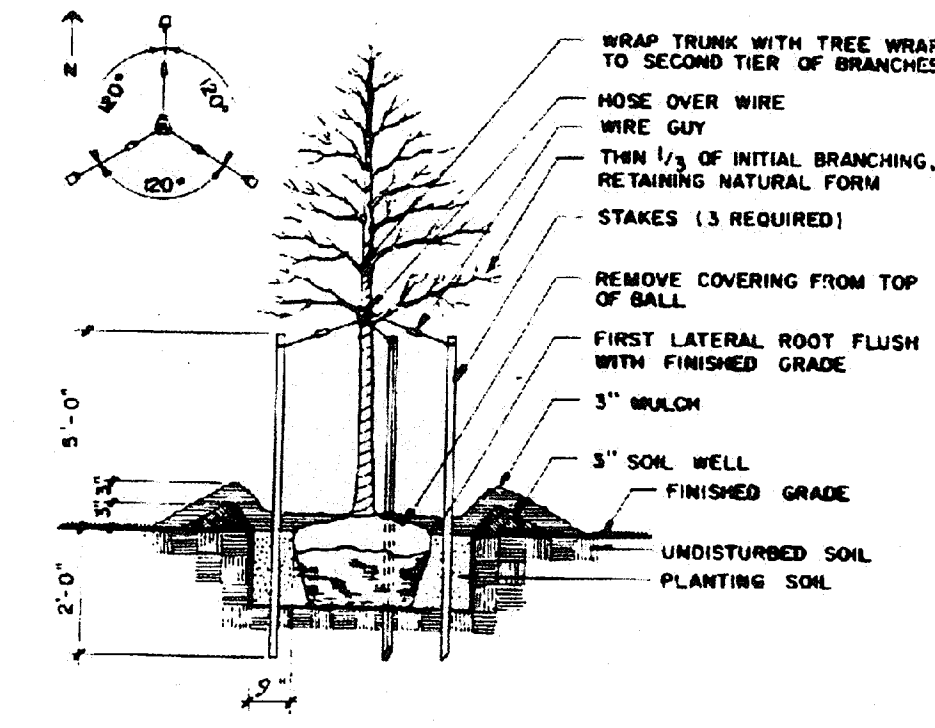


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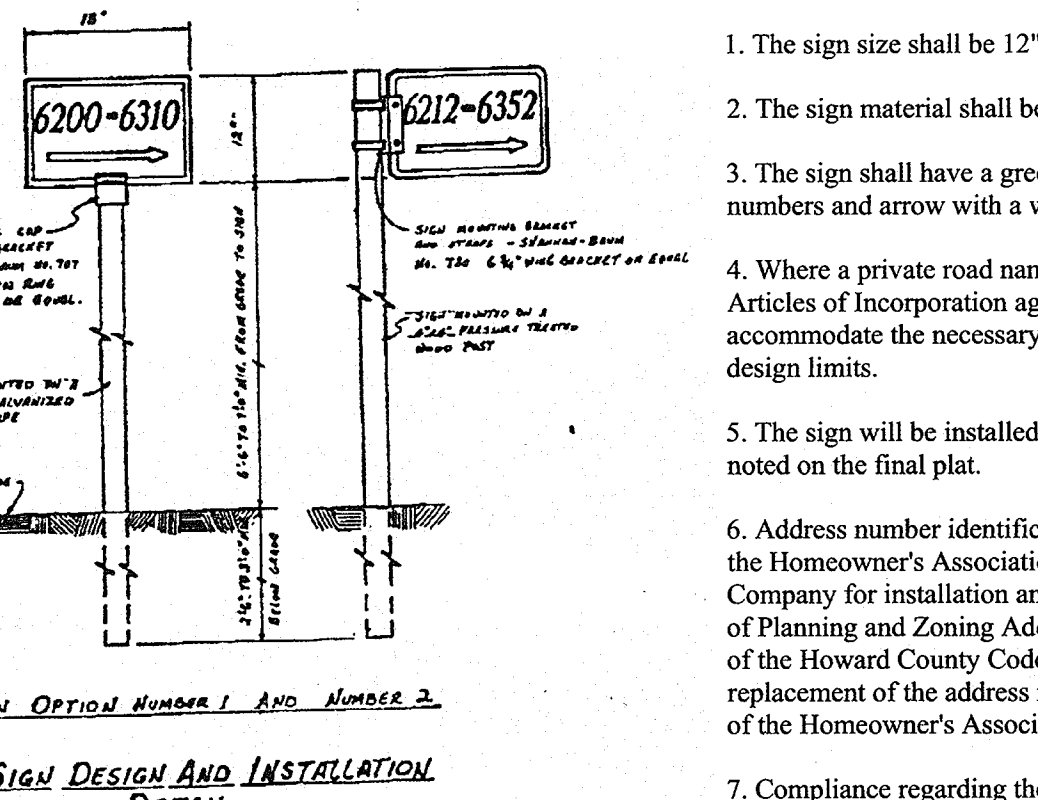
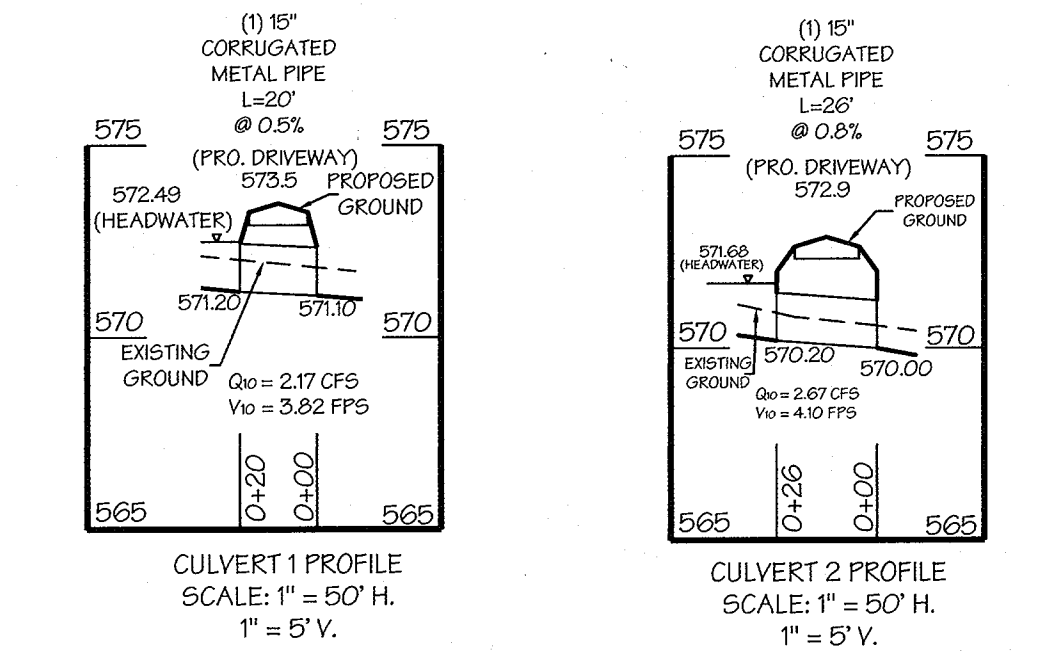
Chief, Development & Planning Division
Chief, Division of Land Development

TYPICAL BIORETENTION FACILITY PROFILE

Figure 6-1. Planting Detail - Deciduous Tree



SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS	
		FULL DEPTH BIT. CONC. ALTERNATE	GRANULAR BASE ALTERNATES
P-1	PARKING BAYS APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH NO TRUCKS TRAVELWAYS FOR APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH NO HEAVY TRUCKS	1" BIT. CONC. SURFACE 2" BIT. CONC. BASE 4" BIT. CONC. SUB-BASE	1" BIT. CONC. SURFACE 2" BIT. CONC. BASE 4" GRANULAR AGGREGATE BASE (GAB)



Maintenance Schedule for Bioretention (Rain Garden)

- Inspect facility on a semi-annual basis the first year, and after major storm events.
- Inspect facility annually after the first year.
- Test plantings bed soils on an annual basis for pH to establish acidic levels. If the pH is below 5.2, apply limestone. If the pH is above 7.0, iron sulfate plus sulfur should be added.
- Inspect soil of bed for erosion after major storm events. Correct erosion problems as necessary.
- Inspect surface of bed for clogging from fine sediments on an annual basis. If clogged, cores aerate non-vegetated areas to insure adequate filtration.
- Bi-annual mulching is recommended. A 3" mulch depth is recommended.
- All plant materials should be inspected annually. Dead or severely diseased species should be replaced.
- Woody vegetation may require periodic pruning.

SIGN SPECIFICATIONS

- The sign size shall be 12" x 18".
- The sign material shall be .080 gauge thickness anodized aluminum.
- The sign shall have a green background with 3" high white reflective numbers and arrow with a white reflective border.
- Where a private road name is in use or part of a private Homeowner's Articles of Incorporation agreement the sign size will be enlarged to accommodate the necessary lettering but remain proportional to the above design limits.
- The sign will be installed within the common driveway easement area as noted on the final plan.
- Address number identification signs are to be provided under the tenants of the Homeowner's Association Incorporation or a Property Management Company for installation and maintenance in accordance with the Department of Planning and Zoning Address Numbering System and per Section 3.503(a) of the Howard County Code - Public Signs. Maintenance/repair and replacement of the address number directional signs will be the responsibility of the Homeowner's Association or a Property Management Company.
- Compliance regarding the installation of the new address number directional signs will be enforced by the Department of Inspections, Licenses and Permits at the time of final approval for issuance of the Use and Occupancy permits.

DEVELOPER'S / BUILDER'S CERTIFICATION

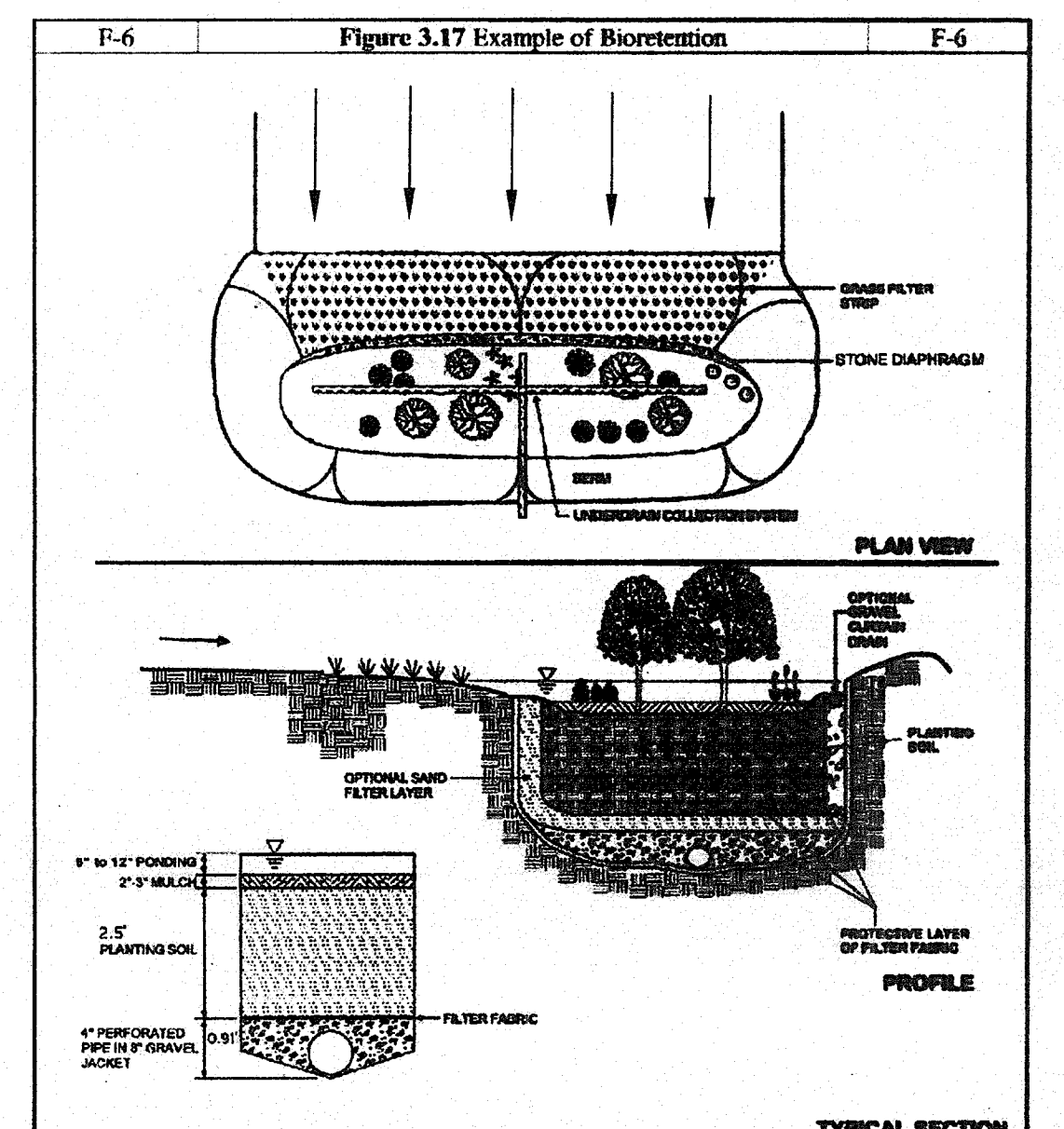
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SIGNATURE OF DEVELOPER / BUILDER: [Signature]
DATE: 1/05/06

No.	Date	Description

Material	Specification	Min.	Max.	Remarks
Planting soil (2.5' to 4' deep)	See Appendix A, Table A.4	n/a	n/a	specifications are site-specific
mulch	shredded hardwood	35 - 60% ash 30 - 55% clay 10 - 25%	n/a	USDA soil types loamy sand, sandy loam or loam
pea gravel diaphragm and curtain drain	ASTM-D-1448	per gravel: No. 6 stone: 2" to 5"	n/a	used 6 months, minimum
geotextile	Class "C" apparent opening size (ASTM-D-4751), grab tensile strength (ASTM-D-4632), puncture resistance (ASTM-D-4833)	n/a	n/a	for use as necessary beneath underdrains only
underdrain gravel	ASTM-D-442	0.375" to 0.75"	n/a	3/8" perft. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underdrain pipes
underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR33	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 Slur 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 309.8.9.9; vertical loading (18-10 or 18-20); allowable horizontal loading (based on soil permeability) and analysis of potential cracking
poured in place concrete (if required)	MSHA Mix No. 3, F _c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	n/a	Sand substitutions such as Diabase and Gneiss #10 are not acceptable. No calcium carbide or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
sand (1' deep)	AASHTO M-6 or ASTM-C-33	0.075" to 0.04"	n/a	

Chapter 3. Performance Criteria for Urban BMP Design Stormwater Filtering Systems



SYMBOL	QNTY	COMMON NAME	SCIENTIFIC NAME	SIZE	REMARKS
SHADE TREES					
	2	Red Maple	Acer rubrum	2" - 2 1/2" Caliper	B & B
	2	October Glory	Betula nigra	10' - 12' HL	B & B
		River Birch (Heritage Clump Birch)	'Heritage'		
SHRUBS					
	8	Azalea	Azalea sp.	18" - 24" HL	container 3" o.c.
	8	Inkberry	Ilex glabra	18" - 24" HL	container 3" o.c.
	8	Arrowwood	Viburnum dentatum	18" - 24" HL	container 3" o.c.
HERBACEOUS - GRASSES					
	1280 s.f.	Switchgrass	Panicum virgatum		Seed Mixture

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