

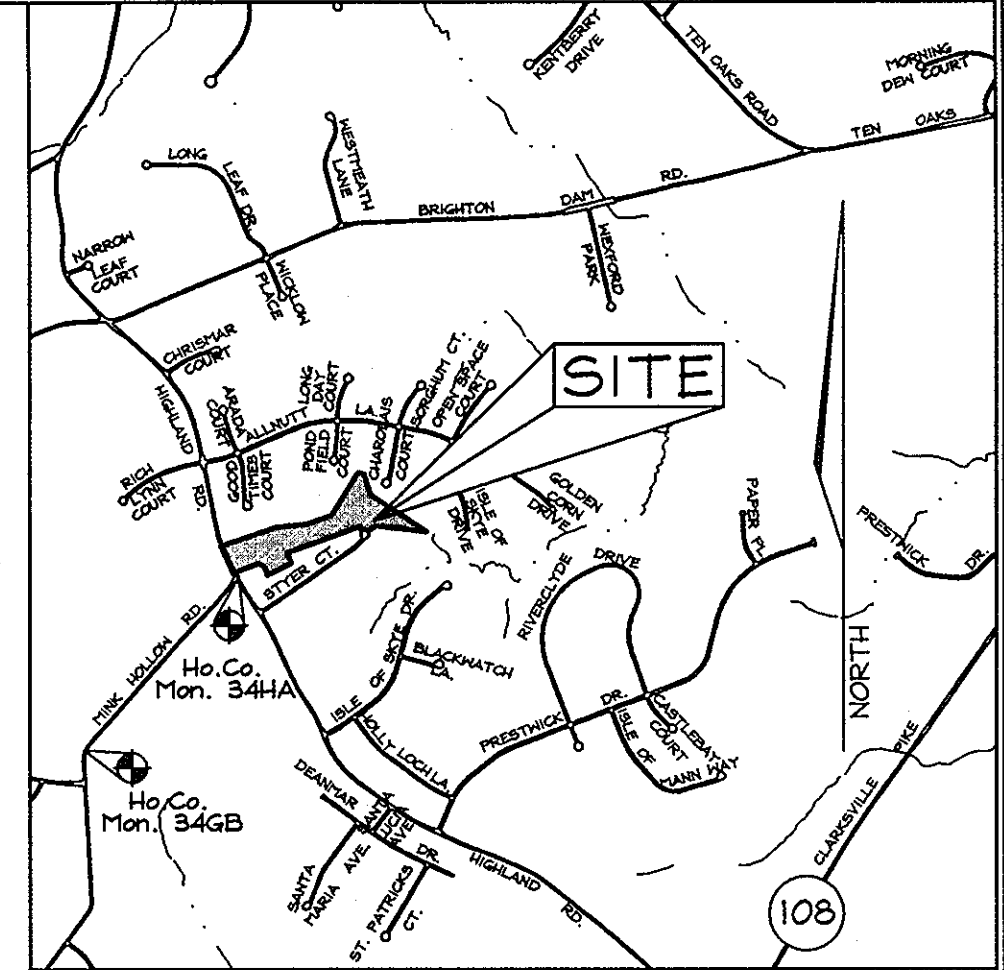
SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
Ba	Baile silt loam	D
CgB2	Chester gravelly silt loam, 3 to 8 percent slopes, moderately eroded	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
EkC2	Elk silt loam, 8 to 15 percent slopes, moderately eroded	B
GIB2	Glennville silt loam, 3 to 8 percent slopes, moderately eroded	B
GrB2	Glennville silt loam, 3 to 8 percent slopes, moderately eroded	B
MgB2	Minor gravelly loam, 3 to 8 percent slopes, moderately eroded	B
MgC2	Minor gravelly loam, 8 to 15 percent slopes, moderately eroded	B
MgC3	Minor gravelly loam, 8 to 15 percent slopes, severely eroded	B
MIA	Minor loam, 0 to 3 percent slopes	B

SHEET INDEX		
DESCRIPTION	SHEET No.	
Final Forest Conservation, Storm Drains and Stormwater Management Plan	1 of 5	
Final Forest Conservation & Landscaping Plan & Details	2 of 5	
Final Storm Drain, Drainage Area Map, Stormwater Management Profiles & Sediment Control Details	3 of 5	
Final Forest Conservation Plan	4 of 5	
Final Forest Conservation Plan	5 of 5	

SEPTIC AREAS	
LOT	AREA (sf±)
2	10,084
3	10,014
4	10,156
A	10,020

- ### GENERAL NOTES
- Subject property zoned RR-DEO per 02/02/04 Comprehensive Zoning Plan and the "Comp. Lite Zoning Amendments effective on 07/28/06.
 - Coordinates based on NAD 83, Maryland Coordinate System as projected by Howard County. Geodetic Control Stations no. 34GB and no. 34HA. Ⓧ Denotes approximate location (see vicinity map).
Sta. 34GB N 559,966.710 (ft) E 1,317,752.494 (ft) Elev. 505.821 (ft)
Sta. 34HA N 555,780.149 (ft) E 1,319,355.505 (ft) Elev. 535.938 (ft)
 - Private water and sewer to be utilized.
 - Gross area of site: 14.143 Ac.±
 - Area of proposed public R/W: 0.313 Ac.±
 - a. Number of proposed buildable lots: 4.
b. Area of proposed buildable lots: 4.037 Ac.±
 - a. Number of proposed buildable parcels: 1.
b. Area of proposed Buildable Preservation Parcel: 1.856 Ac.±
 - a. Number of Non-Buildable Preservation Parcels to be recorded: 1
b. Area of Non-Buildable Preservation Parcels to be recorded: 7.937 Acres±
 - On-site topography based on a Field Run Topographic Survey prepared by FSH Associates on or about December 12, 2003. Offsite topography taken from Howard County aerial topography in 1993.
 - The lots shown hereon comply with the minimum ownership, width and lot area as required by the Maryland State Department of the Environment.
 - Wetlands as shown delineated by Exploration Research, Inc. on 03/01/04 approved under SP-06-016 on 8/17/06.
 - Stormwater Management Requirements:
A. Lot 1 has an existing house and is exempt.
B. Stormwater Management for City is not required for this site.
C. W/OV and R/W for the proposed house and driveway on Lots 2-4 and Buildable Preservation Parcel 'A' is provided by grass channels and by a dry swale.
D. Dry swale to be privately owned and maintained by Home Owners Association
 - Soils map No. 23.
 - There is a 100 Year Non-Critical Floodplain on-site per section 16.15(d) of the Subdivision and Land Development regulation. Area of Floodplain = 1.660 Ac. ±.
 - There are no steep slopes existing on site.
 - Existing dry well located on Lot 3 to be properly abandoned according to Health Department Regulations prior to final plat approval for Lots 2-4 and Buildable Preservation Parcel 'A'.
 - Posting of surety for required landscaping in accordance with Section 16.124 of the Landscape Manual in the amount of \$11,000.00 for 26 shade trees and 22 evergreen trees (26 @ \$300/shade + 22 @ \$150/evergreen). Landscaping for Lots 2-4 and Buildable Preservation Parcel 'A' shall be deferred until grading permit stage. Lot 1 is exempt since it has an existing house which is to remain.
 - For flag or pipeline lots, refuse collection, snow removal and road maintenance are provided to the junction of the flag or pipeline and road right-of-way line and not onto the pipeline lot driveway.
 - Preservation Parcels 'A' and 'B' have no further subdivision potential.
 - General Notes Continued this page...

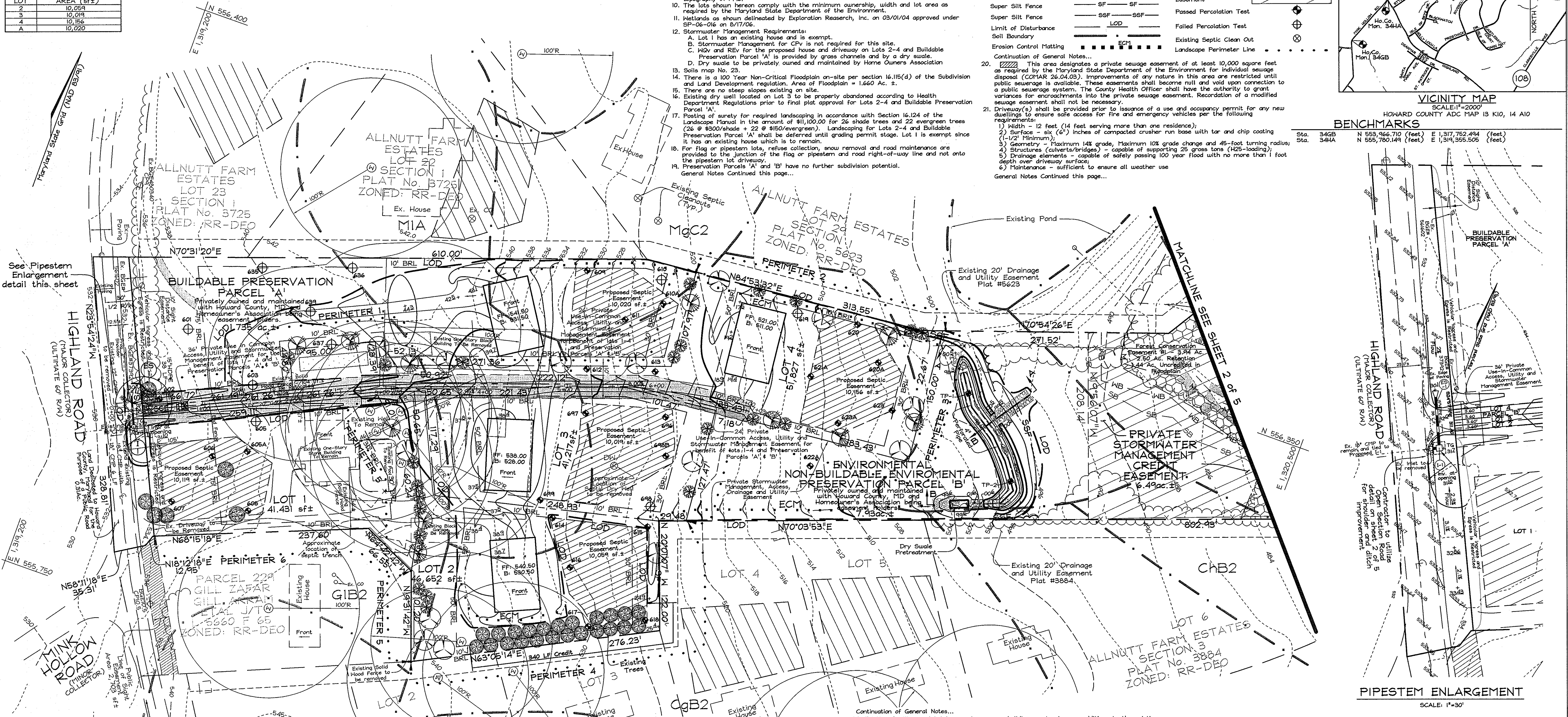
- ### LEGEND
- Existing Contour
 - Proposed Contour
 - Existing Spot Elevation
 - Spot Elevation
 - Direction of Flow
 - Existing Trees to Remain
 - Intermittent Stream
 - Perennial Stream
 - Stream Buffer
 - Wetland
 - Wetland Buffer
 - Super Silt Fence
 - Super Silt Fence
 - Limit of Disturbance
 - Soil Boundary
 - Erosion Control Matting
 - Existing Septic Easement
 - Septic Easement
 - Well Area
 - Moderate Slope 15%-25%
 - Forest Conservation Easement
 - Natural Conservation Easement
 - Passed Percolation Test
 - Failed Percolation Test
 - Existing Septic Clean Out
 - Landscape Perimeter Line
- Continuation of General Notes...
- This area designates a private sewage easement of at least 10,000 square feet as required by the Maryland State Department of the Environment for individual sewage disposal (COMAR 26.04.03). Improvements of any nature in this area are restricted until public sewerage is available. These easements shall become null and void upon connection to a public sewerage system. The County Health Officer shall have the authority to grant variances for encroachments into the private sewage easement. Recordation of a modified sewage easement shall not be necessary.
 - Driveway(s) 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 requirements:
1) Width - 12 feet (14 feet serving more than one residence);
2) Surface - six (6") inches of compacted crusher run base with tar and chip coating (1-1/2" Minimum);
3) Geometry - Maximum 14% grade, Maximum 10% grade change and 45-foot turning radius;
4) Structures (culverts/bridges) - capable of supporting 25 gross tons (H25-loading);
5) Drainage elements - capable of safely passing 100 year flood with no more than 1 foot depth over driveway surface;
6) Maintenance - sufficient to ensure all weather use
- General Notes Continued this page...



BENCHMARKS

HOWARD COUNTY ADC MAP 13 K10, 14 A10
SCALE: 1"=2000'

Sta.	N	E	Elev. (feet)
34GB	559,966.710	1,317,752.494	505.821
34HA	555,780.149	1,319,355.505	535.938



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. #22418, Expiration Date: 07/24/09.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief Development Engineering Division DATE: 9/28/05
Chief, Division of Land Development DATE: 9/28/05

PLAN VIEW
SCALE: 1"=50'

- Continuation of General Notes...
- Grading, removal of vegetative cover or trees, paving and new structures shall not be permitted within the limits of wetlands, stream(s), or their required buffers, floodplain and forest conservation easement areas.
 - Adequate Public Facilities Traffic Study was prepared by Street Traffic Studied, Ltd. and approved under SP-06-016 on 8/17/06.
 - 100-Year non-critical floodplain study prepared by FSH Associates and approved under SP-06-016 on 8/17/06.
 - Density Calculations
a.) Total area of property = 14.143 Ac.±
b.) Area of steep slopes = 0 Ac.±
c.) Area of 100 yr. Flood plain = 1.658 Ac.±
d.) Net Area of property = 12.485 Ac.±
e.) Total number of Units based on own density:
14.143 Ac./4.25 Ac. per unit = 3.3 units therefore 3 units.
f.) Maximum number of units allowed utilizing the DEO option:
12.485 Ac./2 Acres per Unit = 6.24 Units therefore 6 Units.
g.) Number of DEO Units required = 5-3 = 2 DEO Units.
 - This project is subject to the Amended Fifth Edition of the Subdivision and Land Development Regulations per Council Bill #45-2003 and the 2004 Zoning Regulation per Council Bill #75-2003
General Notes Continued this page...

- Continuation of General Notes...
- Existing dwelling on lot 1 to remain, no new buildings, extensions or additions to the existing dwelling are to be constructed at a distance less than the zoning regulations require.
 - Forest conservation obligations are fulfilled with the retention of 2.50 ac of forest in Forest Conservation Easement #1. The easement also includes 1.44 acres of non-credited forested floodplain for a total easement area of 3.94 ac. The total forest conservation surety amount of \$21,780.00 (2.50 Ac or 108,900 s.f. @ \$ 0.20/s.f.) will be posted with the Developers Agreement.
 - In accordance with section 16.15.(d) of the subdivision and land development regulations, a non-critical floodplain exists on site.
 - Access to Highland Road is permitted to avoid impacts to environmental features should access be derived off STYER Court.
 - The existing septic Dry well that serves the existing house on Lot 1 and is located on Lot 3 shall be abandoned prior to recordation of the Record Plat.
 - Standard silt fencing is to be placed across the proposed swales at the direction of the sediment control inspector.
 - All wells and septic fields within 100' of property's boundary have been shown.
 - The lots shown hereon comply with the minimum ownership, width and lot area as required by the Maryland Department of the Environment.
 - The primary and secondary well sites for Lot 2 are those closest to access easement (Northern-most). The most southerly site on lot 2 should be utilized as a last case scenario only.

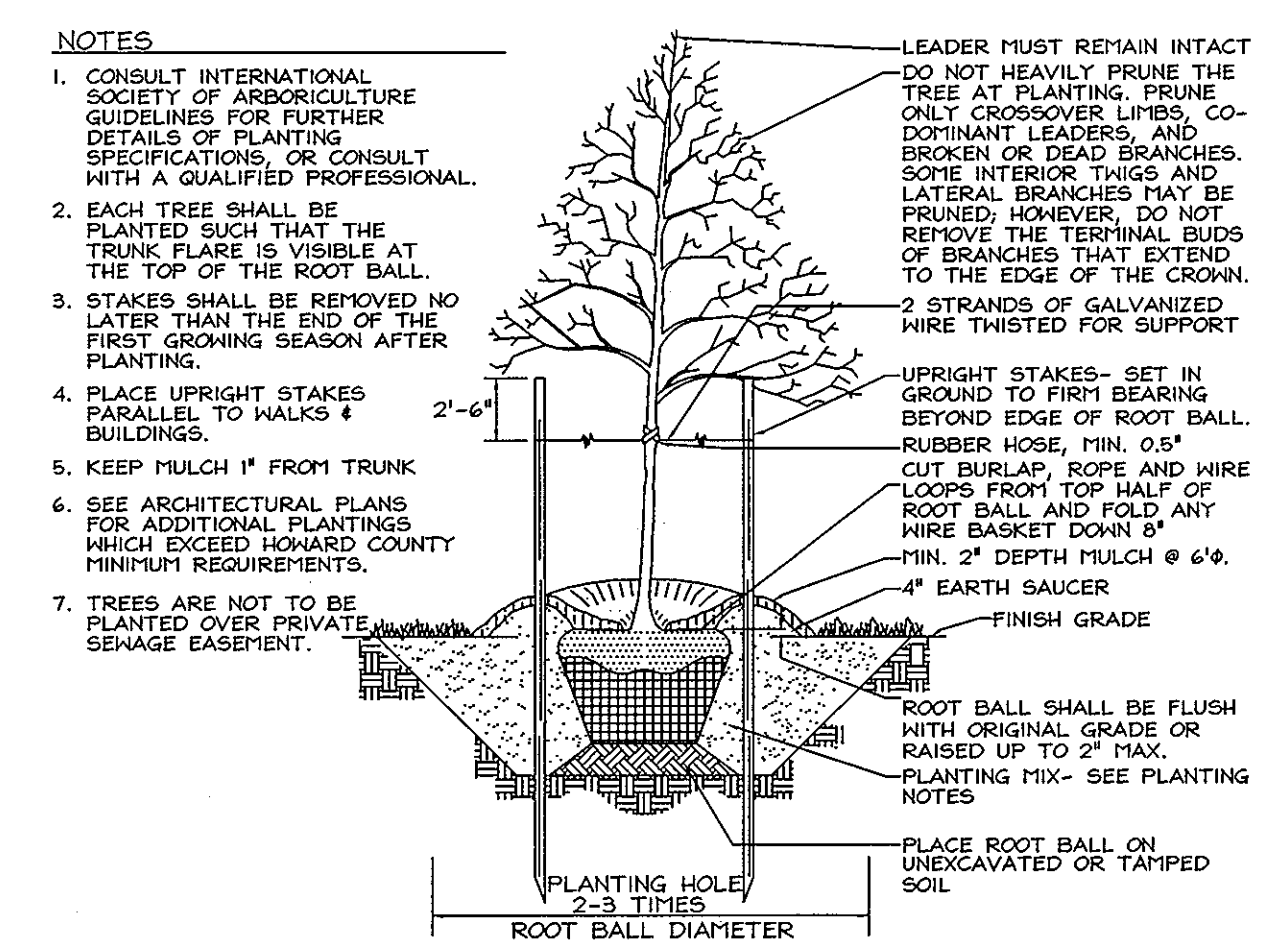
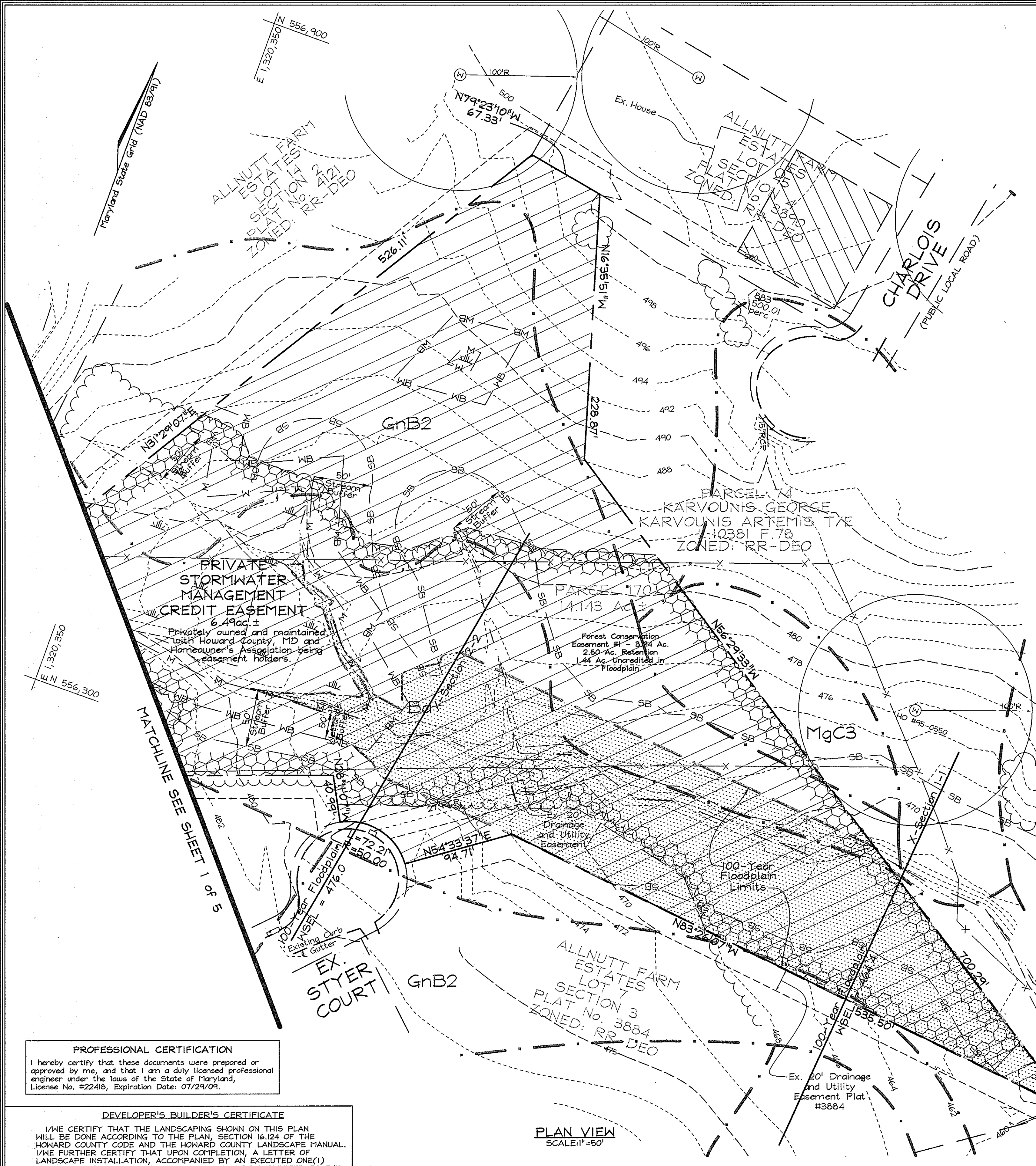
OWNER
HI-LAND FARM 2, LLC
5930 Great Star Drive #480
Clarksville, MD 21029
410.336.7787

DEVELOPER
STEVE ALLNUTT
8171 Maple Lawn Blvd., Ste 150
Fulton, MD 20759
410.336.7787

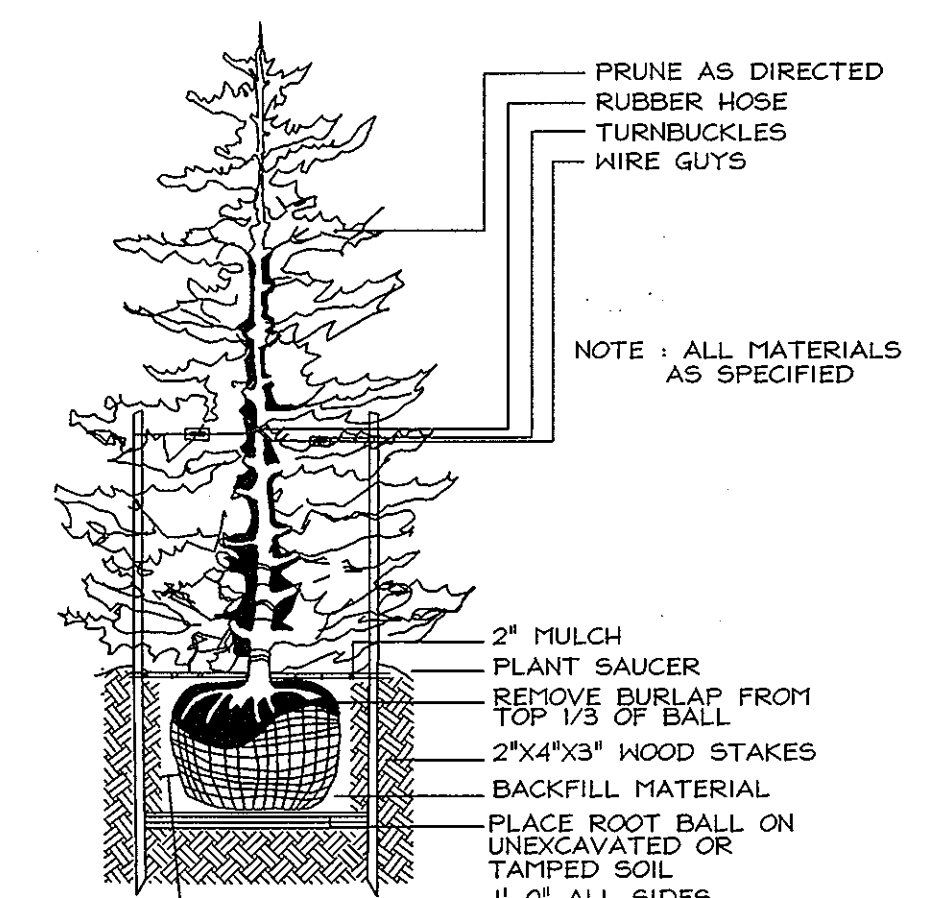
FINAL FOREST CONSERVATION, STORM DRAINS AND STORMWATER MANAGEMENT PLAN ALLNUTT PROPERTY
LOTS 1-4, BUILDABLE PRESERVATION PARCEL 'A' AND NON-BUILDABLE PRESERVATION PARCEL 'B'
TAX MAP 34 GRID 15 PARCELS 170
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elktide, MD 21075
Tel: 410-567-5200 Fax: 410-798-1562
E-mail: info@fsher.com

DESIGN BY: ZYF
DRAWN BY: KSF
CHECKED BY: ZYF
SCALE: As Shown
DATE: Aug 22, 2009
H.O. No.: 3220
SHEET No.: 1 OF 5



TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



TYPICAL TREE PLANTING AND STAKING
NOT TO SCALE

LANDSCAPE NOTES

- At the time of installation, all shrubs and other plantings hereunder listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping 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.
- The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.
- Posting of surety for required landscaping in accordance with Section 16.124 of the Landscape Manual in the amount of \$11,100.00 for 26 shade trees and 22 evergreen trees (26 @ \$300/shade + 22 @ \$150/evergreen). Landscaping for Lots 2, 3, 4 and Parcel 'A' shall be deferred until grading permit stage. Lot 1 is exempt since it has an existing house which is to remain.

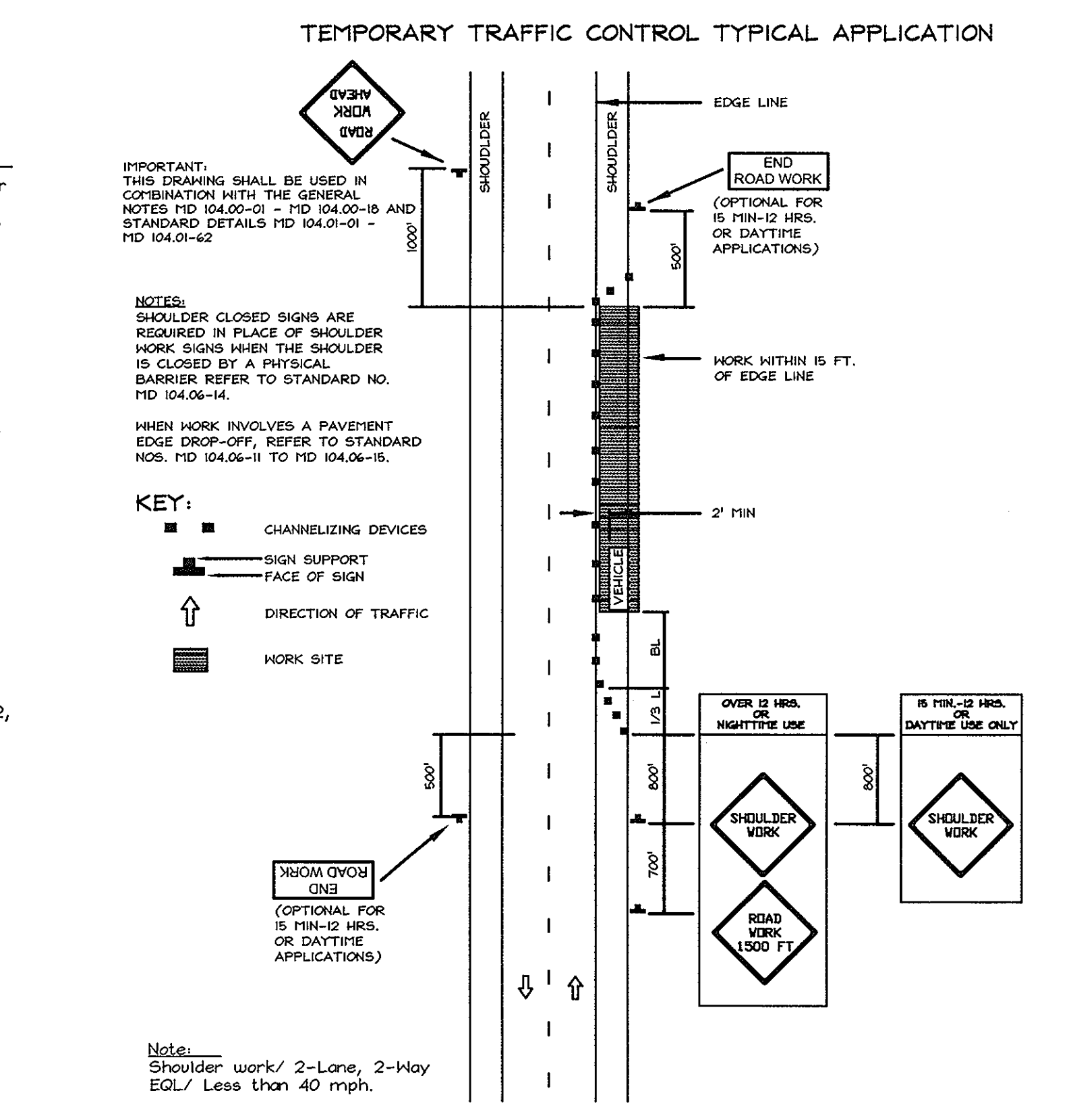
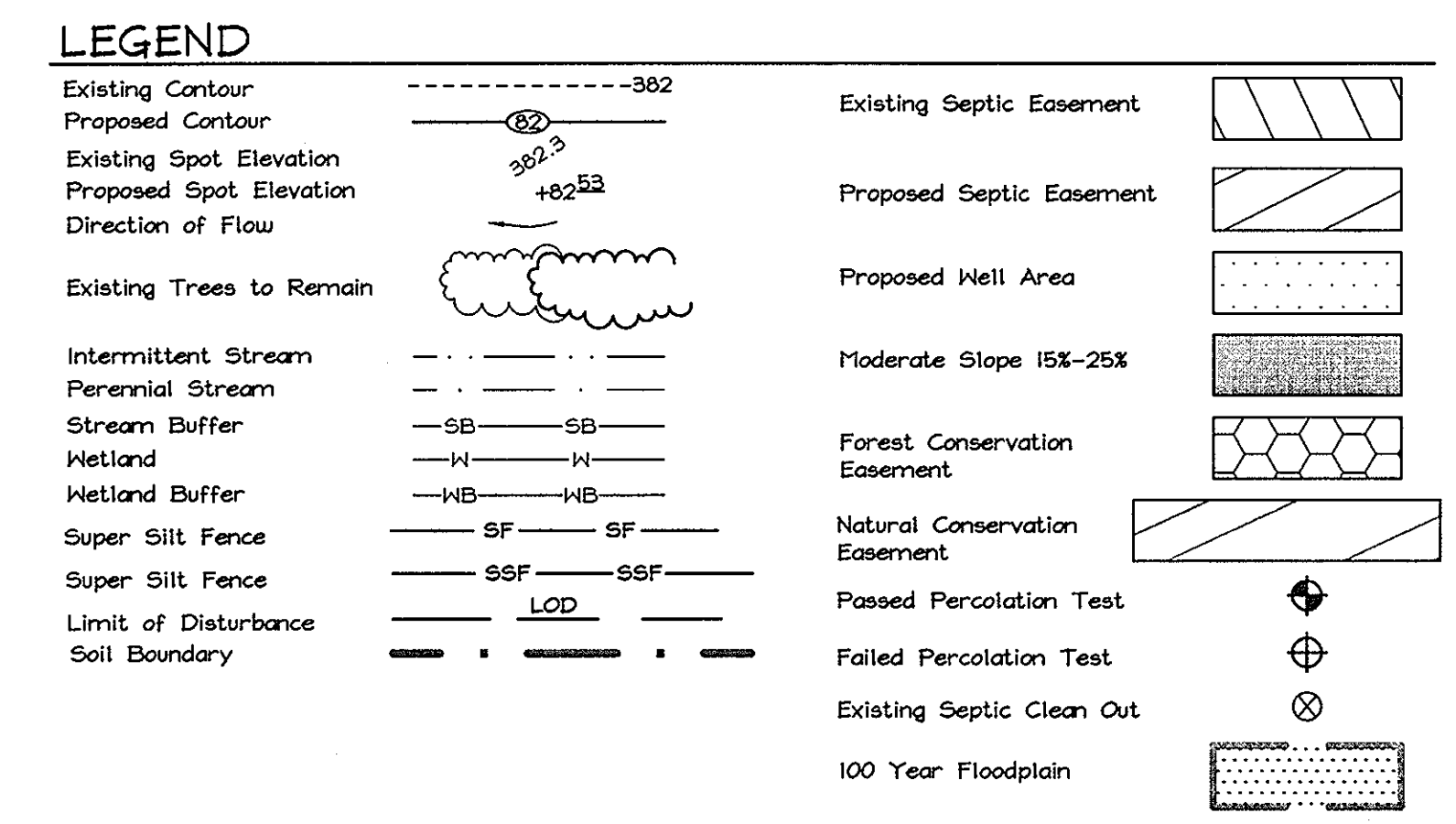
LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	NOTE
14	14	Quercus coccinea 'Scarlet Oak'	2 1/2"-3" Cal.	B & B
11	11	Acer rubrum 'October Glory Red Maple'	2 1/2"-3" Cal.	B & B
22	22	Thuja occidentalis 'Techny American Arborvitae'	6'-8" Ht.	B & B

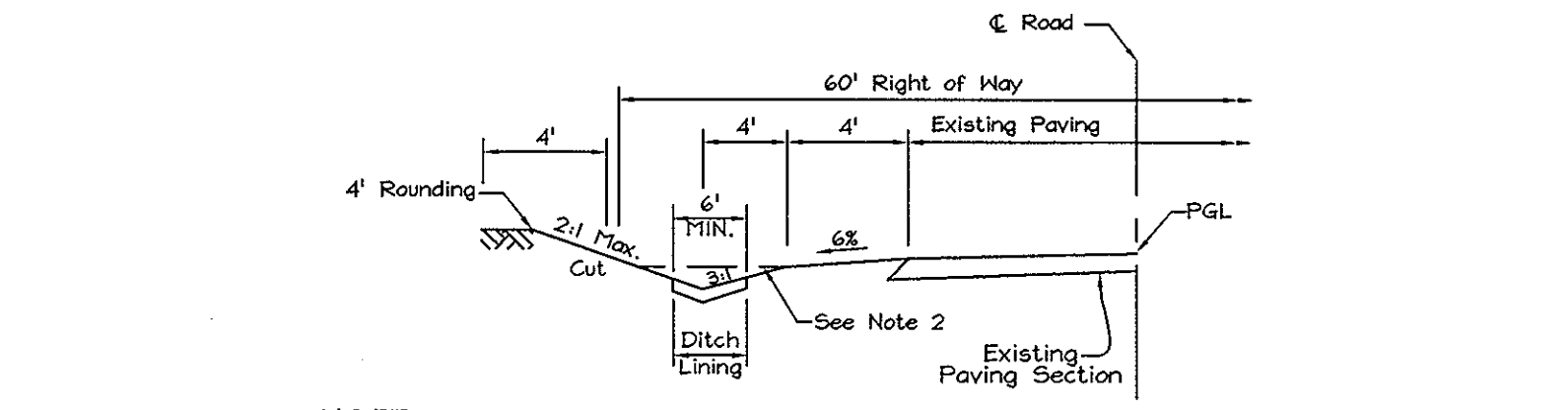
SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES					
	1	2	3	4	5	6*
Perimeter/Frontage Designation	A	A	A	A	B	A
Landscape Type	766	283	498	428	314	317
Linear Feet of Roadway Frontage/Perimeter						
Credit for Existing Vegetation (Yes, No, Linear Feet)	No	No	No	Yes	No	Yes
Remaining Perimeter Length	766	283	498	85	314	0
Credit for Wall, Fence or Berm (Yes, No, Linear Feet)	Yes	No	No	No	No	No
Remaining Perimeter Length	662					
Number of Plants Required						
Shade Trees	1:60	11	1:60	5	1:60	2
Evergreen Trees					1:50	6
Shrubs					1:40	8
Number of Plants Provided						
Shade Trees	8	3	4	4	2	6
Evergreen Trees	6	4	4	2	6	0*
Other Trees (2:1 Substitution)	-	-	-	-	-	-
Shrubs (10:1 Substitution)	-	-	-	-	-	-
(Describe Plant Substitution Credits Below if needed)						

* Perimeter 6 surrounds the existing home site. Under Alternative Compliance rules, we are requesting that credit be given to the existing planting as fully meeting buffer requirements due to there being no change to the existing structures and their relationship to the surrounding properties.



MARYLAND STATE HIGHWAY STANDARD DETAIL MD104.02-02
NOT TO SCALE



NOTE: Ditch cross section slope may be flattened to provide a swale at or near the crest of vertical curves where quantity of swale flow is small, as approved by DPW.

OPEN SECTION ROAD HIGHLAND ROAD (MAJOR COLLECTOR)
NOT TO SCALE

OWNER: HI-LAND FARM 2, LLC
5930 Great Star Drive #480
Clarksville, MD 21029
410.336.7787

DEVELOPER: STEVE ALLNUTT
8171 Maple Lawn Blvd., Ste 150
Fulton, MD 20759
410.336.7787

FINAL FOREST CONSERVATION & LANDSCAPING PLAN AND DETAILS ALLNUTT PROPERTY
LOTS 1-4, BUILDABLE PRESERVATION PARCEL 'A' AND NON-BUILDABLE PRESERVATION PARCEL 'B'
TAX MAP 34 GRID 15 PARCELS 170
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FSH Associates
Engineers Planners Surveyors
8339 Howard Lane Elkridge, MD 21075
Tel: 410-587-5200 Fax: 410-796-1562
E-mail: info@fsher.com

DESIGN BY: ZYF
DRAWN BY: CD
CHECKED BY: ZYF
SCALE: As Shown
DATE: Aug 22, 2008
P.L.O. No.: 3220
SHEET No.: 2 OF 5

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. #22418, Expiration Date: 07/24/09.

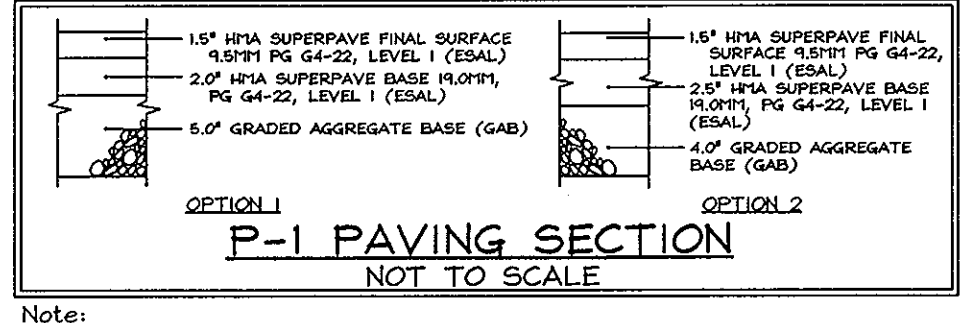
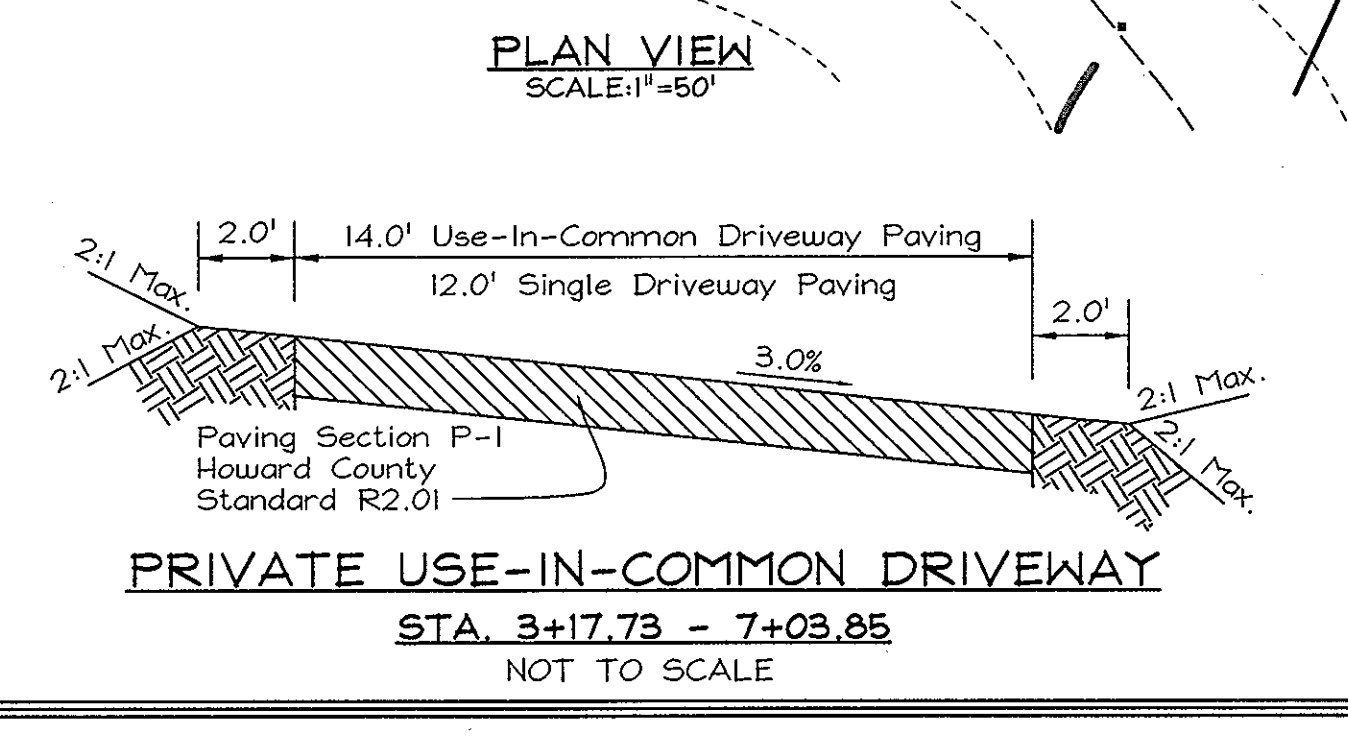
DEVELOPER'S/BUILDER'S CERTIFICATE
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN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

Signature: Steve Allnut
Date: 8/24/08

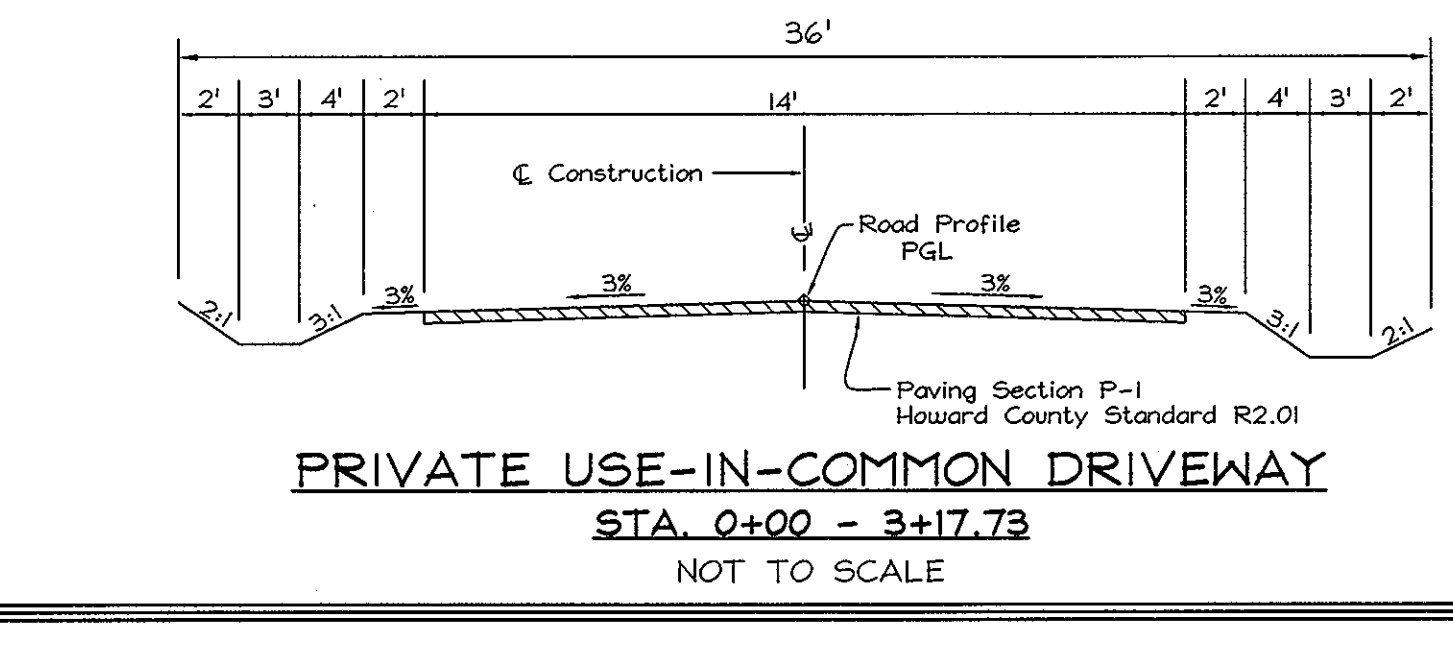
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

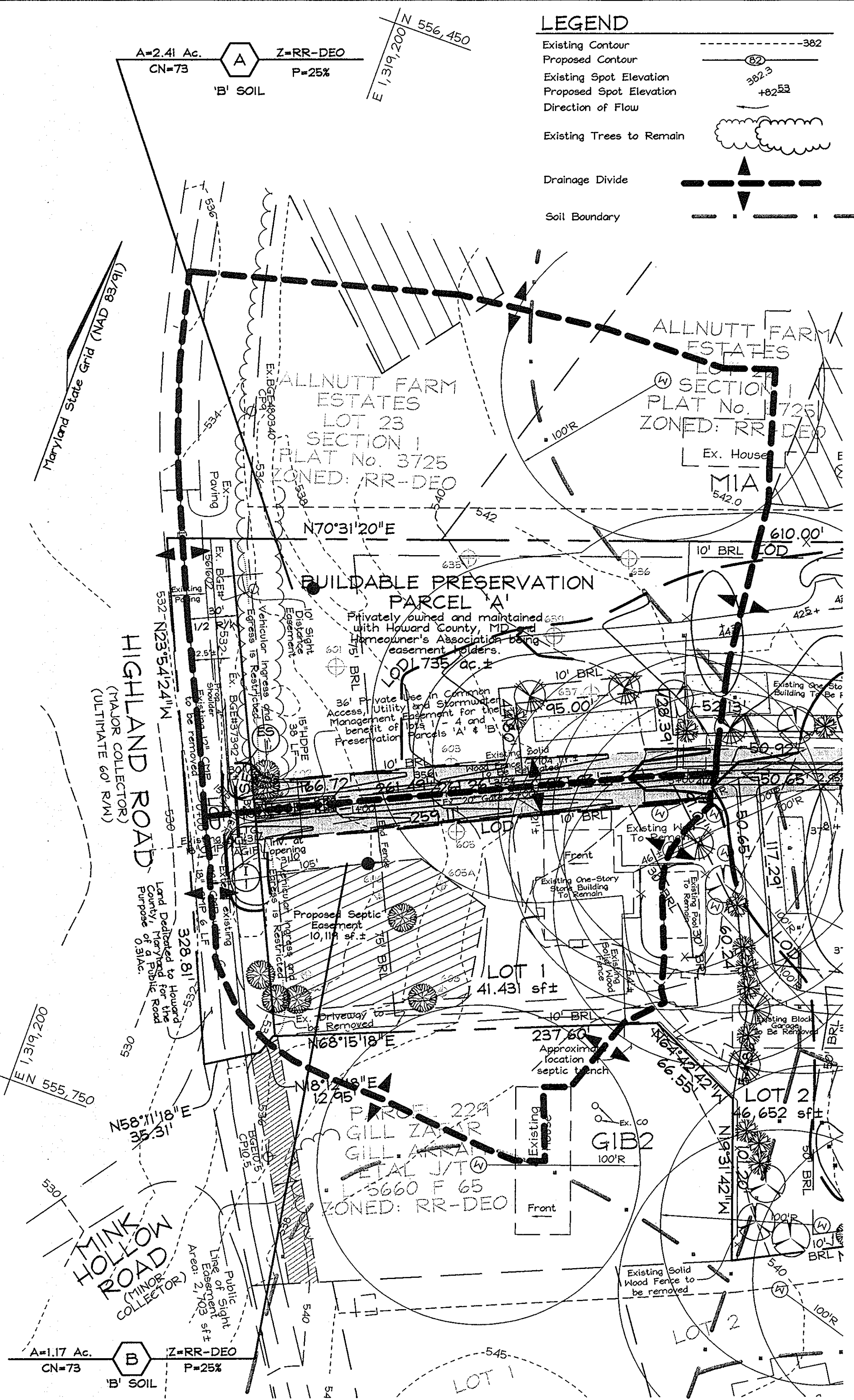
Signature: [Official Seal]
Date: 9/25/08

Signature: [Official Seal]
Date: 9/25/08



NOTE: Paving sections shown are based on a California Bearing Ratio (CBR) of greater than or equal to 7. Actual CBR tests may result in modifications to the paving sections. For other CBR values go to the Howard County Volume IV Design Manual, standard detail R-2.01, for associated P-1 Paving Sections.





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

SIZE	TYPE	LENGTH
15"	RCP Class IV	35 LF
18"	CMP	6 LF

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN.	INV. OUT.	REMARKS
1-1	Type Open End Gate	N 555,364.7 E 1,319,264.1	532.10	529.90	529.80	SD-4-36
ES-1	Type 'ES' End Section	N 555,473.4 E 1,319,267.4	531.35	-	530.10	RCP End Section

NOTES: 1. Top elevations for Open End Gate Inlets in grass areas are to the center top of grate.
2. Top elevations for Precast Manholes are to the center top of manhole cover.
3. Top slope of structures to conform to slope of paving

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

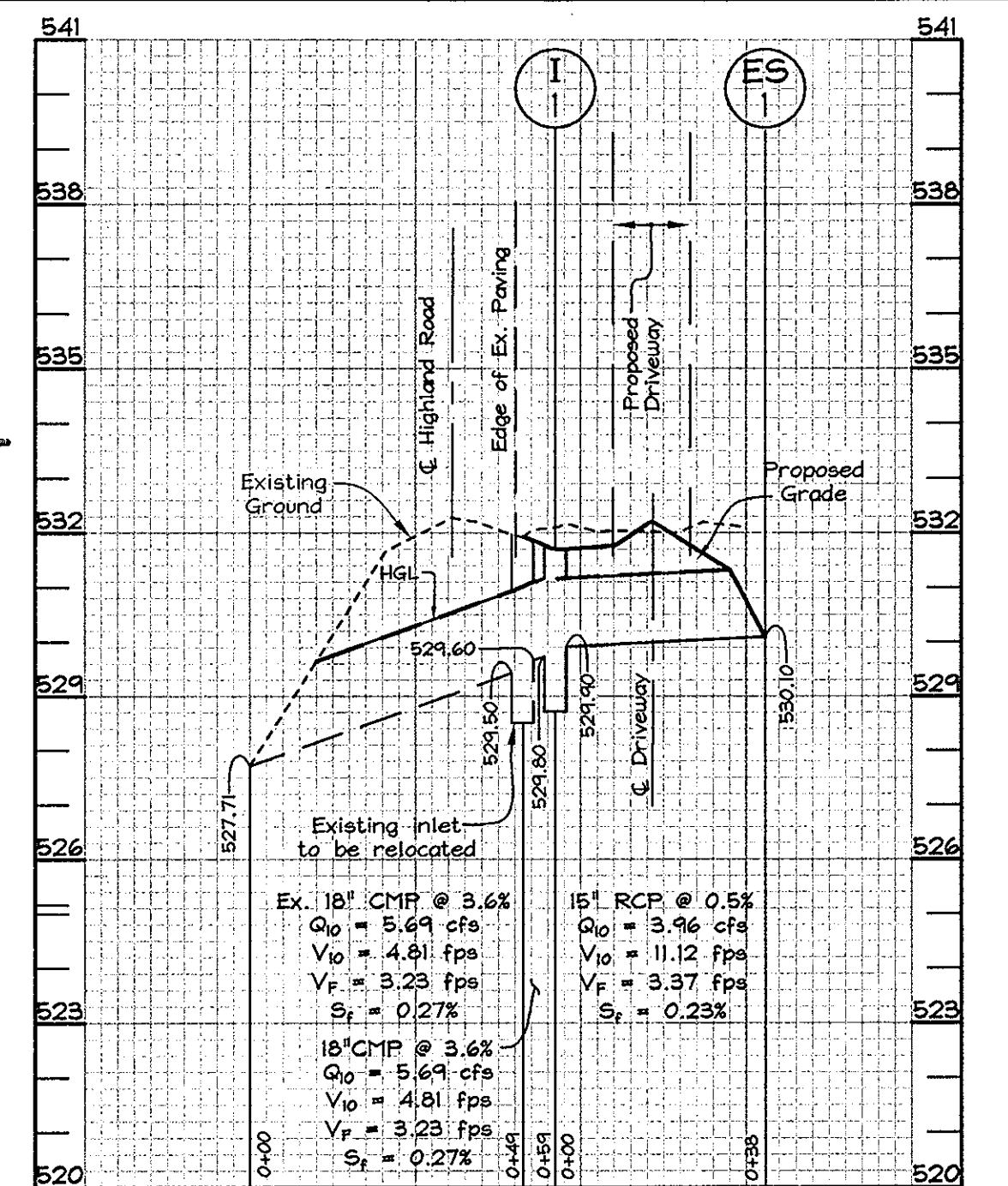
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 9/25/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

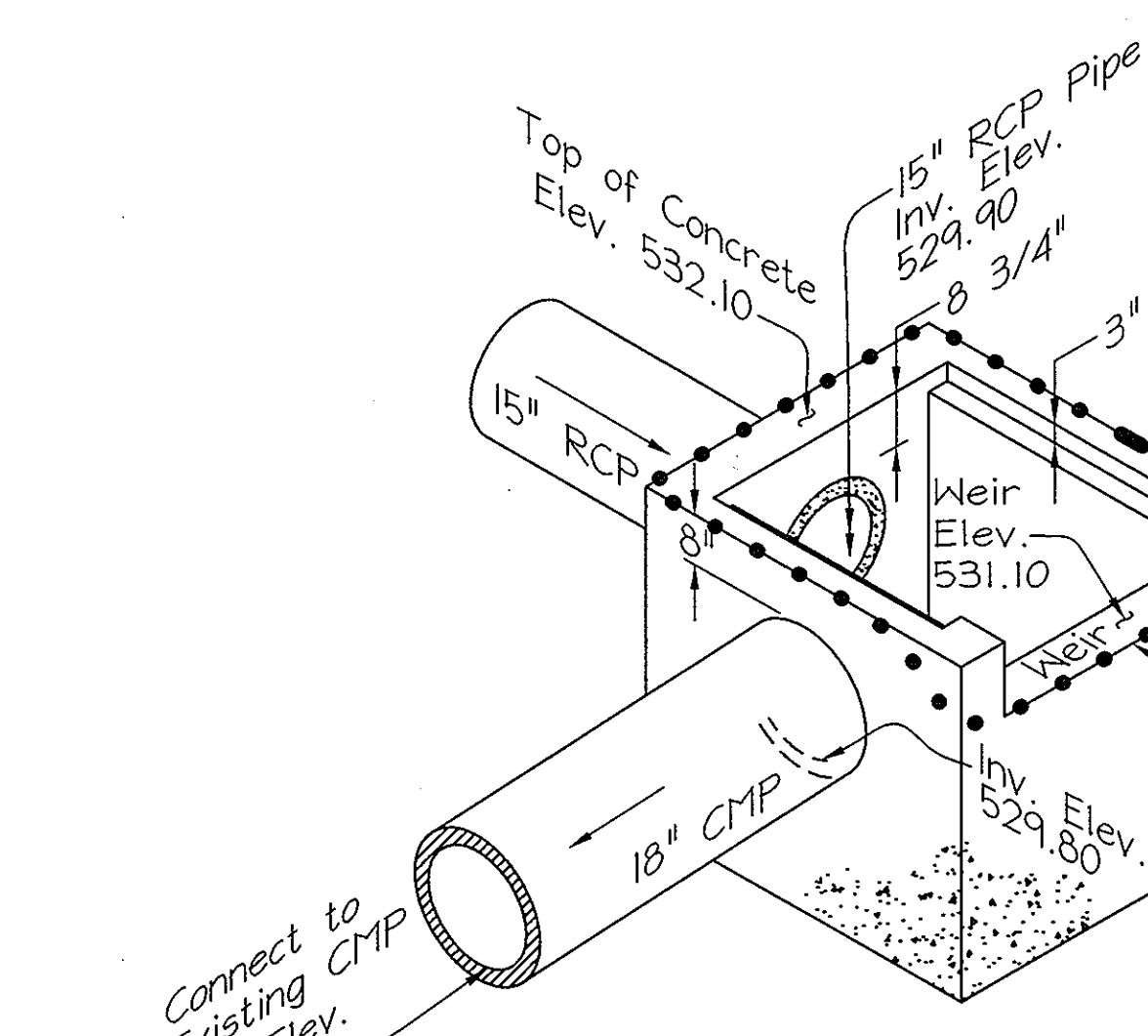
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 9/25/08

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

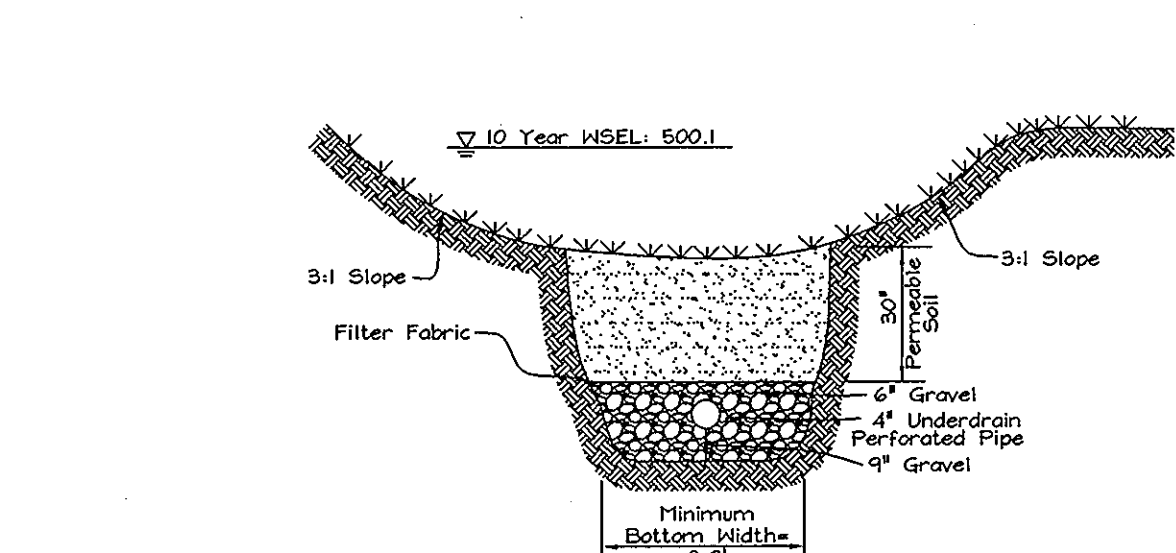
 JOHN R. ROBERTSON
 DATE: 9/25/08



STORM DRAIN PROFILE
SCALE: Hor.: 1"=30' Vert.: 1"=3'



MODIFIED INLET I-1
SCALE: Not to scale



TYPICAL DRY SWALE CROSS SECTION
Not to Scale

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
Ba	Baile silt loam	D
CgB2	Chester gravelly silt loam, 3 to 8 percent slopes, moderately eroded	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
EkC2	Elkask silt loam, 8 to 15 percent slopes, moderately eroded	B
GtB2	Glenora silt loam, 3 to 8 percent slopes, moderately eroded	B
GnB2	Glenville silt loam, 3 to 8 percent slopes, moderately eroded	C
MgB2	Manor gravelly loam, 3 to 8 percent slopes, moderately eroded	B
MgC2	Manor gravelly loam, 8 to 15 percent slopes, moderately eroded	B
MgC3	Manor gravelly loam, 8 to 15 percent slopes, severely eroded	B
MIA	Manor loam, 0 to 3 percent slopes	B

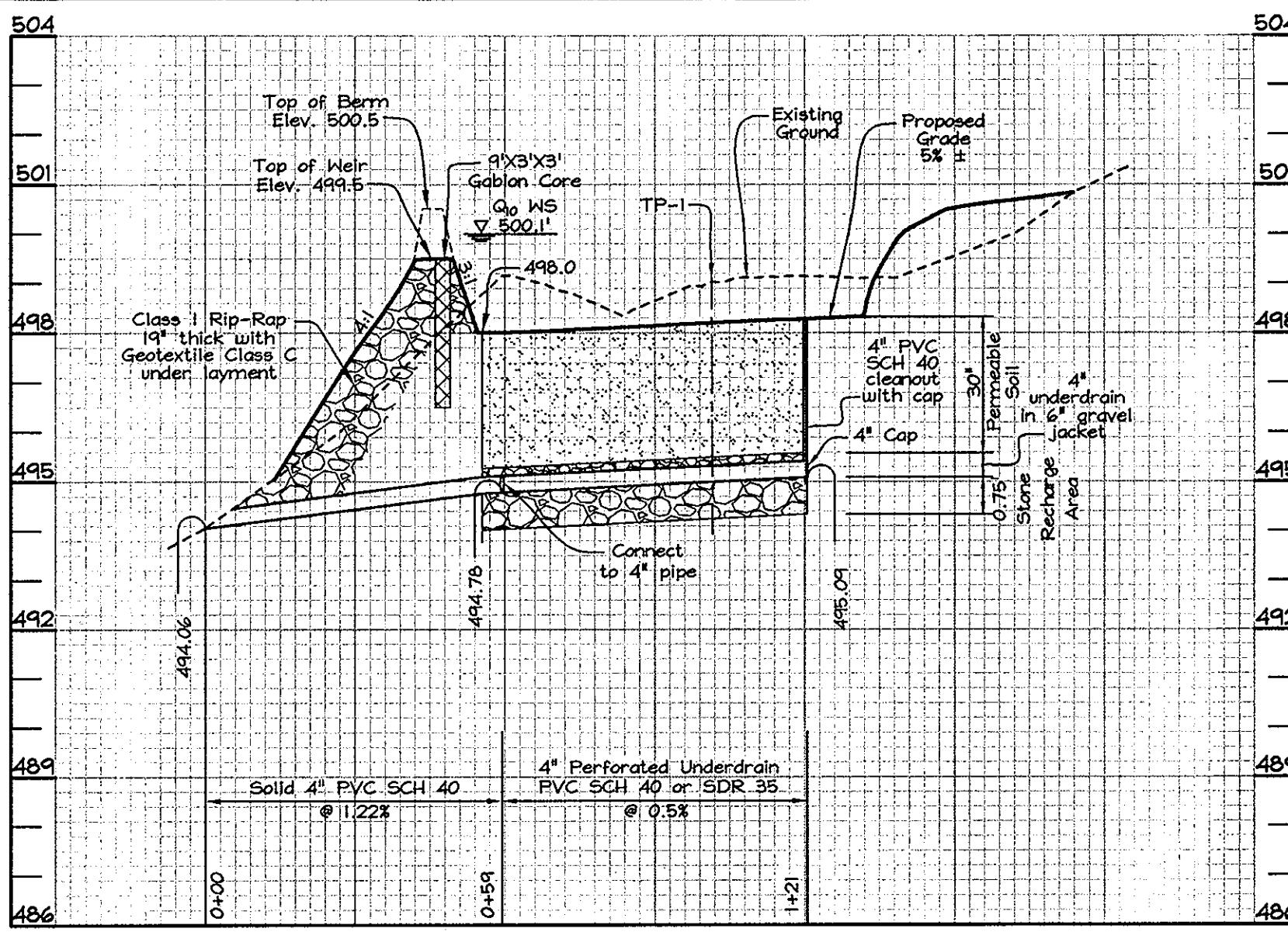
PIT NUMBER	DEEP OF PIT (FT.)	SOIL TYPE
NORTH SIDE OF PROPOSED DRY SWALE		
0'-6"		Strong Brown (7.5 yr 4/6) loam - silty clay loam
TP-1	6' -14'	Variegated micaceous sand (soprolite) with few quartz boulders Water seeping from sides of pit @ 9.5' Depth
SOUTH SIDE OF PROPOSED DRY SWALE		
0'-7"		Strong Brown (7.5 yr 4/6) loam - silty clay loam
TP-2	7' -12'	Variegated micaceous sand (soprolite) with few quartz boulders Water seeping from sides of pit @ 10.0' Depth

ENGINEERS CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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.

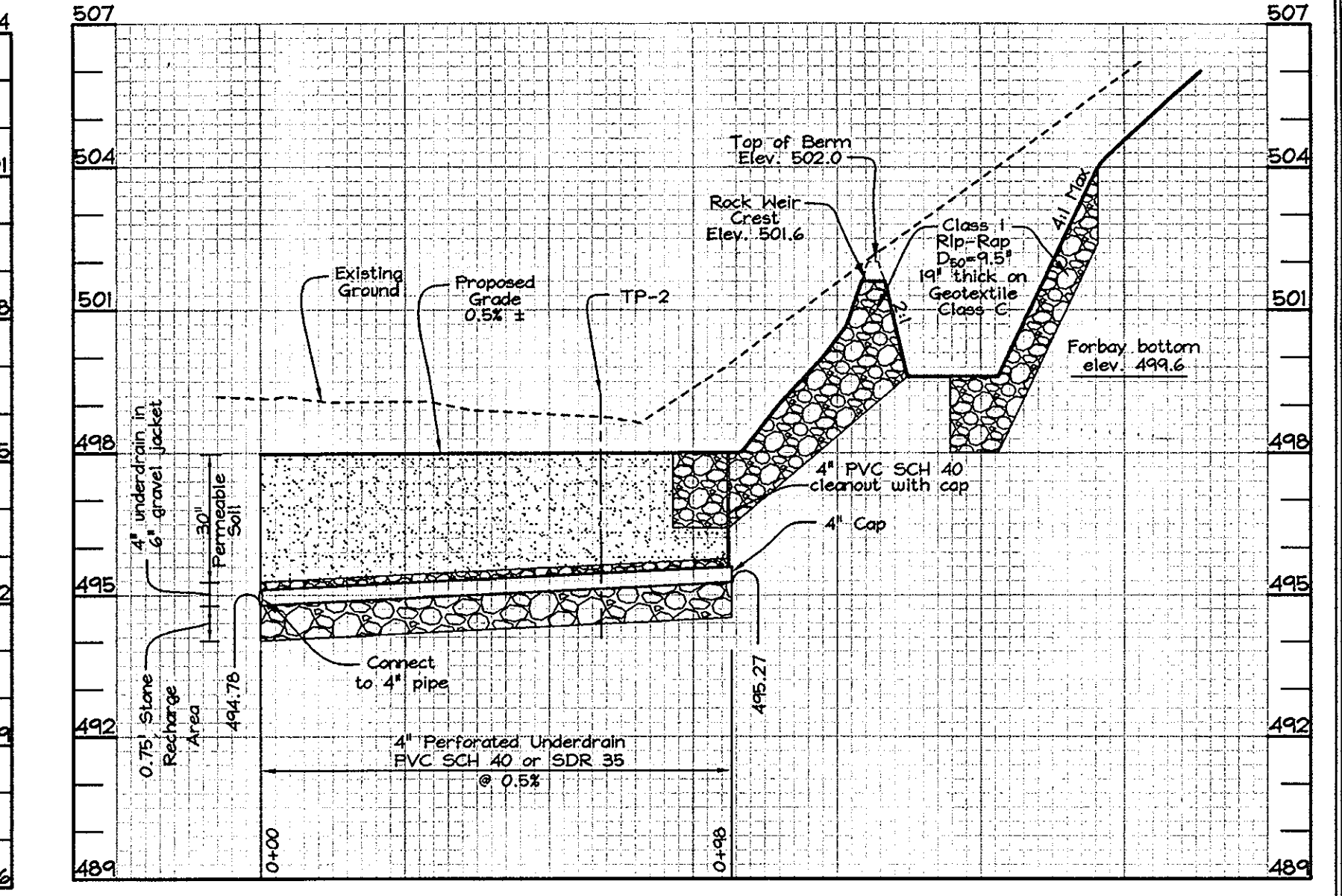
 ZACHARIA Y. FISCH
 DATE: 8/25/08

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

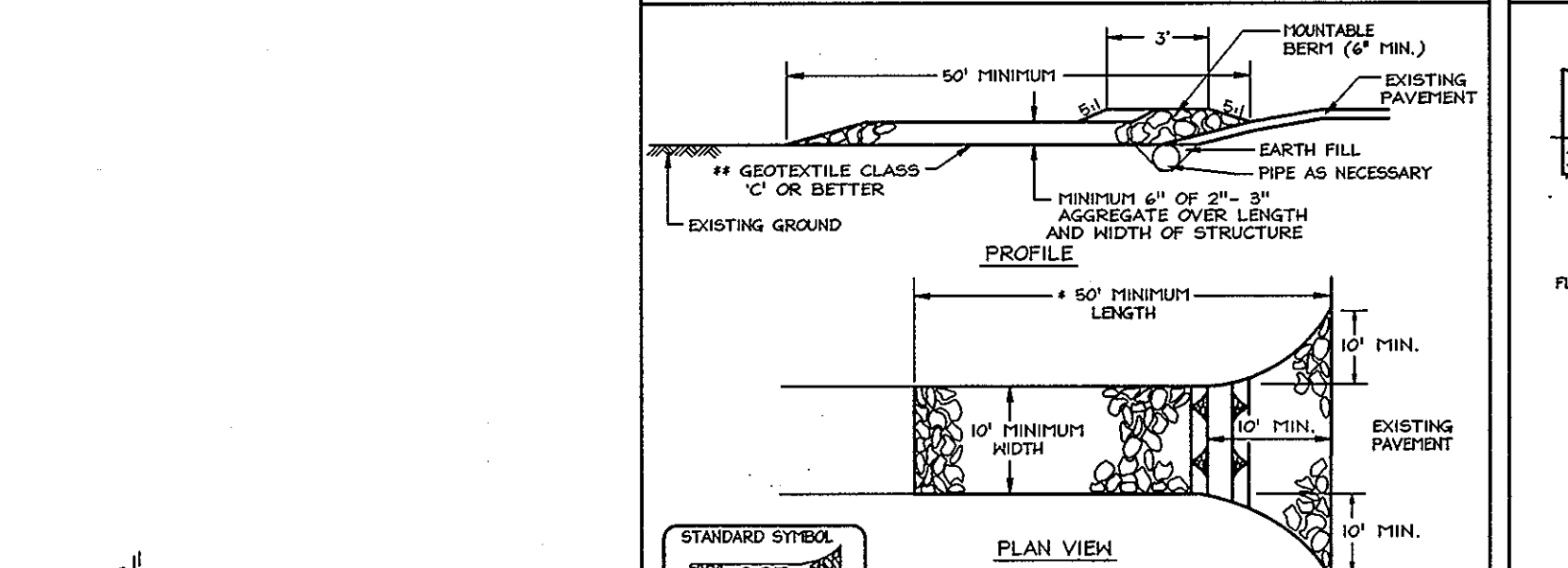
 STEVE ALLNUTT
 DATE: 8/26/08



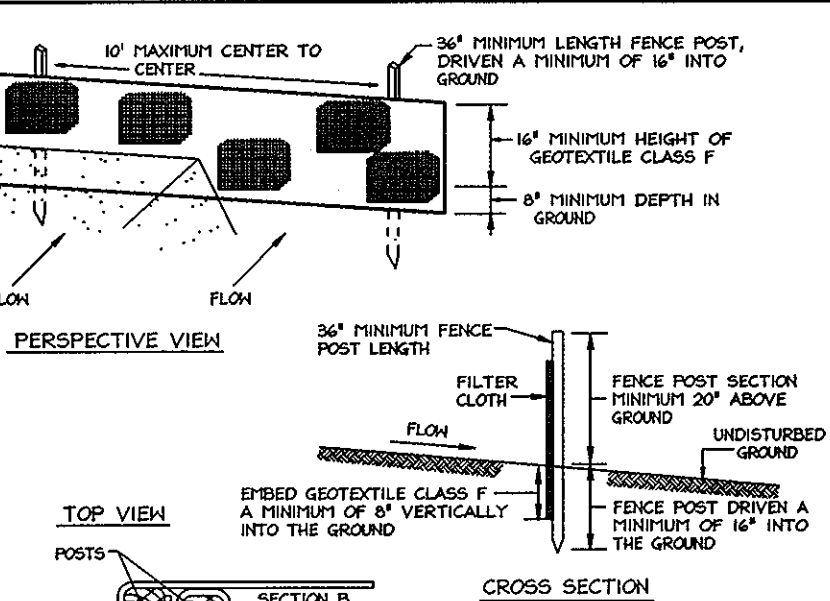
DRY SWALE PROFILE SECTION A-A
SCALE: Hor.: 1"=30' Vert.: 1"=3'



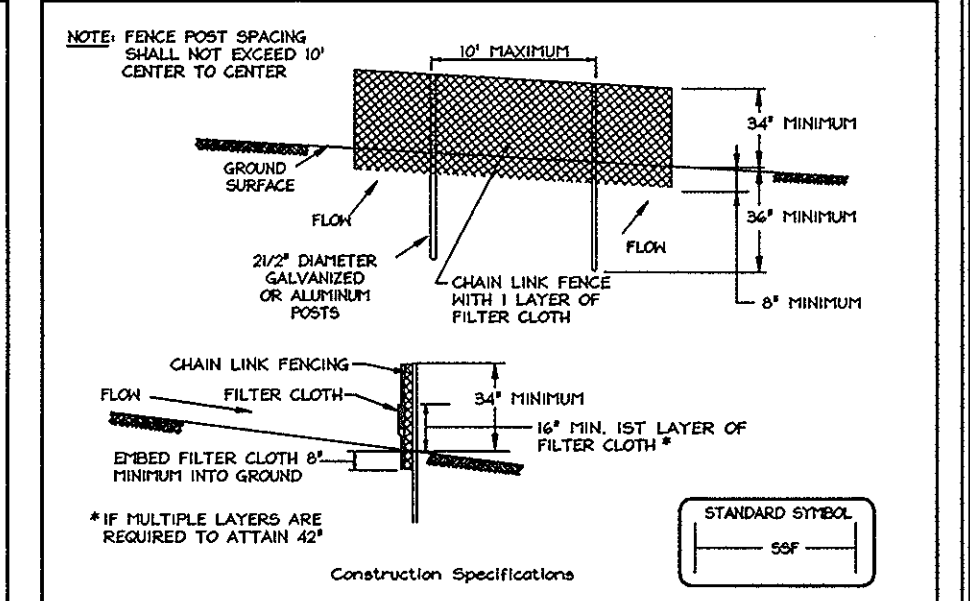
DRY SWALE PROFILE SECTION B-B
SCALE: Hor.: 1"=30' Vert.: 1"=3'



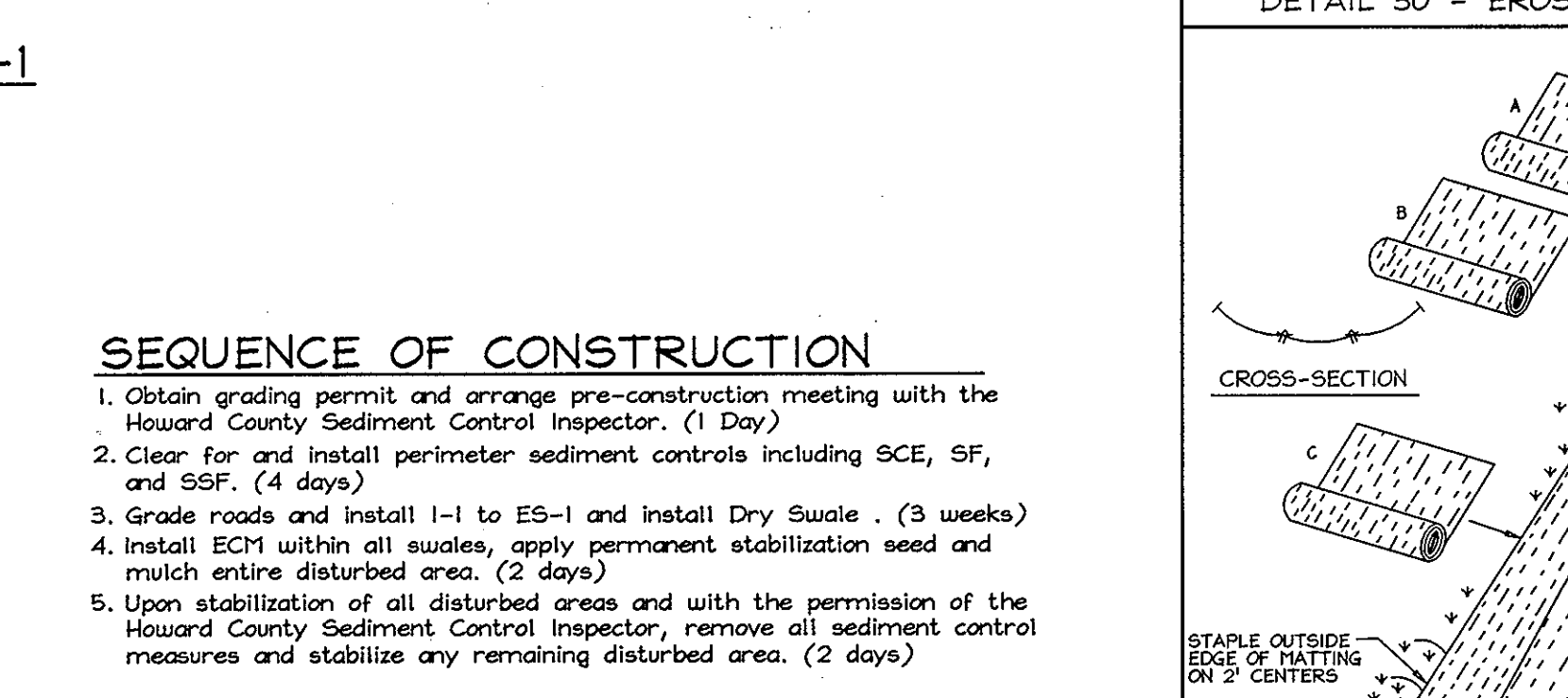
CONSTRUCTION SPECIFICATION
 1. Length - minimum of 50' (+ 30' for a single residence lot).
 2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
 3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
 4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
 5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be placed through the entrance, regulating positive drainage pipes installed through the stabilized construction entrance shall be protected with a mountable berm with 3:1 slopes and a minimum of 4" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey, a pipe with a minimum of 4" shall be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
 6. Location - A stabilized construction entrance shall be located at every spot where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.



CONSTRUCTION SPECIFICATIONS
 1. Fence posts shall be a minimum of 36" long, driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 2" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard 1" or 1 1/2" U section weighing not less than 1.00 pound per linear foot.
 2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
 Tensile Strength 50 lbs/in (min.) Test: MSHT 504
 Tensile Modulus 20 lbs/in (min.) Test: MSHT 524
 Flow Rate 0.3 gal ft²/minute (max.) Test: MSHT 322
 Filtering Efficiency 75% (min.) Test: MSHT 322
 3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 4. Silt Fence shall be inspected after each rainfall event and maintained when holes occur or when sediment accumulation reaches 50% of the fabric.



CONSTRUCTION SPECIFICATIONS
 1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
 2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, braces and cross rods, drive anchors and post caps are not required except on the ends of the fence.
 3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
 4. Filter cloth shall be embedded a minimum of 6" into the ground.
 5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
 6. Maintenance shall be performed as needed and silt buildup removed when "balds" develop in the silt fence, or when silt reaches 50% of fence height.
 7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:
 Tensile Strength 50 lbs/in (min.) Test: MSHT 504
 Tensile Modulus 20 lbs/in (min.) Test: MSHT 524
 Flow Rate 0.3 gal ft²/minute (max.) Test: MSHT 322
 Filtering Efficiency 75% (min.) Test: MSHT 322



CONSTRUCTION SPECIFICATIONS
 1. Key-in the matting by placing the top ends of the matting in a narrow trench, 4" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
 2. Staple the 4" overlap in the channel center using an 18" spacing between staples.
 3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
 4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
 5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shingle fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
 6. The discharge end of the matting line should be similarly secured with 2 double rows of staples.
 Note: If flow will enter from the edge of the matting then the area effected by the flow must be key-in.

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. #22418, Expiration Date: 07/24/09.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY SWALES (0-1)
 1. The open channel system shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
 2. The open channel shall be mowed a minimum of 6 inches as needed during the growing season to maintain a maximum grass height of less than 6 inches.
 3. Debris and litter shall be removed during regular mowing operations and as needed.
 4. Visible signs of erosion in the open channel system shall be repaired as soon as it is noticed.
 5. Remove silt in the open channel system when it exceeds 25% of the original HGL.

OWNER: HI-LAND FARM 2, LLC
 5930 Great Star Drive #480
 Clarksville, MD 21029
 410.336.7787

DEVELOPER: STEVE ALLNUTT
 8171 Maple Laun Blvd., Ste 150
 Fulton, MD 20775-9
 410.336.7787

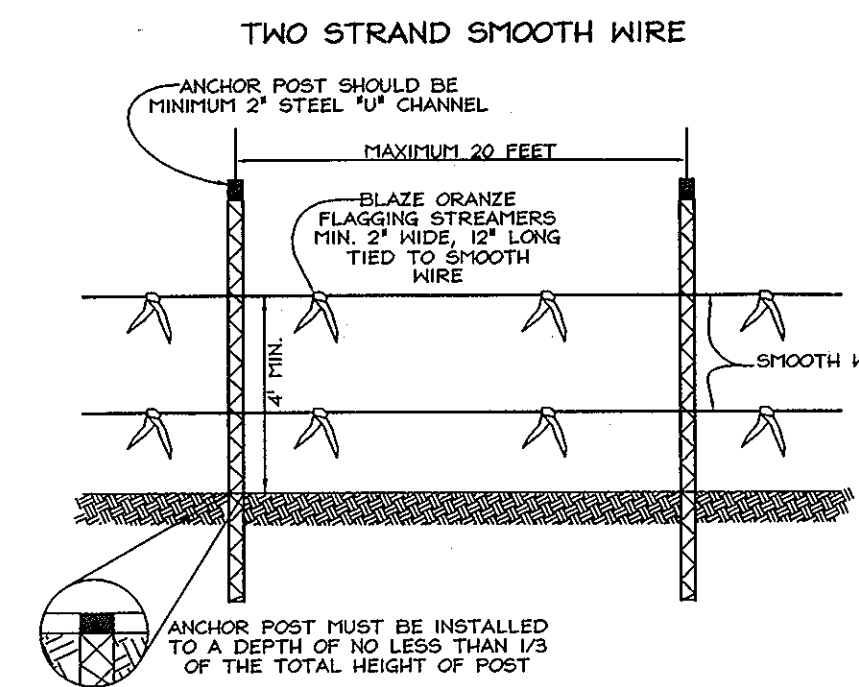
FINAL STORM DRAIN, DRAINAGE AREA MAP, SWIM PROFILES & SEDIMENT CONTROL DETAILS
 ALLNUTT PROPERTY
 LOTS 1-4, BUILDABLE PRESERVATION PARCEL 'A'
 AND NON-BUILDABLE PRESERVATION PARCEL 'B'
 TAX MAP 34 GRID 15
 5TH ELECTION DISTRICT
 PARCELS 170
 HOWARD COUNTY, MARYLAND

DESIGN BY: ZYF
 DRAWN BY: KSB
 CHECKED BY: ZYF
 SCALE: As shown
 DATE: Aug 22, 2008
 P.L.O. No.: 3220
 SHEET No.: 3 OF 5

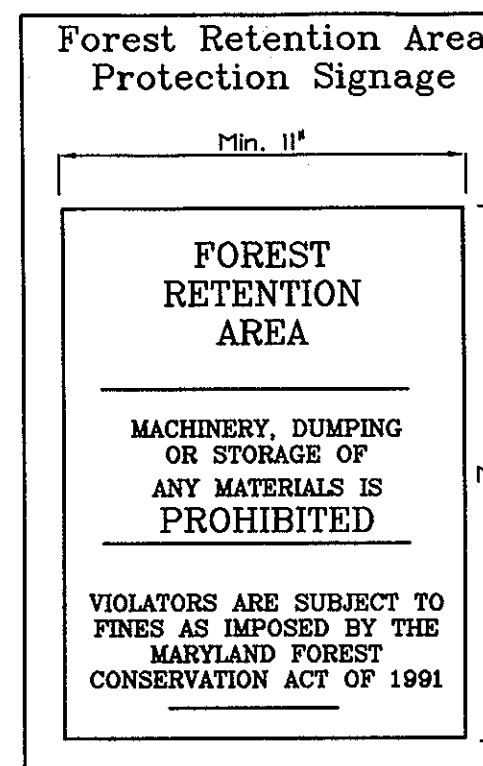
FSH Associates
 Engineers Planners Surveyors
 8339 Howard Lane Elkridge, MD 21075
 Tel: 410-587-5200 Fax: 410-796-1562
 E-mail: info@fisher.com

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
Ba	Baile silt loam	D
CgB2	Chester gravelly silt loam, 3 to 8 percent slopes, moderately eroded	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
EkC2	Elkton silt loam, 8 to 15 percent slopes, moderately eroded	B
GIB2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
GnB2	Glenville silt loam, 3 to 8 percent slopes, moderately eroded	C
MgB2	Manor gravelly loam, 3 to 8 percent slopes, moderately eroded	B
MgC2	Manor gravelly loam, 8 to 15 percent slopes, moderately eroded	B
MgC3	Manor gravelly loam, 8 to 15 percent slopes, severely eroded	B
MIA	Manor loam, 0 to 3 percent slopes	B

SPECIMEN TREES					
NO.	DBH	COMMON NAME	SCIENTIFIC NAME	CONDITION	RETAINED
ST-1	46"	Littleleaf Linden	Tilia cordata	Good	Yes



NOTES:
 1. FOREST PROTECTION DEVICE ONLY.
 2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLATION.
 4. ROOT DAMAGE SHOULD BE AVOIDED.
 5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
 6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.



SIGNAGE NOTE: ALL TREE PROTECTION SIGNS SHALL BE PLACED ON METAL 'T' POSTS OR PRESSURE TREATED WOOD POLES. NO ATTACHMENT OF SIGNS TO TREES IS PERMITTED.

LEGEND	
Existing Contour	---382
Contour	---382.3
Existing Spot Elevation	+382.3
Spot Elevation	+382.3
Direction of Flow	→
Existing Trees to Remain	(Tree symbol)
Walk Out Basement	▽
Intermittent Stream	---
Perennial Stream	—SB—SB—
Stream Buffer	—H—H—
Wetland	—WB—WB—
Wetland Buffer	—WB—WB—
Limit of Disturbance	LOD
Erosion Control Matting	■ ■ ■ ■ ■
15-24.9% slopes	■ ■ ■ ■ ■
Existing Septic Easement	(Diagonal lines)
Septic Easement	(Diagonal lines)
Proposed Well Area	(Dotted pattern)
Forest Conservation Easement	(Hexagonal pattern)
Forest Conservation Signs	△
Tree Protection Fence	— TPF —
Soil Boundary	—
Natural Area Conservation Easement	(Diagonal lines)
Landscape Perimeter Line	—

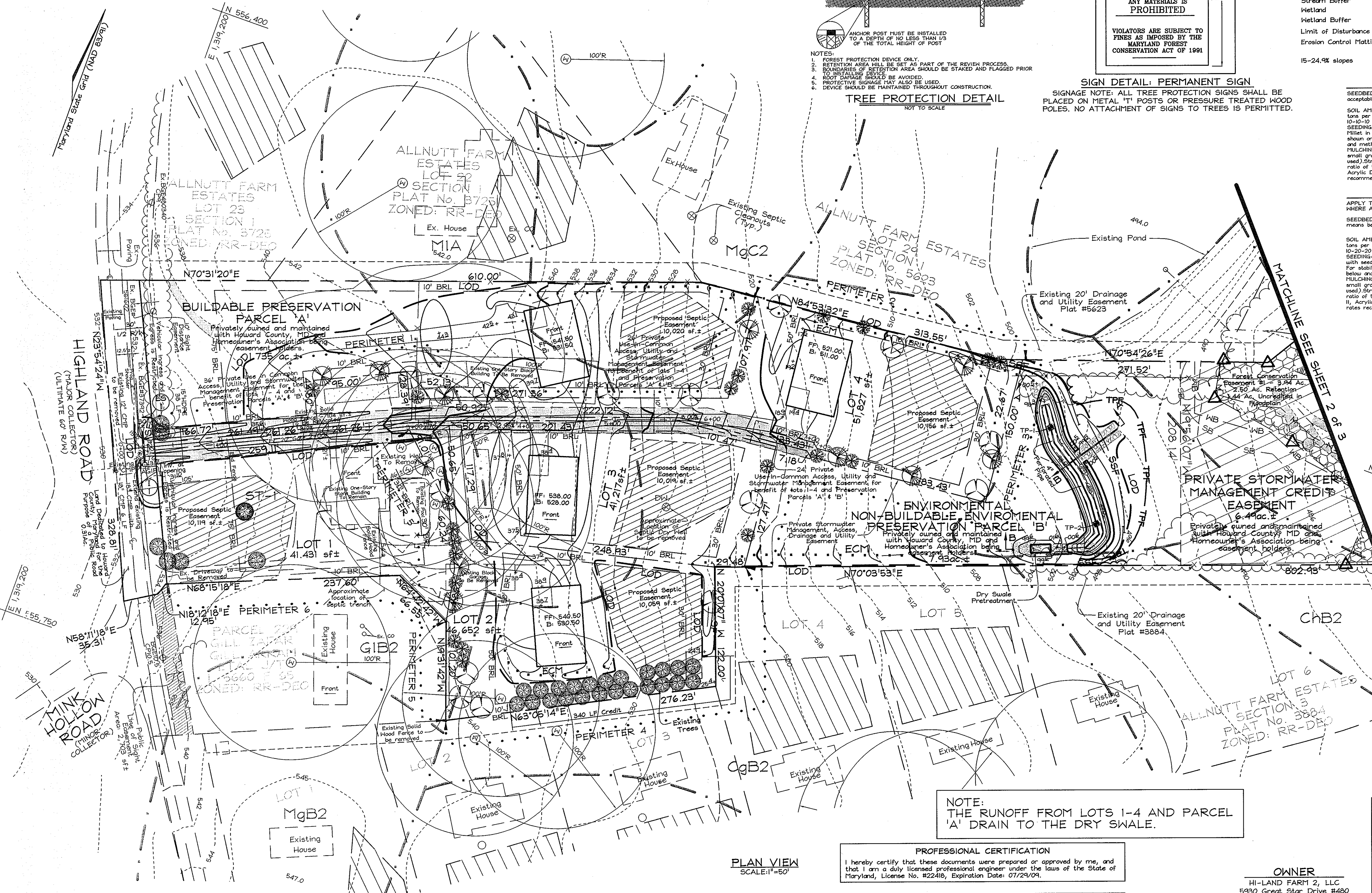
SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone (92 lbs/1000 s.f.) And 400 lbs. / acre (15 lbs./1000s.f.) of 10-10-10 before seeding. Harrow or disc into upper 3 in. of soil.
 SEEDING: Apply the Maryland State Highway approved seed mixture of Barley or Rye plus Fowlit Millet in accordance with seeding dates and rates shown in the Temporary Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below.
 MULCHING: Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2.5 Tons/acre if a mulch anchoring tool is used.) Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. of wood fiber/ 100 gal. of water. Synthetic liquid binders such as Terra Tex II, Acrylic DLR (Agra-Tack), DCA-70, Petrosert and other approved equals may be used at rates recommended by the manufacturers.

PERMANENT SEEDING NOTES
 APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.
 SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone (92 lbs/1000 s.f.) And 400 lbs. / acre (20.7 lbs./1000s.f.) of 10-10-10 before seeding. Harrow or disc into upper 3 in. of soil.
 SEEDING: Apply a mixture of Turf Type Tall Fescue (90%) and Hard Fescue (20%) in accordance with seeding dates and rates shown in the Permanent Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below and apply permanent seeding when within proper seeding dates.
 MULCHING: Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2.5 Tons/acre if a mulch anchoring tool is used.) Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. of wood fiber/ 100 gal. of water. Synthetic liquid binders such as Terra Tex II, Acrylic DLR (Agra-Tack), DCA-70, Petrosert and other approved equals may be used at rates recommended by the manufacturers.

SEDIMENT CONTROL NOTES
 1. A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (410-313-1855).
 2. All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
 3. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within (a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 3:1, (b) 14 days as to all other disturbed or graded areas on the project site.
 4. All sediment traps/basins shall be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
 5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding and temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
 6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
 7. Site Analysis:
 Total Area: 14.14 Acres
 Area Disturbed: 4.84 Acres
 Area to be roofed or paved: 0.71 Acres
 Area to be vegetatively stabilized: 4.18 Acres
 Total Cut: 1,000 CY
 Total Fill: 1,000 CY
 Offsite waste/borrow area location: **
 8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
 9. Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
 10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
 11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.
 12. Earthwork quantities are solely for the purpose of calculating fees. Contractor to verify all quantities prior to the start of construction.
 13. To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit.



NOTE: THE RUNOFF FROM LOTS 1-4 AND PARCEL 'A' DRAIN TO THE DRY SWALE.

PLAN VIEW
 SCALE: 1"=50'

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. #22418, Expiration Date: 07/24/09.

ENGINEERS CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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: Zacharia Y. Fisch
 DATE: 8/25/08

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: Steve Allnut
 DATE: 8/26/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: [Signature]
 Chief, Division of Land Development: [Signature]

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 Signature: John R. Robertson
 DATE: 9/16/08

OWNER
 HI-LAND FARM 2, LLC
 5930 Great Star Drive #480
 Clarksville, MD 21029
 410.336.7787

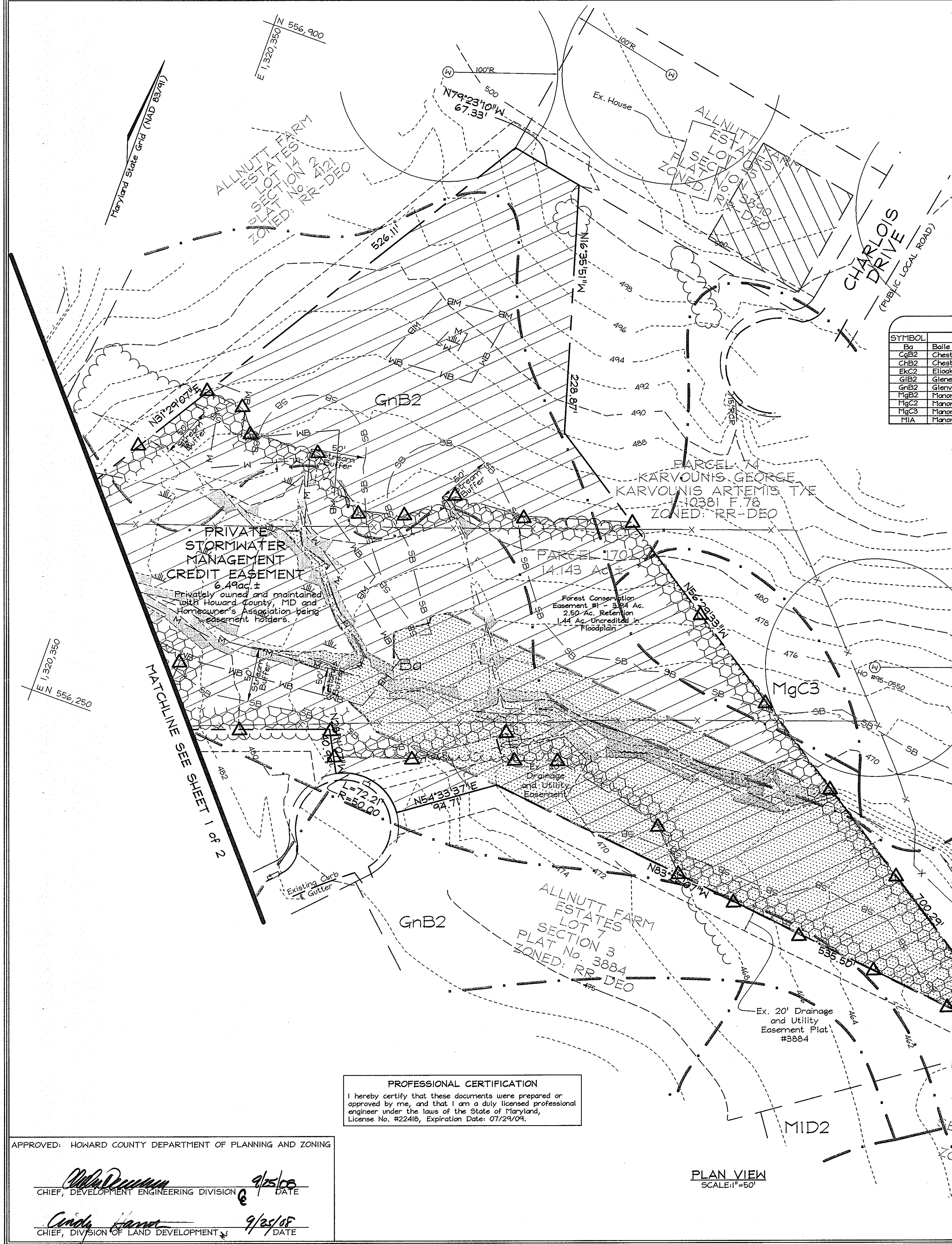
DEVELOPER
 STEVE ALLNUTT
 8171 Maple Lawn Blvd., Ste 150
 Filton, MD 20759
 410.336.7787

FINAL FOREST CONSERVATION PLAN AND SEDIMENT & EROSION CONTROL DETAILS
 ALLNUTT PROPERTY
 LOTS 1-4, BUILDABLE PRESERVATION PARCEL 'A' AND NON-BUILDABLE PRESERVATION PARCEL 'B'
 TAX MAP 34 GRID 15 PARCELS 170
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: FSH
 DRAWN BY: SHM
 CHECKED BY: SLH
 SCALE: As Shown
 DATE: Aug 22, 2008
 S.H. No.: 3220
 SHEET No.: 4 OF 5

FSH Associates
 Engineers Planners Surveyors
 6339 Howard Lane Elkridge, MD 21075
 410-410-5675-5200 Fax: 410-795-1552
 E-mail: info@fshci.com





- ### Forest Tree Protection and Management Notes
- All proposed activities shall adhere to the conditions, schedules and terms of an approved sediment control and erosion plan.
 - After the boundaries of the retention area have been staked and flagged and before any disturbance has taken place on-site, a preconstruction meeting at the construction site shall take place. The developer, contractor or project manager, and appropriate County inspectors shall attend.
 - Tree protection for all retained areas:
 - All retention areas within 50 feet of proposed construction activities shall be protected by highly visible, well anchored temporary protection devices (silt fence or biodegradable plastic mesh).
 - All protection devices shall be in place prior to any grading or land clearing.
 - All protection devices shall be properly maintained and shall remain in place until construction has ceased.
 - Attachment of signs, fencing or other objects to trees is prohibited.
 - No equipment, machinery, vehicles, materials or excessive pedestrian traffic shall be allowed within protected areas.
 - If the critical root zone (see detail) is affected by construction activities such as grade change, digging for foundations and roads or utility installation:
 - Prune roots with a clean cut using proper pruning equipment (see root pruning detail)
 - Water and fertilize as needed.
 - During construction phase, monitor and correct condition of retained trees for: soil compaction, root injury, flood conditions, drought conditions and other stress signs.
 - Post-Construction Phase:
 - Inspect existing trees around the perimeter of disturbed limits for evidence of soil compaction, root injury, limb injury, or other stress signs and correct with proper management techniques such as root or limb pruning, soil aeration, fertilization, crown reduction or watering.
 - Inspect for dead or dying trees or limbs which may pose safety hazard and remove.
 - No burial of discarded materials will occur onsite within the conservation areas.
 - No burning within 100 feet of wooded area.
 - All temporary forest protection structures will be removed after construction.
 - Following completion of construction, prior to use, the County inspector shall inspect the entire area.
- * A licensed Arborist or Forester should be retained for this service as needed.

LEGEND

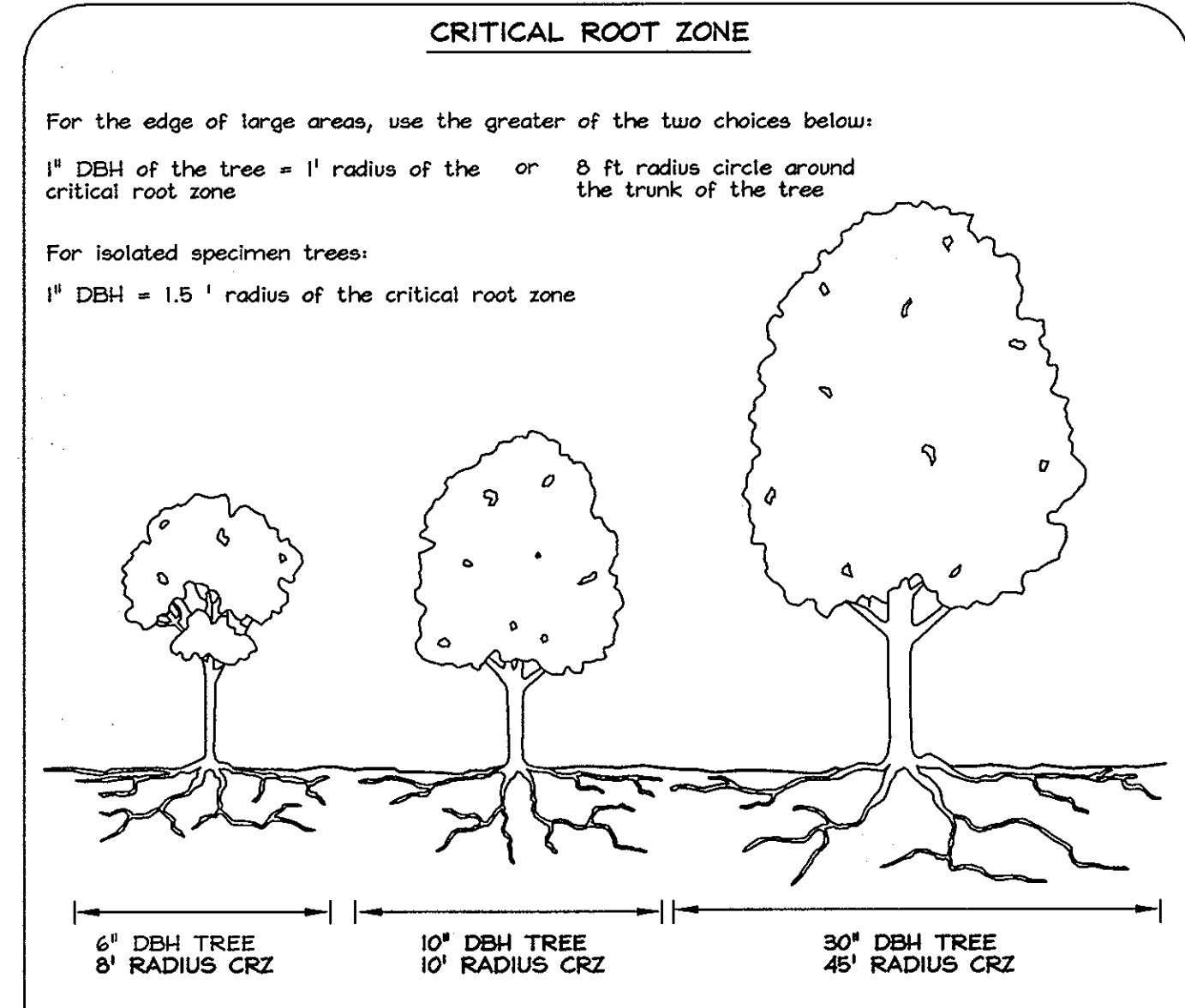
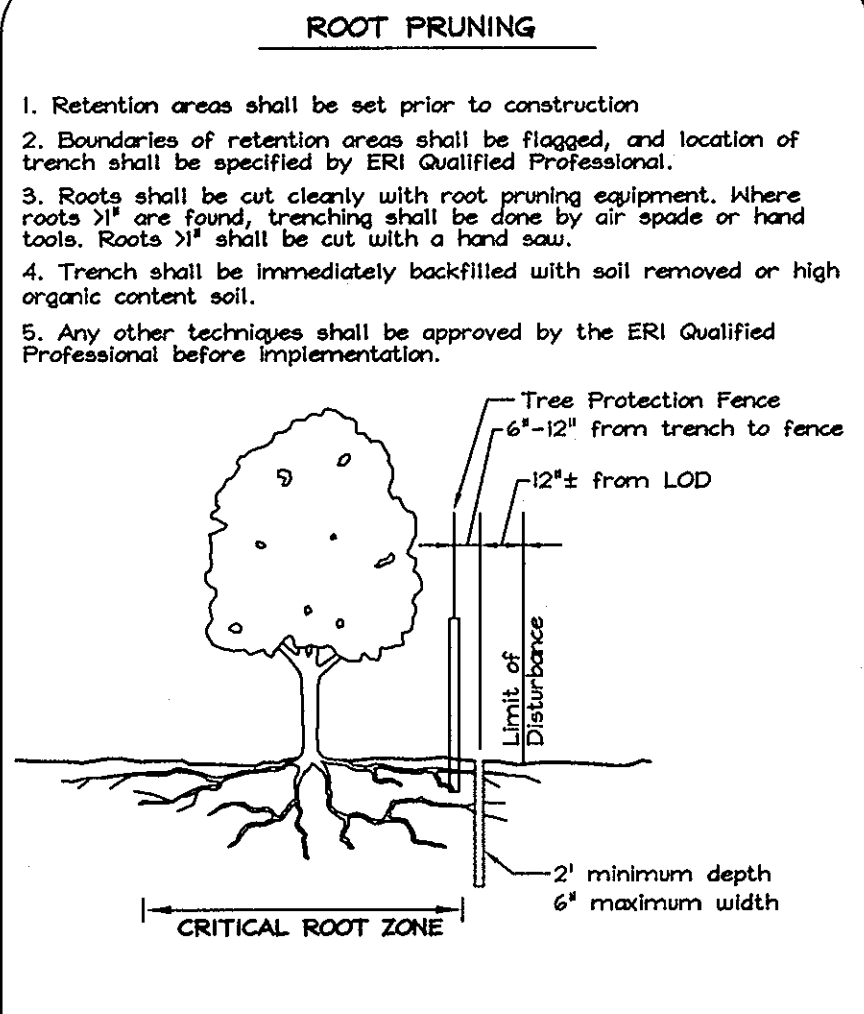
Existing Contour	--- 382	Existing Septic Easement	
Contour	--- 382.5	Septic Easement	
Existing Spot Elevation	+82.53	Well Area	
Spot Elevation		Forest Conservation Easement	
Direction of Flow		Forest Conservation Signs	
Existing Trees to Remain		Tree Protection Fence	
Walk Out Basement	--- SB --- SB	Soil Boundary	
Intermittent Stream	--- W --- W	15-24.9% slopes	
Perennial Stream	--- W --- W	100 Year Floodplain	
Stream Buffer	--- WB --- WB		
Wetland	--- W --- W		
Wetland Buffer	--- WB --- WB		
Limit of Disturbance	--- LOD ---		
Natural Area Conservation Easement			

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
Ba	Baile silt loam	D
CgB2	Chester gravelly silt loam, 3 to 8 percent slopes, moderately eroded	B
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EkC2	Elk oak silt loam, 8 to 15 percent slopes, moderately eroded	B
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MgC3	Manor gravelly loam, 8 to 15 percent slopes, severely eroded	B
MIA	Manor loam, 0 to 3 percent slopes	B

FOREST CONSERVATION EASEMENT TABLE

EASEMENT	TYPE	AREA (ACRES)
1	Retention	2.50
	Uncredited Retention in Floodplain	1.44
	TOTAL	3.94



Forest Conservation Narrative

This Forest Conservation Plan was prepared in accordance with the Howard County Forest Conservation Manual.

This plan will utilize the cluster subdivision option B which includes the Preservation Parcels in the calculations. The subject property has a gross and tract area of 14.14 Ac. with 1.66 Ac. in floodplain for a net tract area of 12.48 Ac. There is 2.50 Ac. of forest on the net tract. There is one specimen tree on the site, which will be preserved. Forest has been retained to the greatest extent possible, including all forest in sensitive environments. The forest will be retained in one easement of 3.94 Ac. on Parcel B which includes 1.44 Ac. of forested floodplain, retained without credit to ensure a continuous forested area meeting the minimum width requirements in all locations. There is no mitigation necessary.

The total forest conservation obligation met on this site is 2.50 acres, with a total forest conservation surety amount of \$21,780.00 (2.50 Ac or 108,900 s.f. @ \$ 0.20/s.f.).

FOREST CONSERVATION WORKSHEET

Net Tract Area	Acres
A. Total Tract Area	14.14
B. Area Within 100 Year Floodplain	1.66
C. Other deductions	--
D. Net Tract Area	12.48
Zoning Use Category: RESIDENTIAL-CLUSTER	
Land Use Category	
E. Afforestation Minimum (20 % x D)	2.50
F. Conservation Threshold (25 % x D)	3.12
Existing Forest Cover	
G. Existing Forest on Net Tract Area	2.50
H. Forest Area Above Conservation Threshold Breakeven Point	0
I. Forest Retention Above Threshold with no Mitigation	na
J. Clearing Permitted without Mitigation	0
Proposed Forest Clearing	
K. Forest Areas to be Cleared	0
L. Forest Areas to be Retained	2.50
Planting Requirements	
M. Reforestation for Clearing Above Threshold	0
N. Reforestation for Clearing Below the Threshold	0
P. Credit for Retention Above Conservation Threshold	0
Q. Total Reforestation Required	0
R. Total Afforestation Required	0
S. Total Reforestation and Afforestation Requirement	0

- ### Soil Protection Zone Notes
- The Soil Protection Zone shall include all areas contained inside the Limit of Disturbance.
 - Where possible, the Soil Protection Zone shall extend to the drip line of specimen trees. For other groups of trees, the zone shall be the drip line or 40% of the height of the tree, whichever is greater.
 - No construction activity is permitted within the Soil Protection Zone.
 - If soil has been compacted or grading has taken place in the vicinity of the Soil Protection Zone, root pruning shall be implemented per Root Pruning detail, shown on this plan.
 - Root pruning shall occur prior to the beginning of construction.
 - Where the Soil Protection Zone must encroach inside the Critical Root Zone of a tree, soil disturbance shall be mitigated with vertical mulching, radial trenching, or another method approved by the ERI Forest Conservation Professional.
 - Prior to construction, the Limits of Disturbance shall be marked and the ERI Professional shall determine which trees will need preventative treatment or removal.
 - Tree maintenance and removal shall be undertaken by a qualified MD Tree Expert to ensure damage to surrounding trees is minimized.
 - Brush and limbs removed for construction shall be chipped and spread at the edge of the Soil Protection Zone to a depth of 6 inches. This shall occur outside the Soil Protection Zone where compaction could impact otherwise unprotected Critical Root Zone.



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. #22418, Expiration Date: 07/24/09.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John DeWitt 9/25/08
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hanner 9/25/08
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

PLAN VIEW
 SCALE: 1"=50'

OWNER
 HI-LAND FARM 2, LLC
 5930 Great Star Drive #480
 Clarksville, MD 21029
 410.336.7787

DEVELOPER
 STEVE ALLNUTT
 8171 Maple Lawn Blvd., Ste 150
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FINAL FOREST CONSERVATION PLAN

ALLNUTT PROPERTY

LOTS 1-4, BUILDABLE PRESERVATION PARCEL 'A'
 AND NON-BUILDABLE PRESERVATION PARCEL 'B'
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