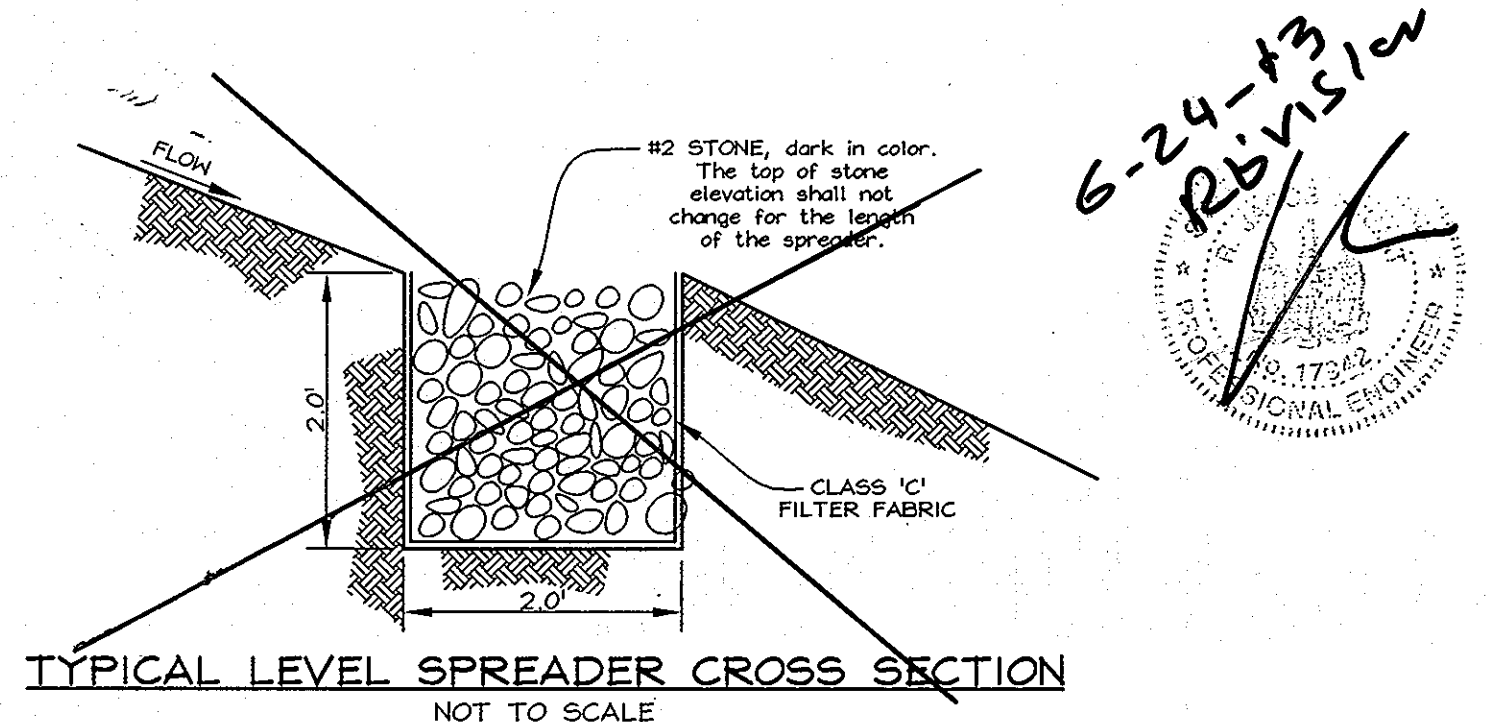


**GENERAL NOTES**

- Subject property zoned "R-ED" per 02/02/04 comprehensive zoning plan, and per the Comp. Lite Zoning Regulation amendments effective on 07/28/06.
- The property was incorporated within the Metropolitan district on December 29, 2003.
- This subdivision is subject to Section 18.122B of the Howard County Code, Public Water and Sewer Service has been granted under the terms and provisions, thereof.
- Public water and public sewer are proposed to tie into existing Contract No. 14-4046-D.
- This site appears on Soils Maps Nos. 20 & 21.
- Gross area of site: 4.998 Acres±
- Net area of site: 4.958 ac.± (0.040 ac. steep slopes)
- Density calculations:
  - number of units allowed: 4.958 ac. x 2 = 9.916 units
  - number of units proposed: 9 units
- Open space requirements:
  - Open space required: 4.998 Ac. x 50% = 2.499Ac.
  - Credited open space provided: 2.504 Ac.
- Area of proposed buildable lots: 1,400 ac.±
- Area of proposed public right of way: 0.665 ac.±
- Area of proposed open space provided: 2,534 ac.±
- Area of proposed Parcel 'A': 0.265 ac.±
- Area of proposed Parcel 'B': 0.134 ac.±
- Topography is based on a field run survey prepared by C.B. Miller & Associates in December 2002.
- Wetlands investigation and Forest Stand delineation prepared by Exploration Research Inc.
- The Project is in conformance with the latest Howard County standards unless waivers have been approved.
- There are no floodplains or cemeteries on-site.
- This plan is subject to compliance with the amended fifth edition of the Howard County Subdivision and Land Development Regulations, effective October 2, 2003.
- Street trees to be provided along both sides of Jeans Way and Hale Court.
- This Property has 10' of frontage on a scenic road (Ilchester Road). Within the 10' of frontage, no change is proposed to the view from Ilchester Road. The proposed subdivision is not visible from Ilchester Road.
- Parcel 'A' is a non-buildable parcel to be privately owned and maintained by the owner/developer of Ilchester Heights. It is part of an existing 60' use-in-common access strip and is subject to all uses/restrictions outlined in an agreement recorded in L643 F716, at sea.
- After recordation of the Ilchester Heights Plat Parcel 'B' shall be transferred to the owner of adjacent Parcel 622 free of charge for the purpose of a future public road right-of-way, in lieu of construction of a road at this time. Parcel 'B' is devoid of Development Density for parcel 622.
- Geotechnical subsurface investigation prepared by Herbat Benson and Associates. The test was focusing on presence of ground water and rock.
- Stormwater management for this site is provided by the following methods:
  - This site is exempt from providing Cp.
  - Water quality and recharge for the road and Lots 1 thru 5 and part of Lot 6 is provided in a BMP sand filter.
  - Water quality and recharge for part of Lot 6 and Lots 7 thru 9 is provided by the sheet flow to buffer credits in combination with the level spreaders.
  - Water quality for subarea 4 is provided in the off site facility, Ilchester Hills F-03-178.
  - All Forest Conservation Retention Easements are overlapped with "Natural Area Conservation Credit."
  - Stormwater management facilities shall be privately owned by H.O.A. with joint maintenance with Howard County, Maryland.
- This plan is subject to Planning Board Case #364 approved by Howard County Planning Board on 6/11/2004
- Open Space Lots 10 and 12 are Homeowners Association (H.O.A.) owned and maintained.
- Open Space Lot 11 is Howard County owned and maintained.
- The Contractor shall notify the following utility companies or agencies at least five(5) working days before starting work shown on these plans:
 

AT&T	1.800.252.1133
State Highway Administration	410.531.5533
BGE(Construction Services)	410.850.4620
BGE(Emergency)	410.685.1400
Niles Utility	1.800.257.7777
Colonial Pipeline Company	410.795.1340
Howard County, Dept. of Public Works, Bureau of Utilities	410.313.4900
Verizon	1-800-743-0933/410-224-9210
- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications, if applicable.
- Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD.) All street and regulatory signs shall be in place prior to the placement of any asphalt.
- Street light placement and the type of fixture and pole shall be in accordance with the Howard County Design manual, Volume III (1993) and as modified by "Guidelines for Street Lights in Residential Developments (June 1993)." A minimum spacing of 20' shall be maintained between any streetlight and any trees.
- All sign posts used for traffic control signs installed in the County right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) - 3' long. A galvanized steel pole cap shall be mounted on top of each post.
- The existing topography is taken from field run survey with two foot contour intervals prepared by C.B. Miller & Associates, dated December, 2002.
- Existing Utilities are based on as built plans.
- This project does not require a traffic study, as approved under SP-04-03. There are no critical intersections within 1/2 miles of the site access point.
- Financial surety for the required landscaping shall be posted as part of the Developer's Agreement in the amount of \$3,750 (4 shade trees @ \$300 each and 17 evergreen trees @ \$150 each.)
- Financial surety for the Forest conservation, retention, shall be posted as part of the Developers Agreement in the amount of \$12,719.52 (63,597.60 sf of retention @ \$0.20 per square foot).
- Previous Howard County file numbers: SP-04-03.
- This plan is subject to waivers from the following sections of Design Manuals Volumes III and IV which was approved for this project on June 17, 2003.
  - A waiver from "Appendix A" in chapter 2 of Design Manual Volume III to allow the right-of-way width of Hale Court be 40 feet instead of 50 feet wide and Jeans Way be 45 feet instead of 50 feet wide.
  - A waiver from detail R-1.02 in design Manual Volume IV to allow to reduce the space between the curb and sidewalk from 8 feet to 3 feet and place a 10 foot Tree Maintenance Easement along the right-of-way lines.
  - A waiver from detail R-5.05 to provide an eight (8) foot Public Perimeter Easement outside of the paving at the Hale Court T-Turnaround in lieu of a public right-of-way.

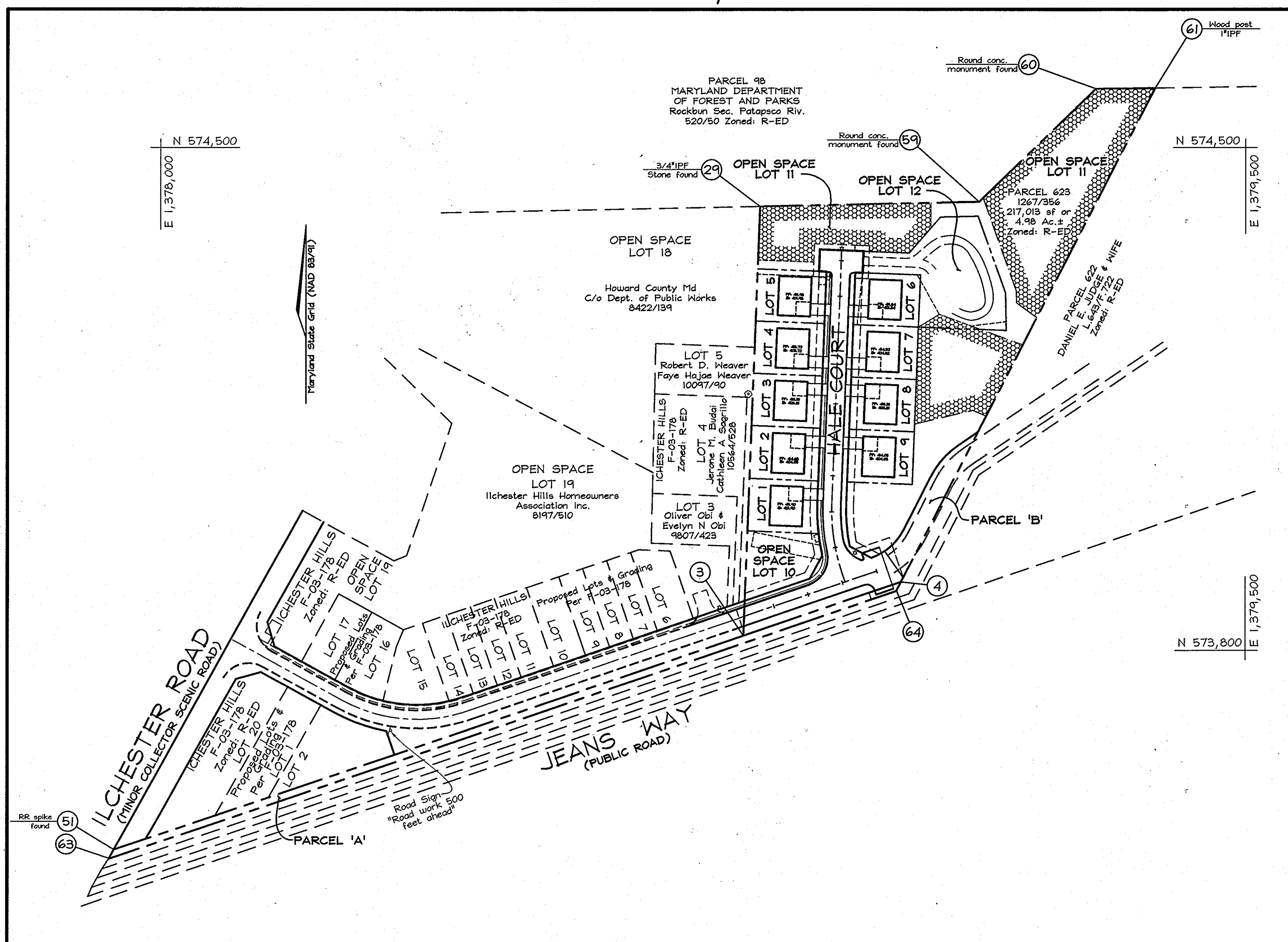


# FINAL ROAD CONSTRUCTION PLAN

## ILCHESTER HEIGHTS

### LOTS 1 THRU 9, OPEN SPACE LOTS 10 THRU 12 AND PARCELS 'A' AND 'B'

#### HOWARD COUNTY, MARYLAND



**LOCATION MAP & MAINTENANCE OF TRAFFIC PLAN**  
SCALE: 1"=100'

I hereby certify that the facility shown on this plan was constructed as shown on the 'As-Built' plans and meets with the approved plans and specifications.



7/10/13

NO.	REVISIONS	BY	DATE
1	ELIMINATE LEVER OPERATORS	MBA	6/13/13
2	NO AS-BUILT DATA THIS SHEET	MBA	7/16/13

**SHEET INDEX**

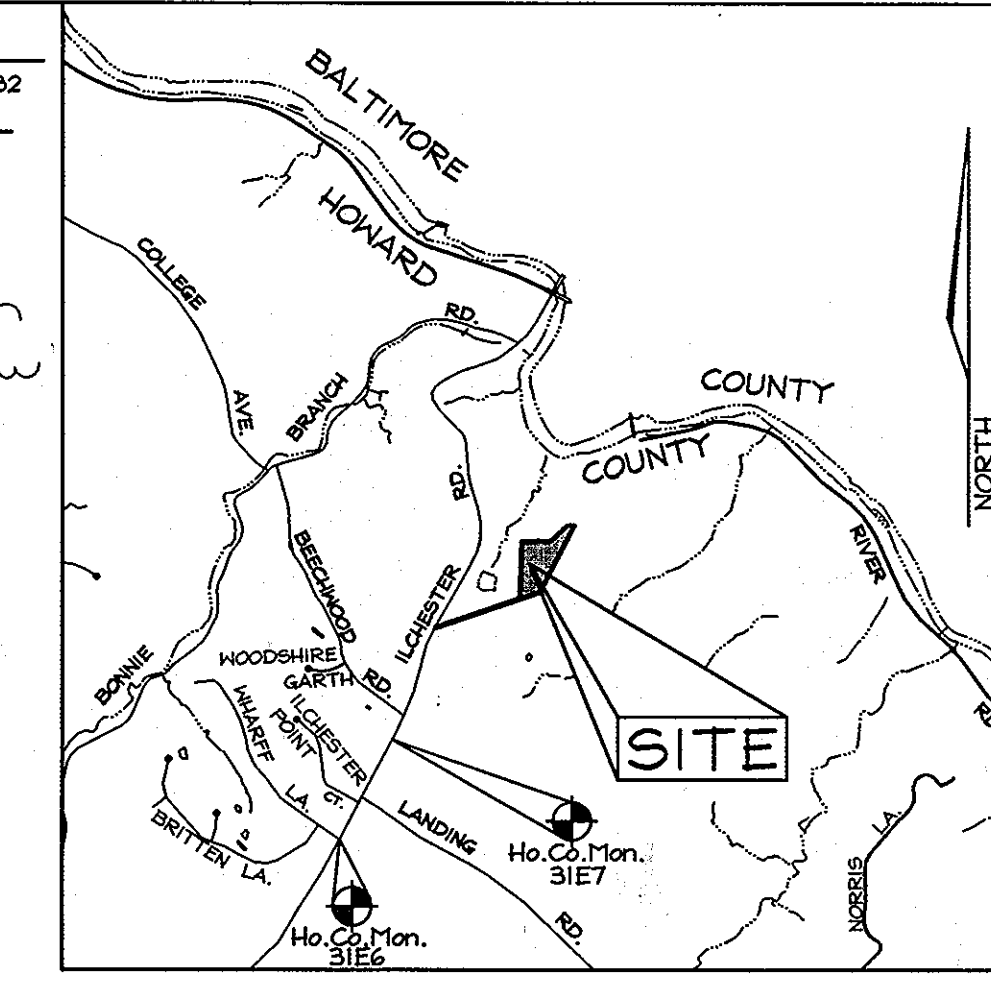
DESCRIPTION	SHEET No.
Cover Sheet & Maintenance of Traffic Plan	1 of 8
Road Plan and Profile - Jeans Way	2 of 8
Road Plan and Profile - Hale Court	3 of 8
Grading, Landscaping Sediment and Erosion Control Plan Profiles & Details	4 of 8
Details and Notes	5 of 8
Storm Drainage Area Map and Storm Drain Profiles	6 of 8
Storm Water Management Notes, Details, and Structure Schedule	7 of 8
Forest Conservation Plan, Notes and Details	8 of 8

**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: 7/24/09.

**LEGEND**

- Existing Contour
- Proposed Contour
- Direction of Flow
- Existing Spot Elevation
- Proposed Spot Elevation
- Existing Trees
- Forest Conservation Easement
- Public Stormwater Management Access, Drainage and Utility Easement
- Private Drainage and Utility Easement
- Private Wall and/or Sign Easement
- Public Reversible Easement
- Public Tree Maintenance Easement
- 15-24.9% Slopes
- 25-50% Slopes



**VICINITY MAP**  
SCALE: 1"=2000'  
ADC MAP 17 A, 1

**BENCHMARKS**

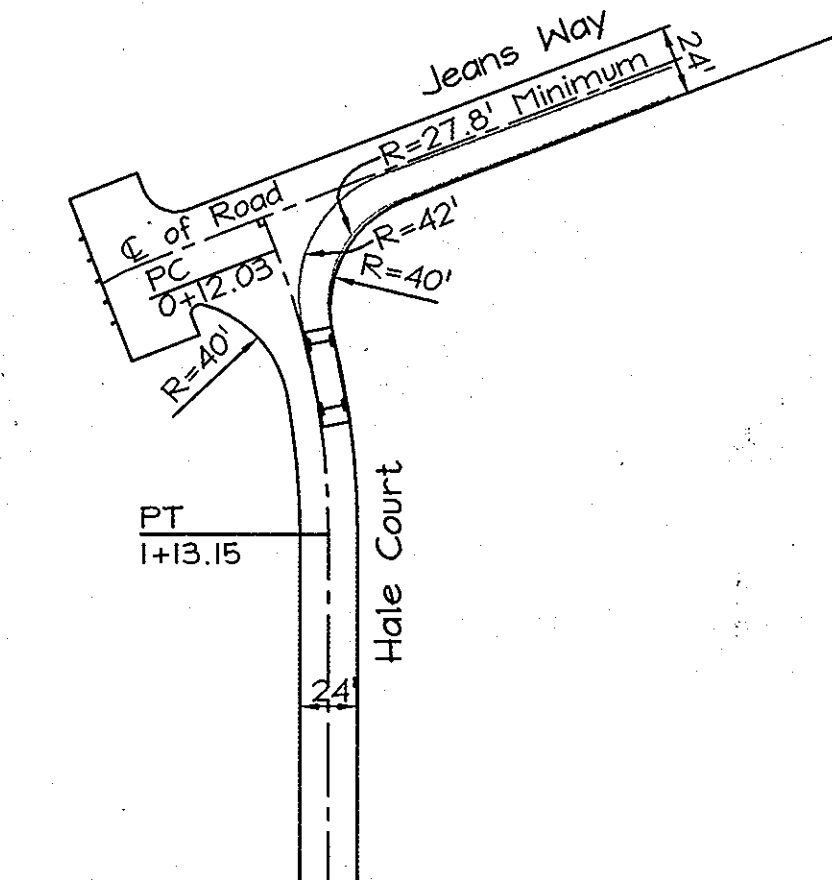
The coordinates shown hereon are based upon the Howard County Geodetic Control which is based on the Maryland State Plane coordinate system. Howard Co. Monument Nos. 31E6 and 31E7 were used for this project.  
Sta. 31E6 N 570,852.353 E 1,376,700.524 El.: 482.760 (feet)  
Sta. 31E7 N 572,335.322 E 1,377,503.920 El.: 478.648 (feet)

**ROAD CLASSIFICATION**

ROAD NAME	CLASSIFICATION	R/W
Jeans Way	Public Access Street	Varies
Hale Court	Public Access Place	40'

**COORDINATE TABLE**

POINT	NORTHING	EASTING
51	573,522.498	1,377,935.686
3	573,820.374	1,378,806.234
29	574,417.998	1,378,828.477
59	574,424.418	1,379,131.707
60	574,582.069	1,379,293.069
61	574,583.171	1,379,374.726
64	573,882.105	1,379,017.533
63	573,509.465	1,377,928.486
4	573,894.906	1,379,024.055



**MINIMUM TURNING PATH FOR SU DESIGN VEHICLE**  
Not to Scale

**OWNER/DEVELOPER**

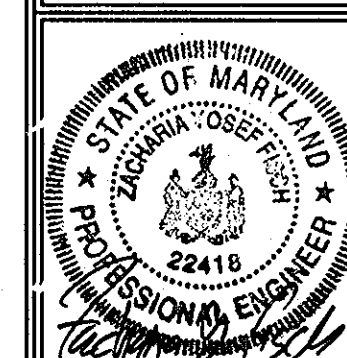
Mr. Robert A. Hale  
& Kim Hale  
4638 Ilchester Road  
Ellicott City, MD 21043-6819  
Tel: 410-788-8818

**COVER SHEET**

**ILCHESTER HEIGHTS**  
LOTS 1 THRU 9,  
OPEN SPACE LOTS 10 THRU 12  
AND PARCELS 'A' AND 'B'

TAX MAP 31, GRID 5  
1ST ELECTION DISTRICT

PARCEL 628  
HOWARD COUNTY, MARYLAND



**FSH Associates**  
Engineers Planners Surveyors  
6339 Howard Lane, Ellicott City, MD 21075  
Tel: 410-567-5200 Fax: 410-796-1562  
E-mail: info@fshri.com

DESIGN BY: AG-D  
DRAWN BY: CD/PJS  
CHECKED BY: ZYF  
SCALE: As Shown  
DATE: August 14, 2008  
M.O. No.: 3046  
SHEET No.: 1 OF 8

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

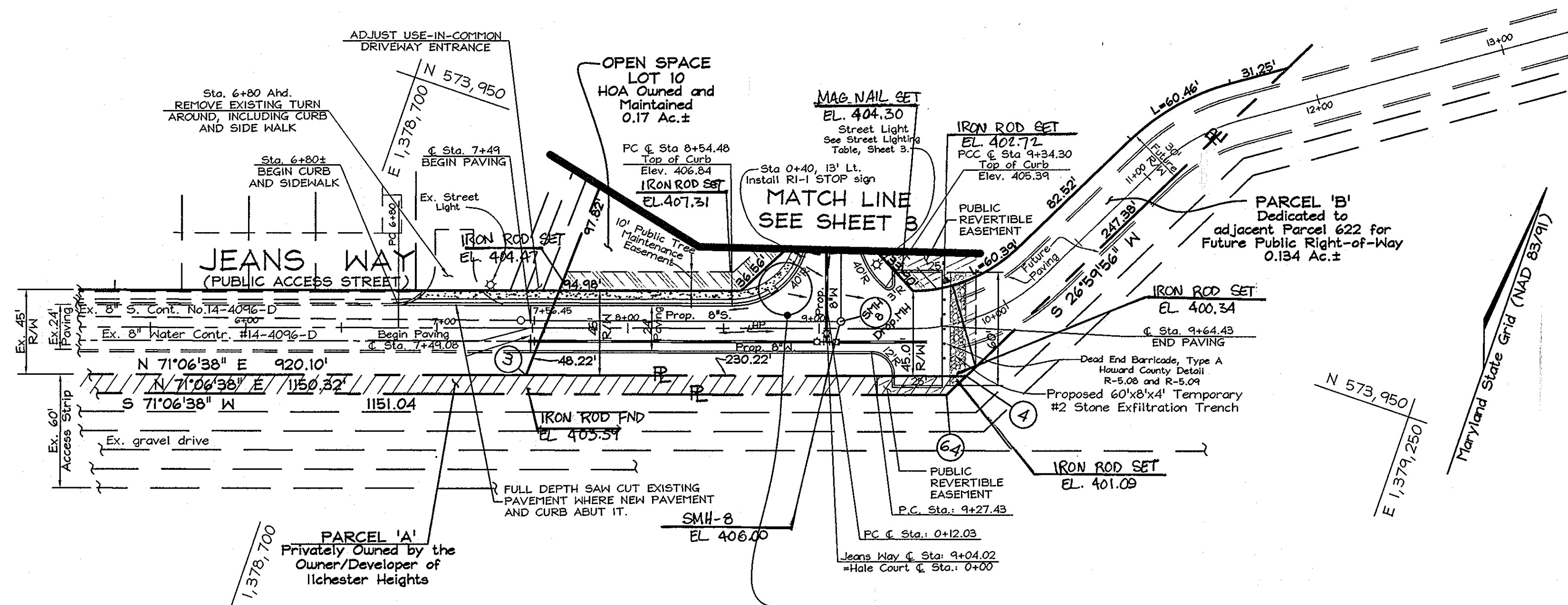
Cindy Harvath 9/30/08  
CHIEF, DIVISION OF LAND DEVELOPMENT

9/30/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

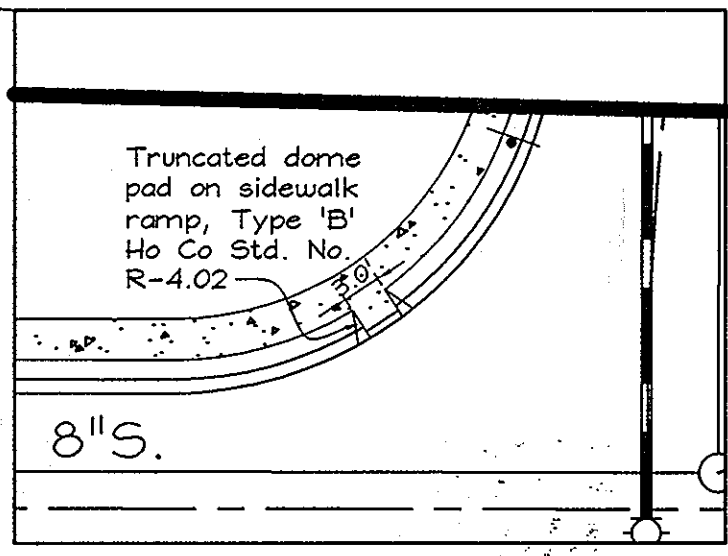
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Walter J. Mahan 9-25-08  
CHIEF, BUREAU OF HIGHWAYS



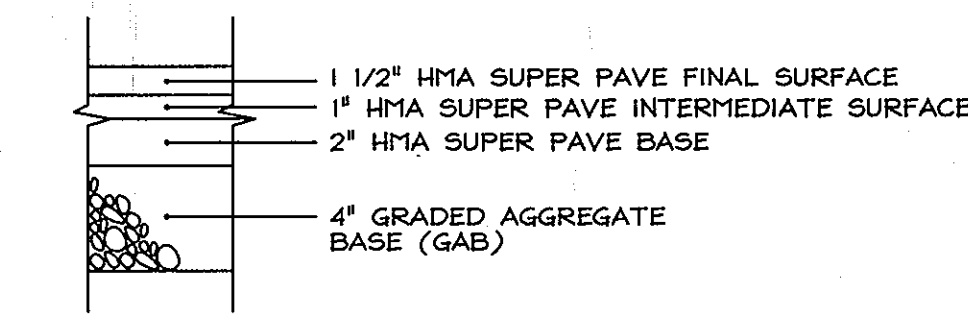


ROAD PLAN  
SCALE: 1"=50'



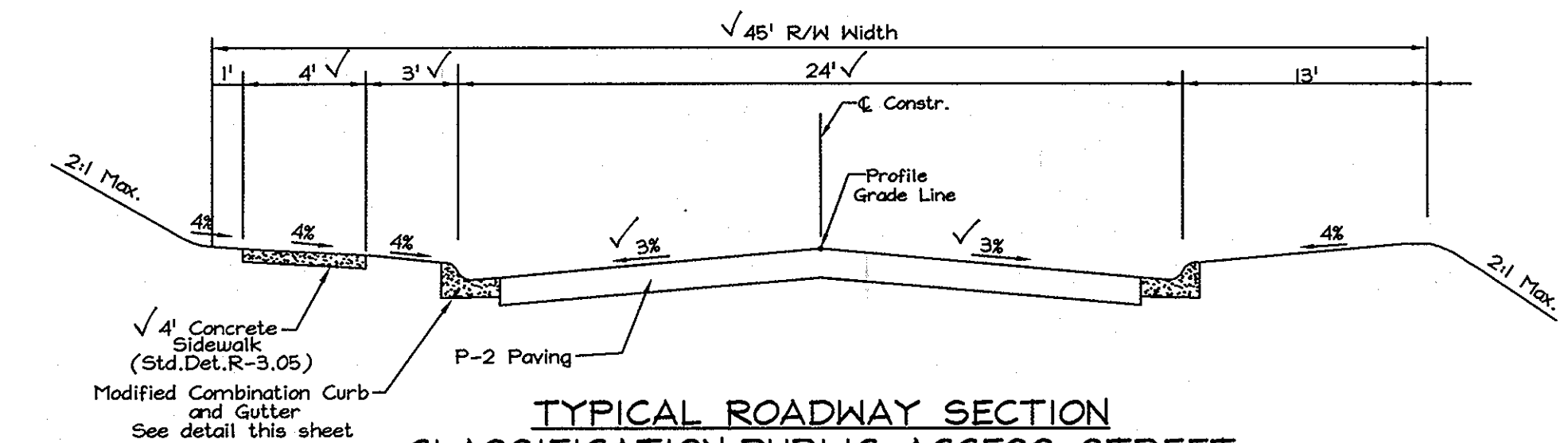
ENLARGEMENT  
SCALE: 1"=20'

P-2 LIGHT DUTY PAVING SECTION

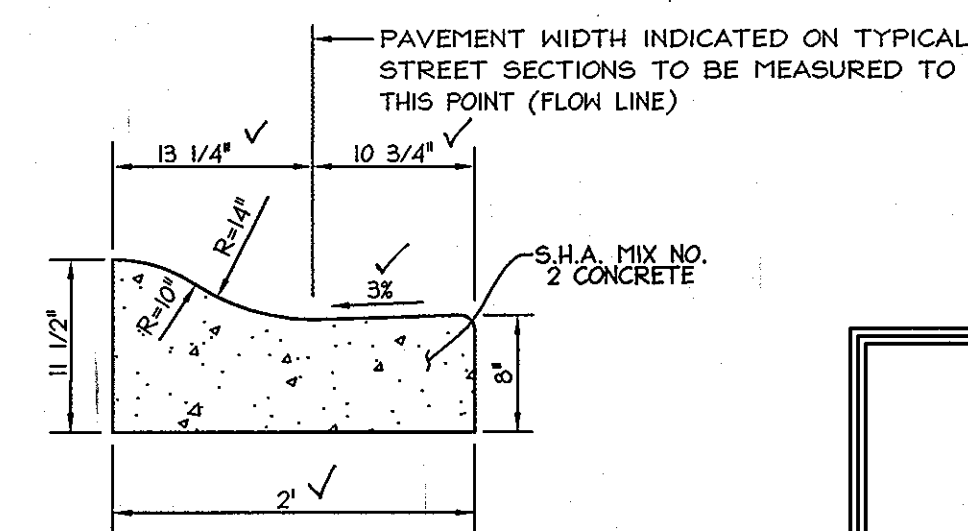


HOWARD CO. STD. DET. R-2.01-CBR=7  
N.T.S.

Note: This typical section reflects paving section associated with CBR-7 Bearing capacity of existing soils may require modification of this typical paving section.



TYPICAL ROADWAY SECTION  
CLASSIFICATION: PUBLIC ACCESS STREET  
HOWARD CO. STD. DET. R-1.02  
DESIGN SPEED: 25 MPH  
NOT TO SCALE



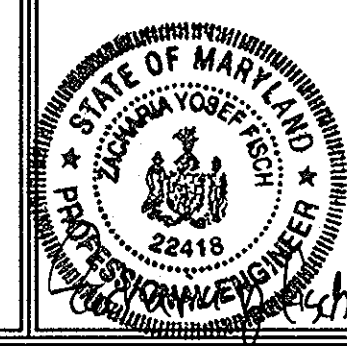
MODIFIED COMBINATION  
CURB & GUTTER  
HOWARD COUNTY STANDARD R-3.01  
NOT TO SCALE

OWNER/DEVELOPER

Mr. Robert A. Hale  
& L. Kim Hale  
4635 Ilchester Road  
Ellicott City, MD 21043-6819  
Tel: 410-788-8818

ROAD PLAN AND PROFILE  
JEANS WAY  
ILCHESTER HEIGHTS  
LOTS 1 THRU 9,  
OPEN SPACE LOTS 10 THRU 12  
AND PARCELS 'A' AND 'B'

TAX MAP 31 GRID 5 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND PARCEL 623



FSH Associates

Engineers Planners Surveyors  
6339 Howard Lane, Ellicott City, MD 21075  
Tel: 410-567-5200 Fax: 410-796-1562  
E-mail: info@fsher.com

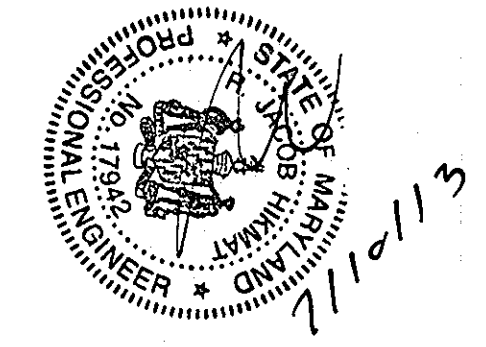
DESIGN BY: AG-D  
DRAWN BY: CD/PJS  
CHECKED BY: ZYF  
SCALE: As Shown  
DATE: August 14, 2008  
M.O. No.: 3046  
SHEET No.: 2 OF 8

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

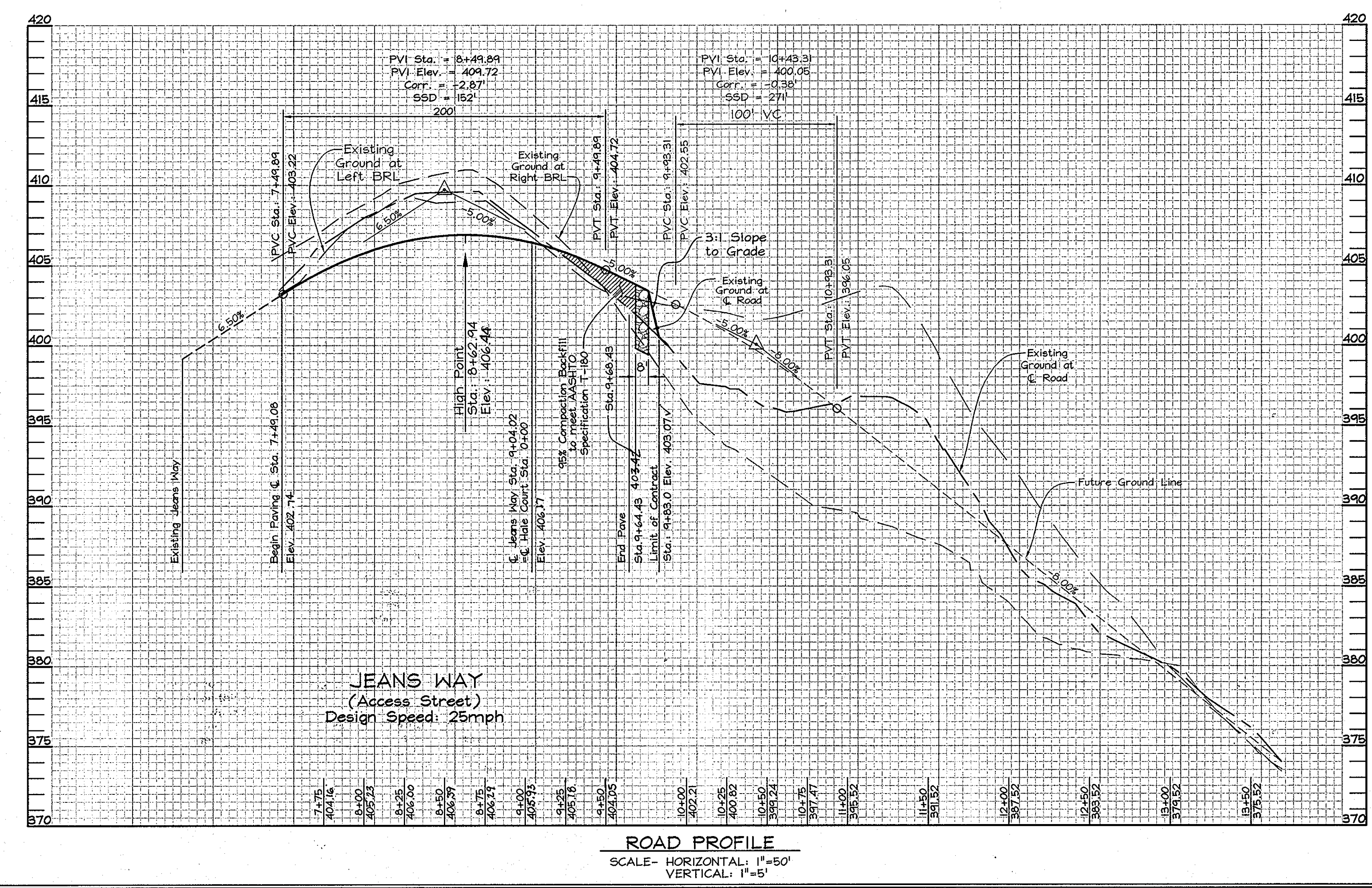
*Cinda Hauer* 9/30/08  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*John Dammann* 9/30/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

*Willa Z. Mahan* 9-25-08  
CHIEF, BUREAU OF HIGHWAYS DATE



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: 7/29/04.



ROAD PROFILE  
SCALE: HORIZONTAL: 1"=50'  
VERTICAL: 1"=5'







N 573,950  
E 1,377,800

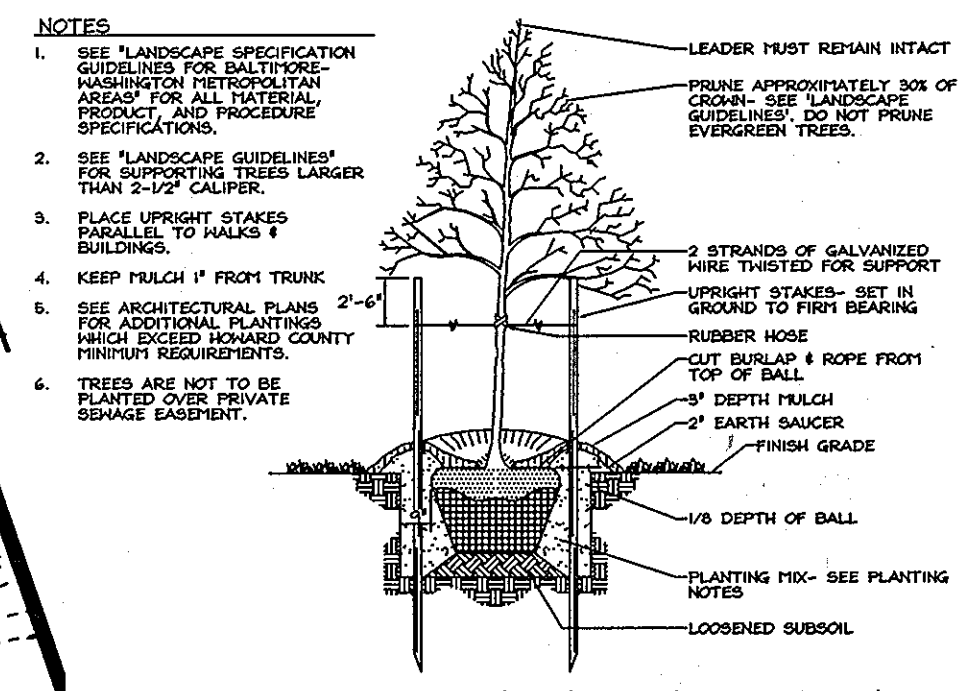
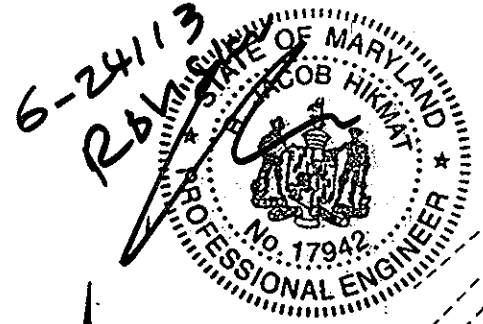
N 573,550  
E 1,377,800

### LANDSCAPE NOTES

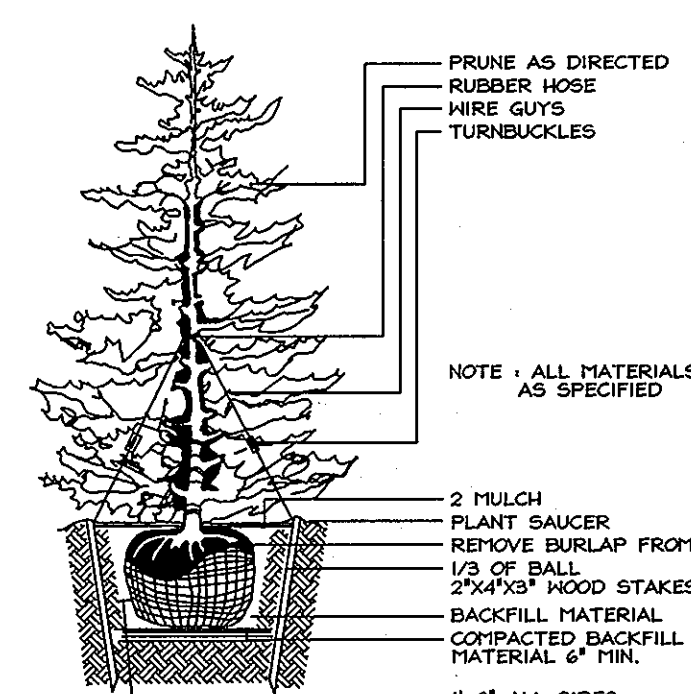
- At the time of installation, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review 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.
- Financial surety for the required landscaping will be posted as part of the Developer's Agreement in the amount of \$3,750.00 (4 shade trees @ \$300.00 each, and 17 evergreen trees @ \$150.00 each).

STREET TREE SCHEDULE			
STREET NAME	LF	TREES REQUIRED	PROVIDED
Jeans Way	430'	1:40 11	11
Hale Court	924'	1:40 24	24

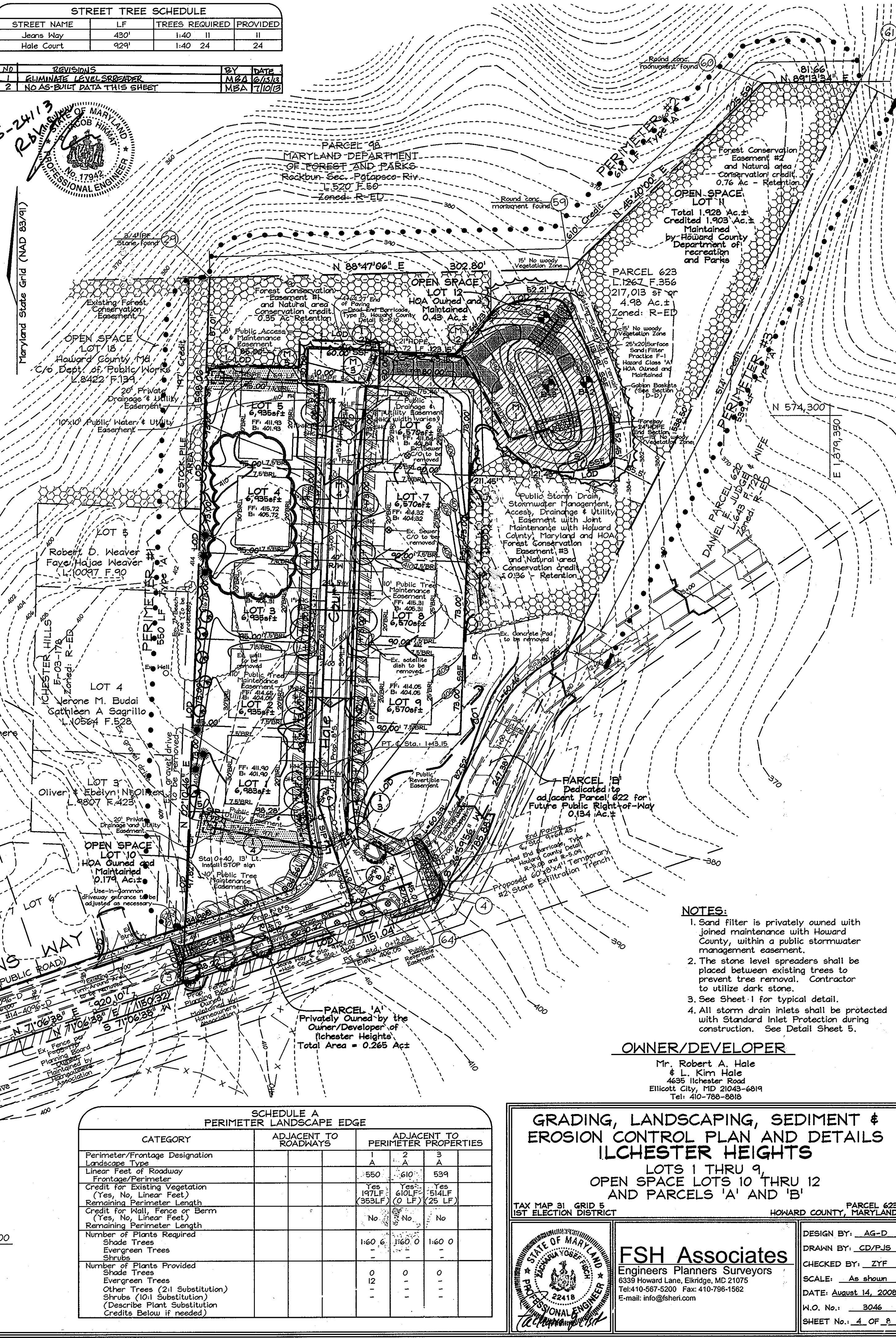
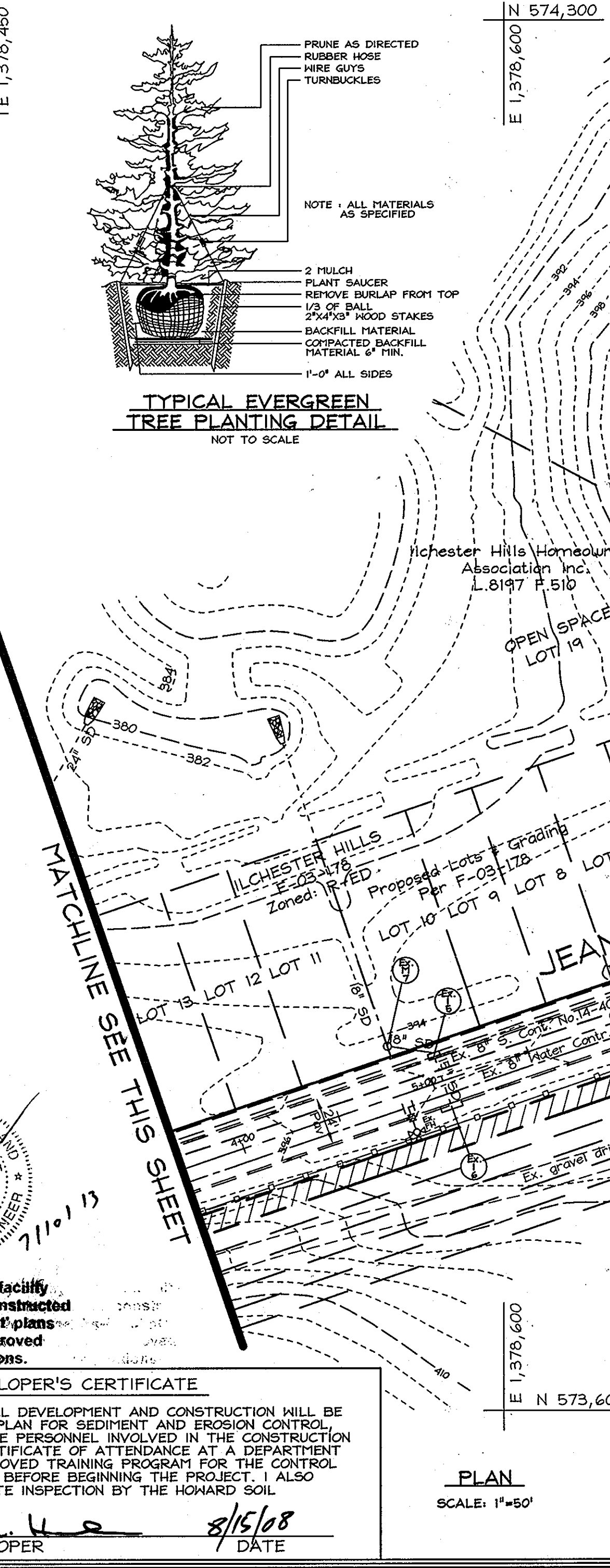
NO.	REVISIONS	BY	DATE
1	ELIMINATE LEVEL SPREADER	MBA	12/13/13
2	NO AS-BUILT DATA THIS SHEET	MBA	11/10/13



TYPICAL TREE PLANTING AND STAKING  
DECIDUOUS TREES UP TO 2-1/2\"/>



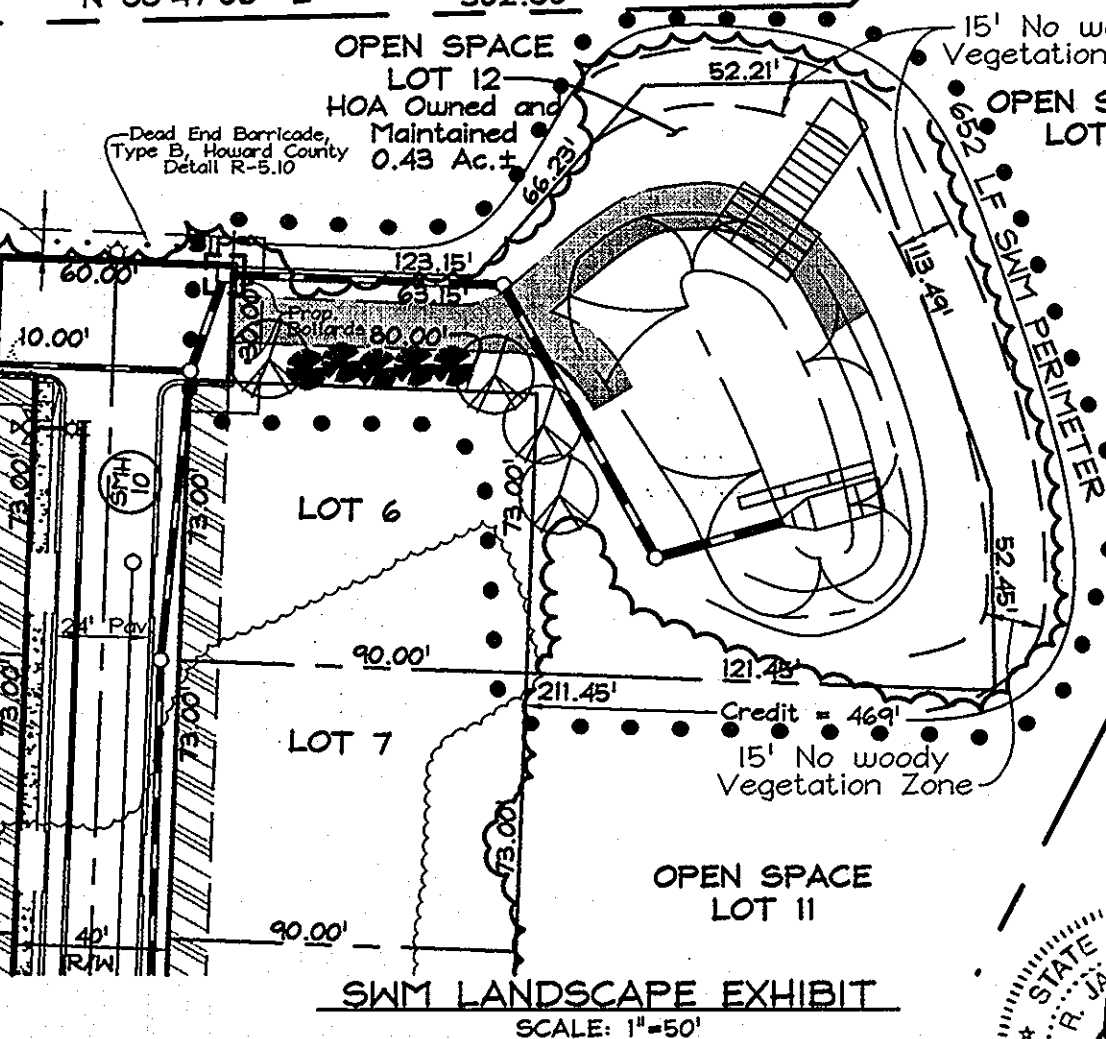
TYPICAL EVERGREEN TREE PLANTING DETAIL  
NOT TO SCALE



LANDSCAPE SCHEDULE				
KEY	QUAN.	BOTANICAL/COMMON NAME	SIZE	NOTE
	4	Quercus phellos Willow Oak	2 1/2\"-3\" Cal.	B & B
	6	Ilex x 'Nellie R. Stevens' Nellie Stevens Holly	5\"-6\" Ht.	B & B
	5	Thuja occidentalis 'Nigra' 'Nigra' American Arborvitae	5\"-6\" Ht.	B & B
	6	Thuja occidentalis 'Emerald Green' 'Emerald Green' American Arborvitae	5\"-6\" Ht.	B & B

STREET TREE PLANTING SCHEDULE				
KEY	QUAN.	BOTANICAL/COMMON NAME	SIZE	NOTE
	24	Gleditsia tricanthos nemris 'Imperial' 'Imperial' Thornless Honeylocust	2 1/2\"-3\" Cal.	B & B
	7	Acer rubrum 'October Glory' 'October Glory' Red Maple	2 1/2\"-3\" Cal.	B & B
	4	Quercus coccinea Scarlet Oak	2 1/2\"-3\" Cal.	B & B

SCHEDULE D : STORMWATER MANAGEMENT AREA LANDSCAPING			
Perimeter/Frontage Designation	4		
Landscape Type	B		
Linear Feet of Perimeter	652'		
Credit for Existing Vegetation (No, Yes and Linear Feet)	Yes 46'		
Remaining Perimeter Length	183'		
Credit for Wall, Fence or Berm (No, Yes and %)	No		
Number of Trees Required			
Shade Trees (1:50)	1:50	4	
Evergreen Trees (1:40)	1:40	5	
Number of Trees Provided			
Shade Trees	4	Shade Trees	
Evergreen Trees	5	Evergreen Trees	



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Robert A. Hale*  
CHIEF, BUREAU OF HIGHWAYS  
9-25-08  
DATE

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: 7/29/09.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*John R. Roberts*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Cheryl Ham*  
CHIEF, DIVISION OF LAND DEVELOPMENT

DEVELOPER'S BUILDER'S CERTIFICATE  
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THIS PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF 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.  
*Robert A. Hale*  
SIGNATURE OF DEVELOPER  
8/15/08  
DATE

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.  
*John R. Roberts*  
SIGNATURE OF ENGINEER  
9/15/08  
DATE

I hereby certify that the facility shown on this plan was constructed as shown on the 'As-Built' plans and meets with the approved plans and specifications.  
*Robert A. Hale*  
SIGNATURE OF DEVELOPER  
8/15/08  
DATE

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 AS 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.  
*Robert A. Hale*  
SIGNATURE OF DEVELOPER  
8/15/08  
DATE

PLAN  
SCALE: 1\"/>

SCHEDULE A PERIMETER LANDSCAPE EDGE			
CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	
Perimeter/Frontage Designation		1	3
Landscape Type		A	A
Linear Feet of Roadway	550	610	539
Frontage/Perimeter			
Credit for Existing Vegetation (Yes, No, Linear Feet)	Yes 197LF (353LF)	Yes 610LF (0 LF)	Yes 514LF (25 LF)
Remaining Perimeter Length	No	No	No
Credit for Wall, Fence or Berm (Yes, No, Linear Feet)	No	No	No
Remaining Perimeter Length	No	No	No
Number of Plants Required			
Shade Trees	1:60	1:60	1:60
Evergreen Trees	6	0	0
Shrubs			
Number of Plants Provided			
Shade Trees	0	0	0
Evergreen Trees	12	0	0
Other Trees (2:1 Substitution)	-	-	-
Shrubs (10:1 Substitution)	-	-	-
(Describe Plant Substitution Credits Below if needed)			

**GRADING, LANDSCAPING, SEDIMENT & EROSION CONTROL PLAN AND DETAILS**  
**ILCHESTER HEIGHTS**  
LOTS 1 THRU 9  
OPEN SPACE LOTS 10 THRU 12  
AND PARCELS 'A' AND 'B'

TAX MAP 31 GRID 5  
1ST ELECTION DISTRICT

PARCEL 623  
HOWARD COUNTY, MARYLAND

DESIGN BY: AG-D  
DRAWN BY: CD/PJS  
CHECKED BY: ZYF  
SCALE: As shown  
DATE: August 14, 2008  
M.O. No.: 3046  
SHEET No.: 4 OF 8

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

### OWNER/DEVELOPER

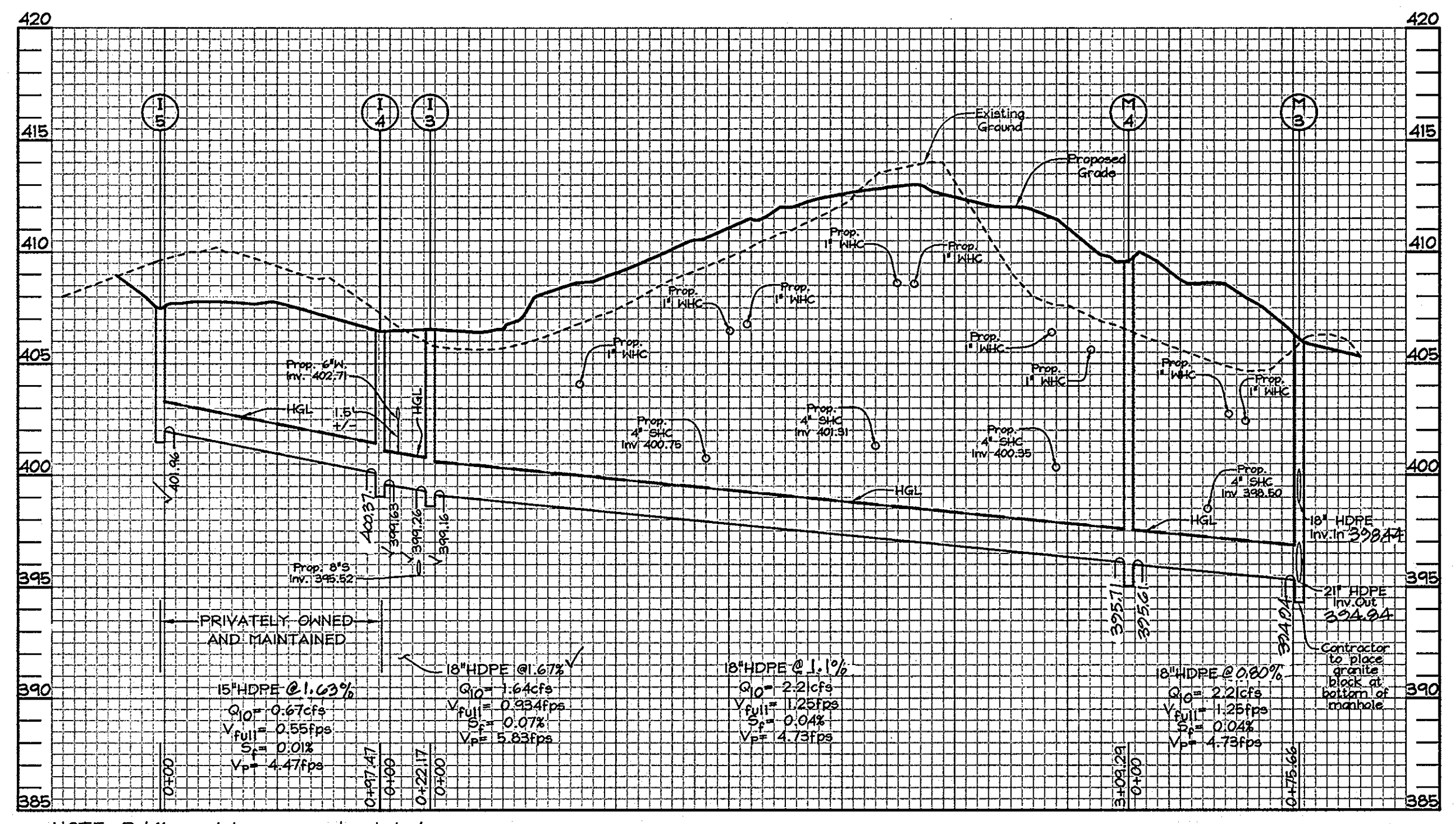
Mr. Robert A. Hale  
& L. Kim Hale  
4635 Ilchester Road  
Ellicott City, MD 21043-6819  
Tel: 410-788-9818

- NOTES:
- Sand filter is privately owned with joint maintenance with Howard County, within a public stormwater management easement.
  - The stone level spreaders shall be placed between existing trees to prevent tree removal. Contractor to utilize dark stone.
  - See Sheet 1 for typical detail.
  - All storm drain inlets shall be protected with standard Inlet Protection during construction. See Detail Sheet 5.

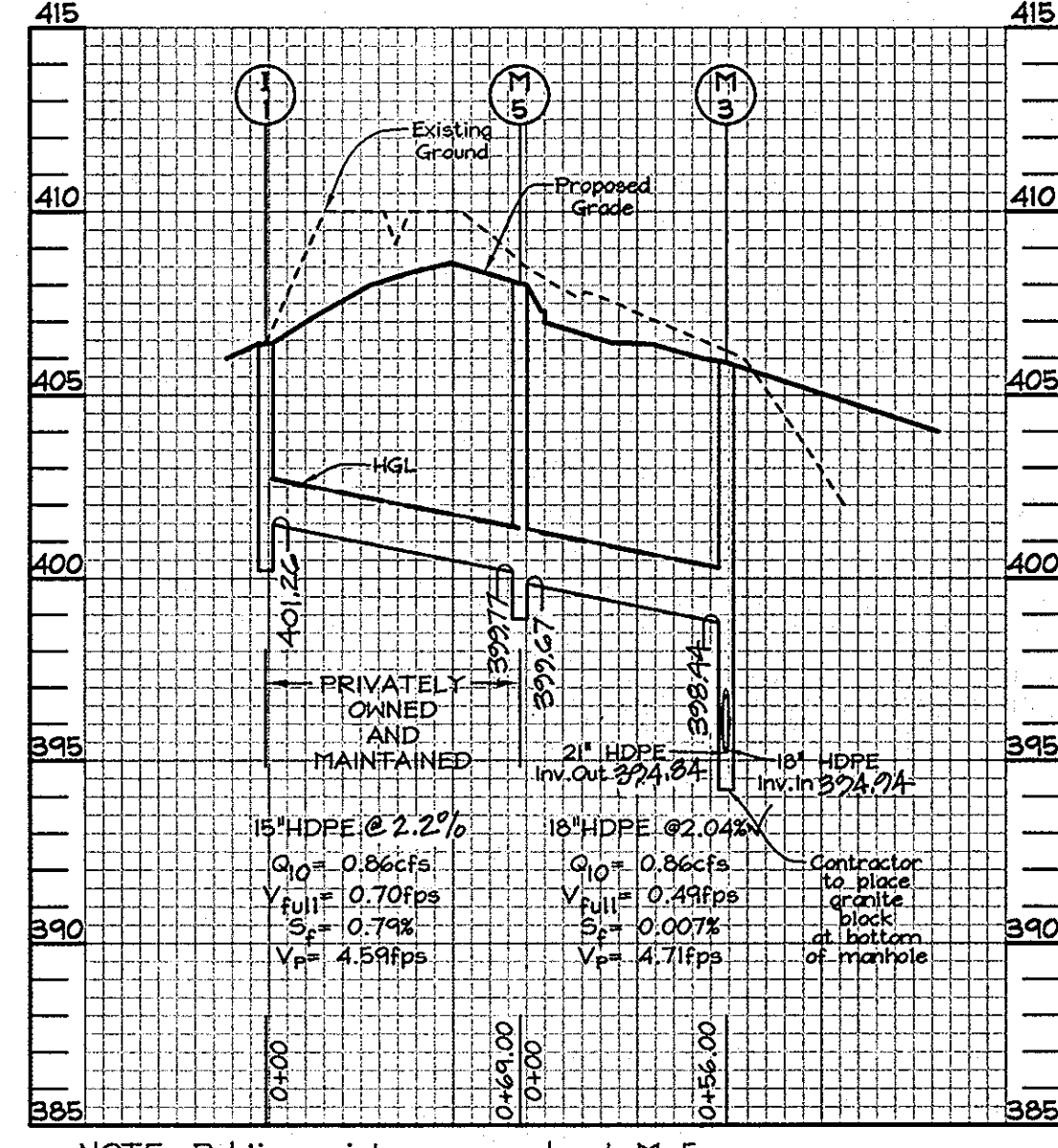




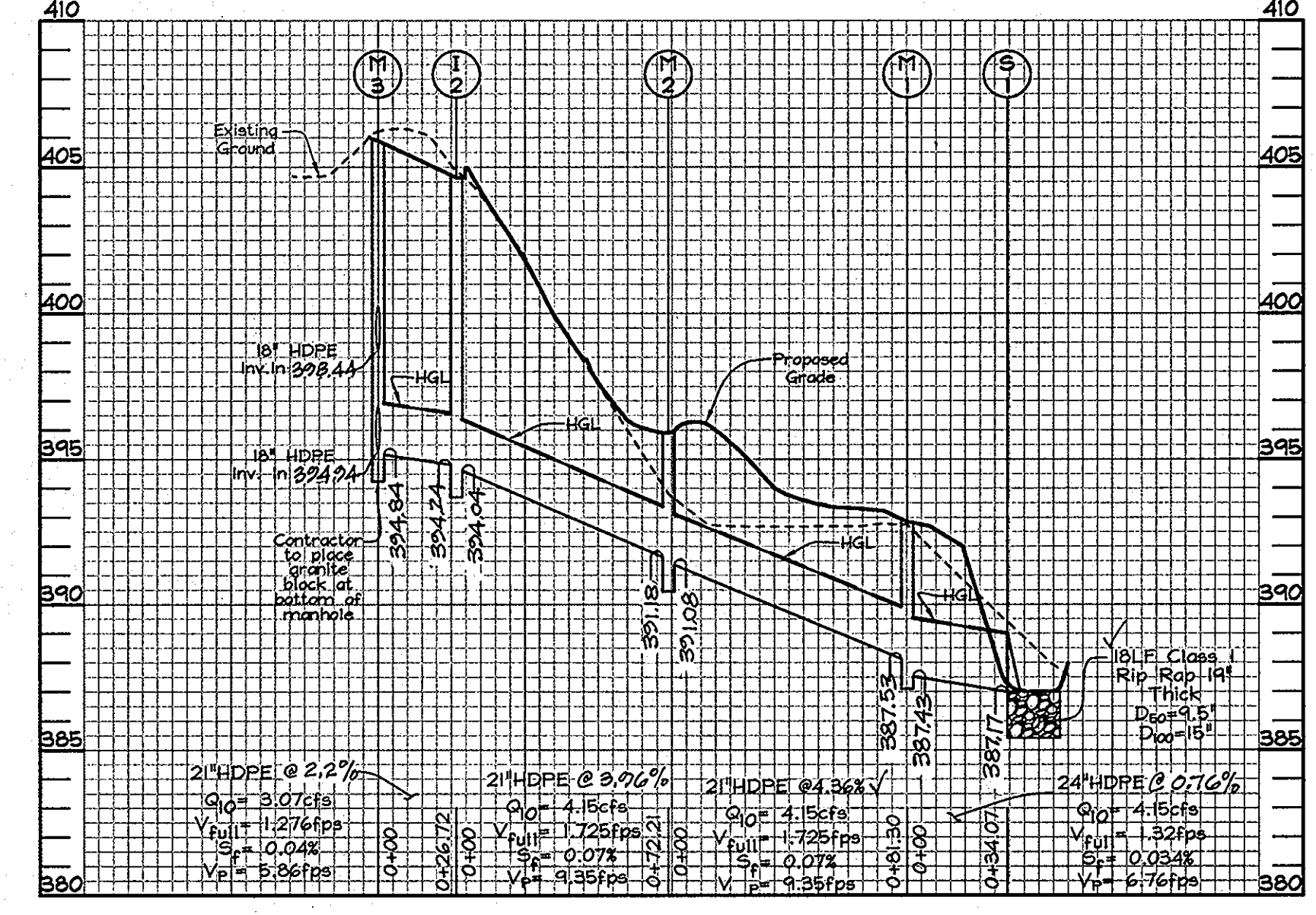




NOTE: Public maintenance ends at I-4.  
**STORM DRAIN PROFILE**  
 Scale: Horizontal-1"=50'  
 Vertical-1"=5'



NOTE: Public maintenance ends at M-5.  
**STORM DRAIN PROFILE**  
 Scale: Horizontal-1"=50'  
 Vertical-1"=5'



**STORM DRAIN PROFILE**  
 Scale: Horizontal-1"=50'  
 Vertical-1"=5'

STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
I-1	Type 'S' Inlet See note 4	N 574,333.17 E 1,378,835.76	406.14	-	401.20	D 4.22 (Privately Owned and Maintained)
I-2	Type 'S' Inlet See note 4	N 574,353.59 E 1,378,969.63	404.34	394.24	394.04	D 4.22
I-3	Type 'S' Inlet See note 4	N 573,943.97 E 1,378,944.85	406.22	399.20	399.16	D 4.22
I-4	Type 'S' Inlet See note 4	N 573,934.95 E 1,378,924.60	406.07	400.37	399.63	D 4.22
I-5	Type 'S' Inlet See note 4	N 573,952.79 E 1,378,828.77	407.55	-	401.96	D 4.22 (Privately Owned and Maintained)
M-1	Standard Precast Manhole (4')	N 574,279.73 E 1,379,081.20	392.53	387.53	387.43	G 5.12
M-2	Standard Precast Manhole (4')	N 574,350.85 E 1,379,041.79	395.88	391.18	391.08	G 5.12
M-3	Standard Precast Manhole (4')	N 574,328.42 E 1,378,960.67	405.54	399.74	394.84	G 5.12
M-4	Standard Precast Manhole (4')	N 574,253.16 E 1,378,952.94	407.41	395.71	395.61	G 5.12
M-5	Standard Precast Manhole (4')	N 574,330.52 E 1,378,904.70	408.07	399.77	399.67	G 5.12
S-1	24" HDPE End Section	N 574,288.88 E 1,379,114.00	387.17	387.17	-	Honor or equivalent

NOTES: 1. Top elevations for Type 'S' Inlets along curb and gutters are to the edge of grate at the flow line. Top elevations for Type 'S' 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.  
 4. Install Vane grate, see detail D-4.92.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Cindy Harter 9/30/08  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
 Mike Z. ... 9-25-08  
 CHIEF, BUREAU OF HIGHWAYS DATE

PUBLIC PIPE SCHEDULE		
SIZE	TYPE	LENGTH
18"	HDPE	487 LF
21"	HDPE	91 LF
24"	HDPE	109 LF

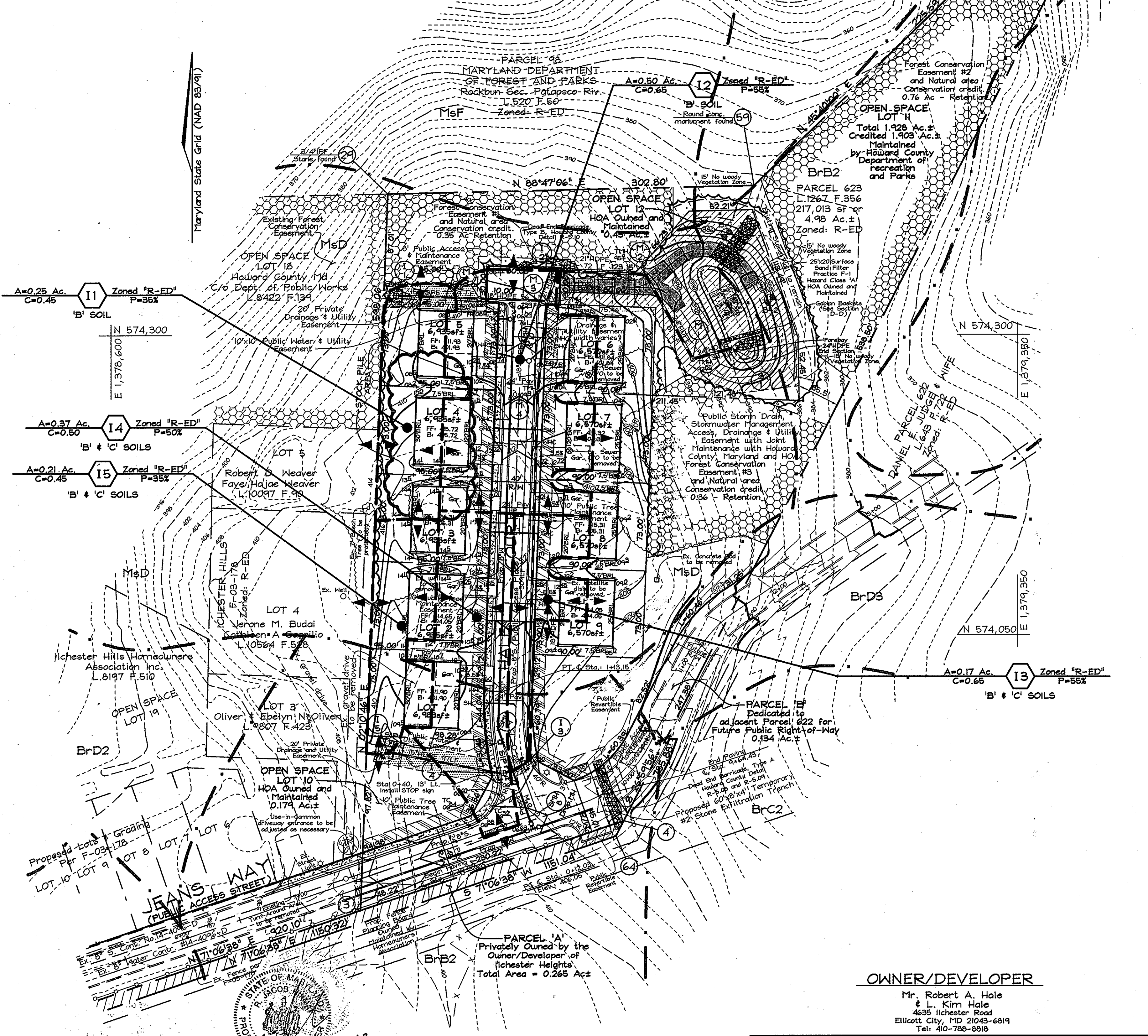
PRIVATE PIPE SCHEDULE		
SIZE	TYPE	LENGTH
18"	HDPE	162 LF

I hereby certify that the facility shown on this plan was constructed as shown on the 'As-Built' plans and meets with the approved plans and specifications.

NO	REVISIONS	BY	DATE
1	ELIMINATE LEVEL SPREADERS	MBB	8/19/08
2	AS-BUILT DATA ADDED	MBB	7/19/08

PLAN VIEW  
 Scale: 1"=50'

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
BrB2	Brandywine loam, 3 to 8 percent slopes, moderately eroded	C
BrC2	Brandywine loam, 8 to 15 percent slopes, moderately eroded	C
BrD3	Brandywine loam, 15 to 25 percent slopes, severely eroded	C
BrF	Brandywine loam, 25 to 60 percent slopes	C
MxD	Montalto and Relay very stony silt loams, 3 to 25 percent slopes	B
MxF	Montalto and Relay very stony silt loams, 25 to 60 percent slopes	B



OWNER/DEVELOPER  
 Mr. Robert A. Hale & L. Kim Hale  
 4635 Ilchester Road  
 Ellcott City, MD 21043-6819  
 Tel: 410-788-8818

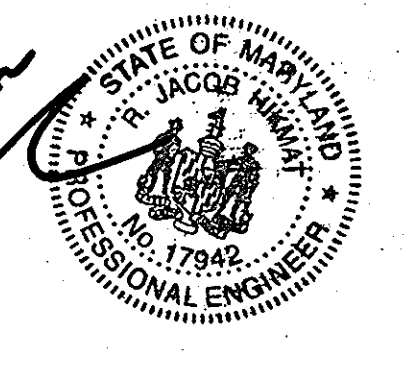
**STORM DRAINAGE AREA MAP AND STORM DRAIN PROFILES**  
**ILCHESTER HEIGHTS**  
 LOTS 1 THRU 9  
 OPEN SPACE LOTS 10 THRU 12  
 AND PARCELS 'A' AND 'B'

TAX MAP 31 GRID 5 1ST ELECTION DISTRICT PARCEL 623 HOWARD COUNTY, MARYLAND

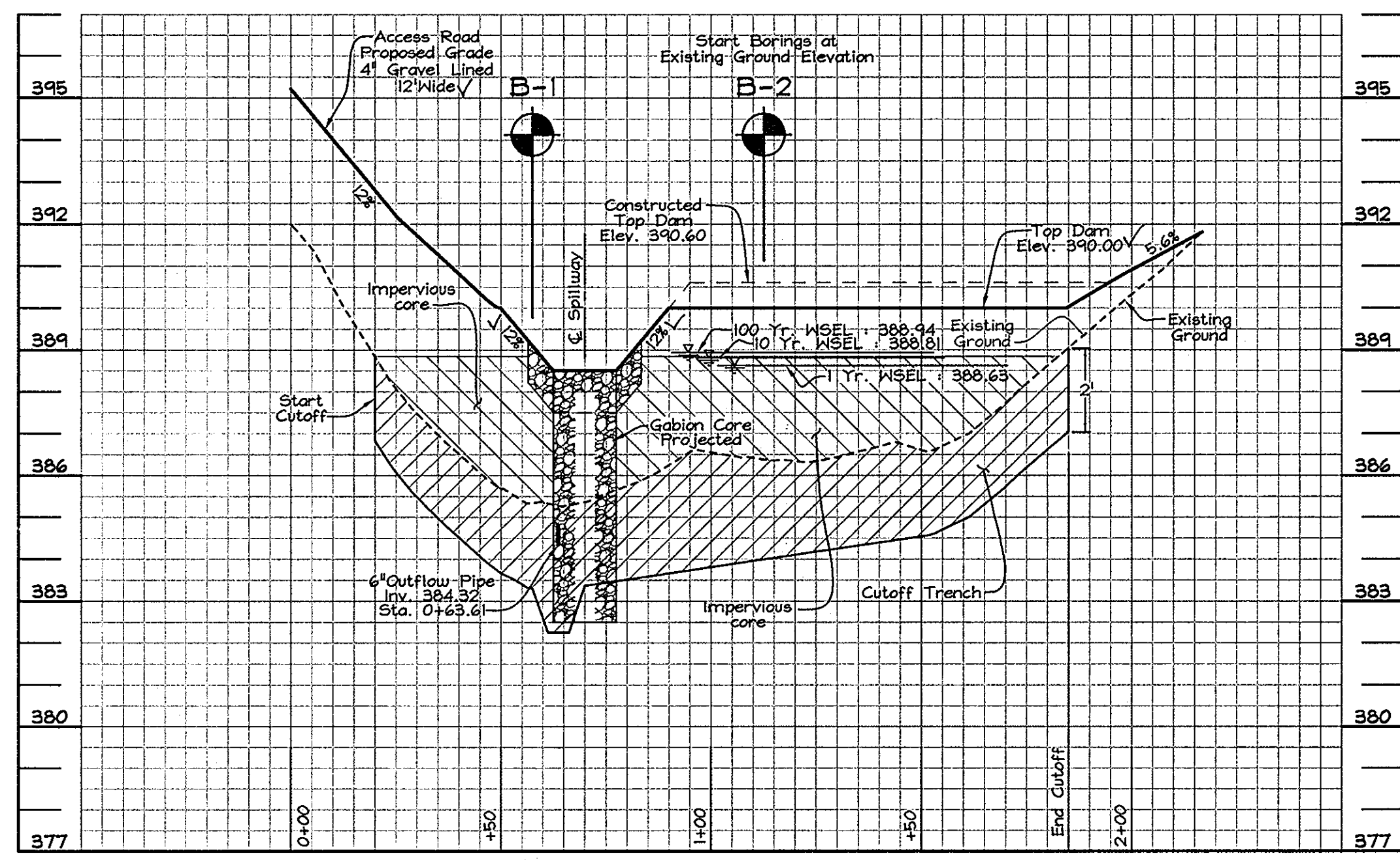
**FSH Associates**  
 Engineers Planners Surveyors  
 6339 Howard Lane, Elkridge, MD 21075  
 Tel: 410-567-5200 Fax: 410-798-1582  
 E-mail: info@fsh.com

DESIGN BY: AG-D  
 DRAWN BY: CDP-JS  
 CHECKED BY: ZYF  
 SCALE: 1"=50'  
 DATE: August 14, 2008  
 H.C. No.: 3046  
 SHEET No.: 6 OF 8

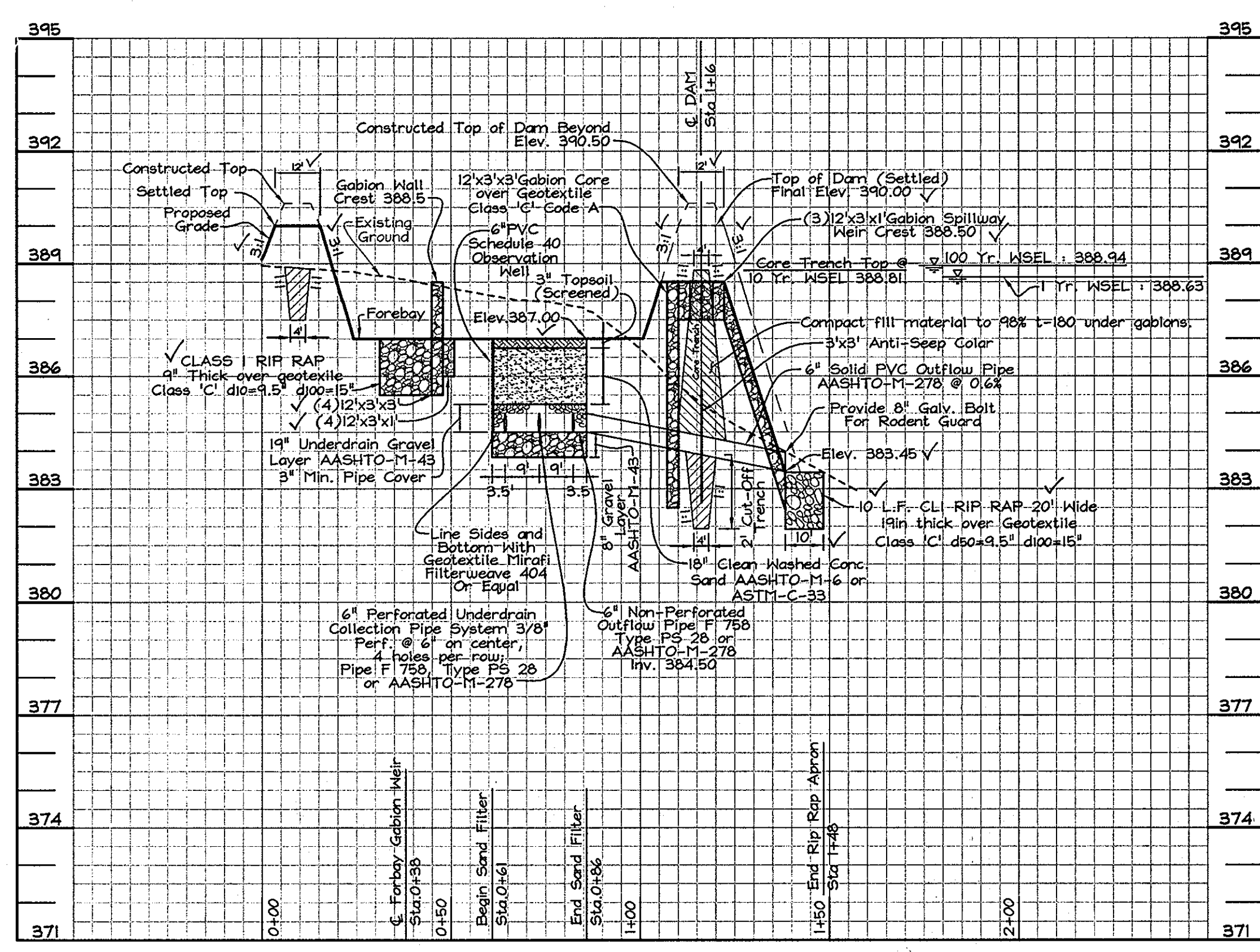
PROFESSIONAL CERTIFICATION  
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. #22418, Expiration Date: 7/29/09.



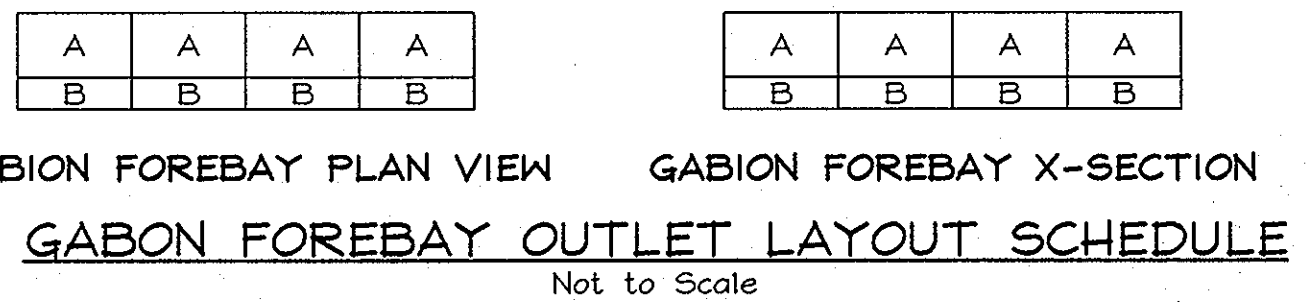




**SWIM POND SECTION 'A'-'A' CL EMBANKMENT**  
Scale: Horizontal 1"=30'  
Vertical 1"=3'



**SECTION 'B'-'B' CL SAND FILTER FACILITY**  
Scale: Horizontal 1"=30'  
Vertical 1"=3'



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Cindy Hamer* 9/26/08  
CHIEF, DIVISION OF LAND DEVELOPMENT W DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*William R. ...* 9-25-08  
CHIEF, BUREAU OF HIGHWAYS W DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT  
*[Signature]*  
HOWARD SCD DATE

I hereby certify that the facility shown on this plan was constructed as shown on the 'As-Built' plans and meets with the approved plans and specifications.

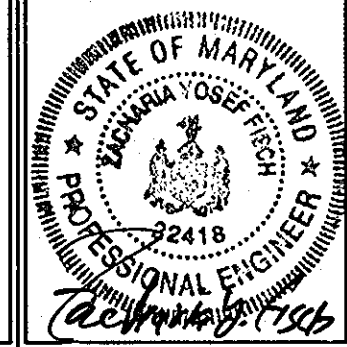
No	REVISIONS	BY	DATE
1	ELIMINATE LEVEL SPREADERS	MSA	6/18/08
2	AS-BUILT DATA ADDED	MSA	7/10/08

**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.  
*Racharia ...* 8/15/08  
SIGNATURE OF ENGINEER DATE

**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: 7/29/09.

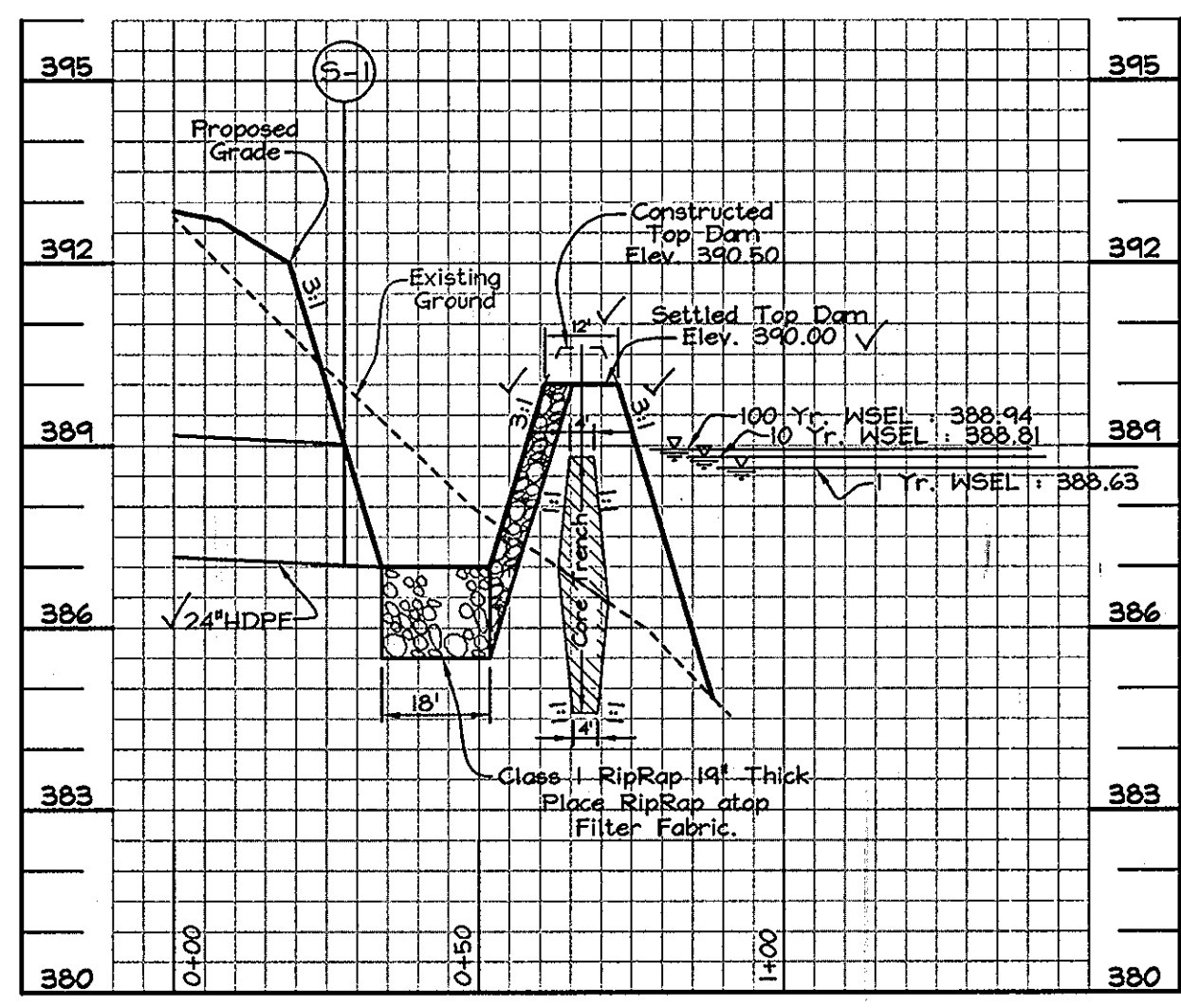
**DEVELOPER'S CERTIFICATE**  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED 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]* 8/15/08  
SIGNATURE OF DEVELOPER DATE

**STORMWATER MANAGEMENT NOTES**  
DETAILS, AND STRUCTURE SCHEDULE  
**ILCHESTER HEIGHTS**  
LOTS 1 THRU 9  
OPEN SPACE LOTS 10 THRU 12  
AND PARCELS 'A' AND 'B'

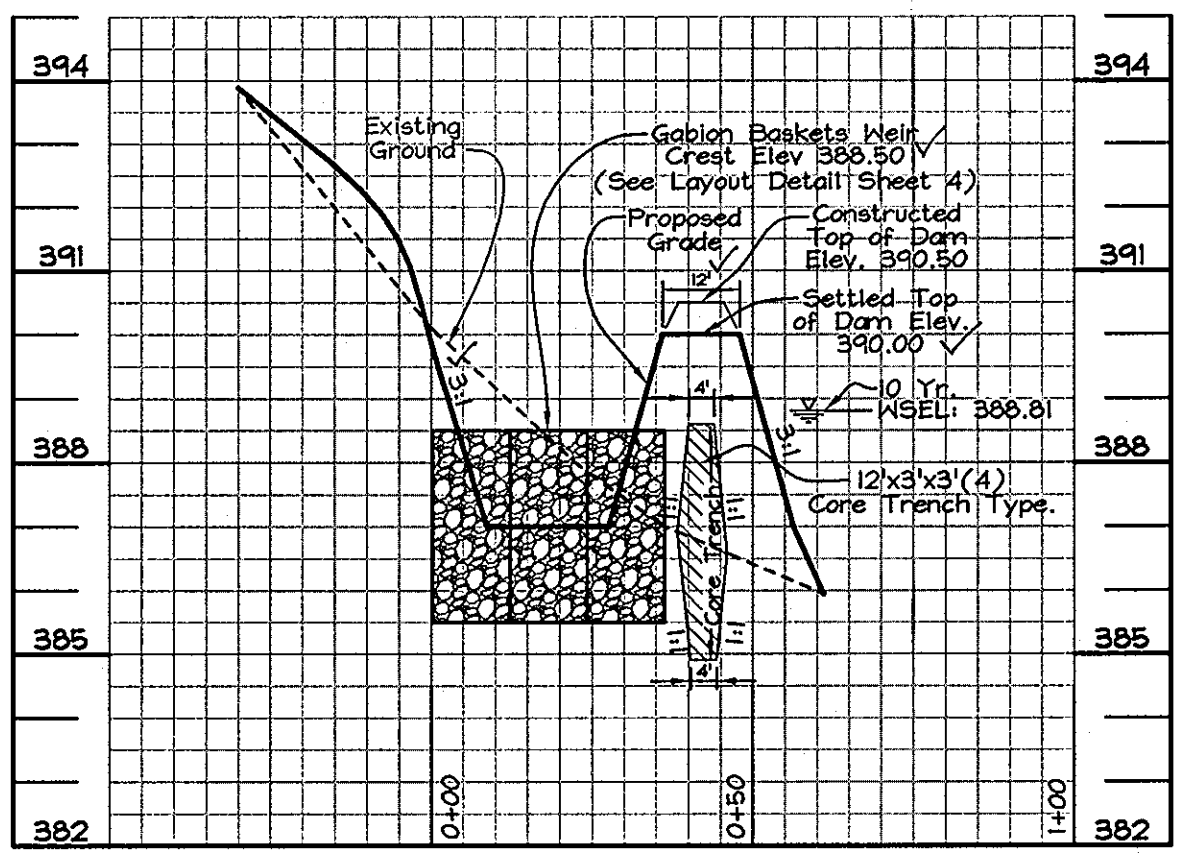


**FSH Associates**  
Engineers Planners Surveyors  
6339 Howard Lane, Elkridge, MD 21075  
Tel: 410-567-5200 Fax: 410-796-1562  
E-mail: info@fsher.com

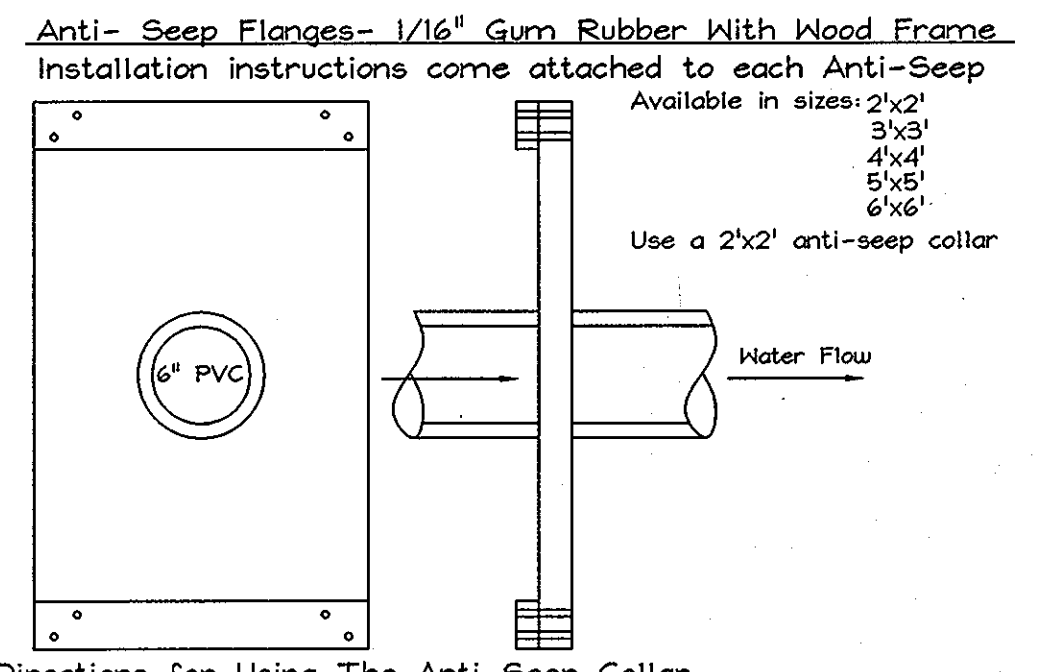
DESIGN BY: SH  
DRAWN BY: PS  
CHECKED BY: ZYF  
SCALE: 1"=50'  
DATE: August 14, 2008  
W.O. No.: 3046  
SHEET No.: 7 OF 8



**SECTION 'C'-'C' CL SWM FOREBAY**  
Scale: Horizontal 1"=30'  
Vertical 1"=3'

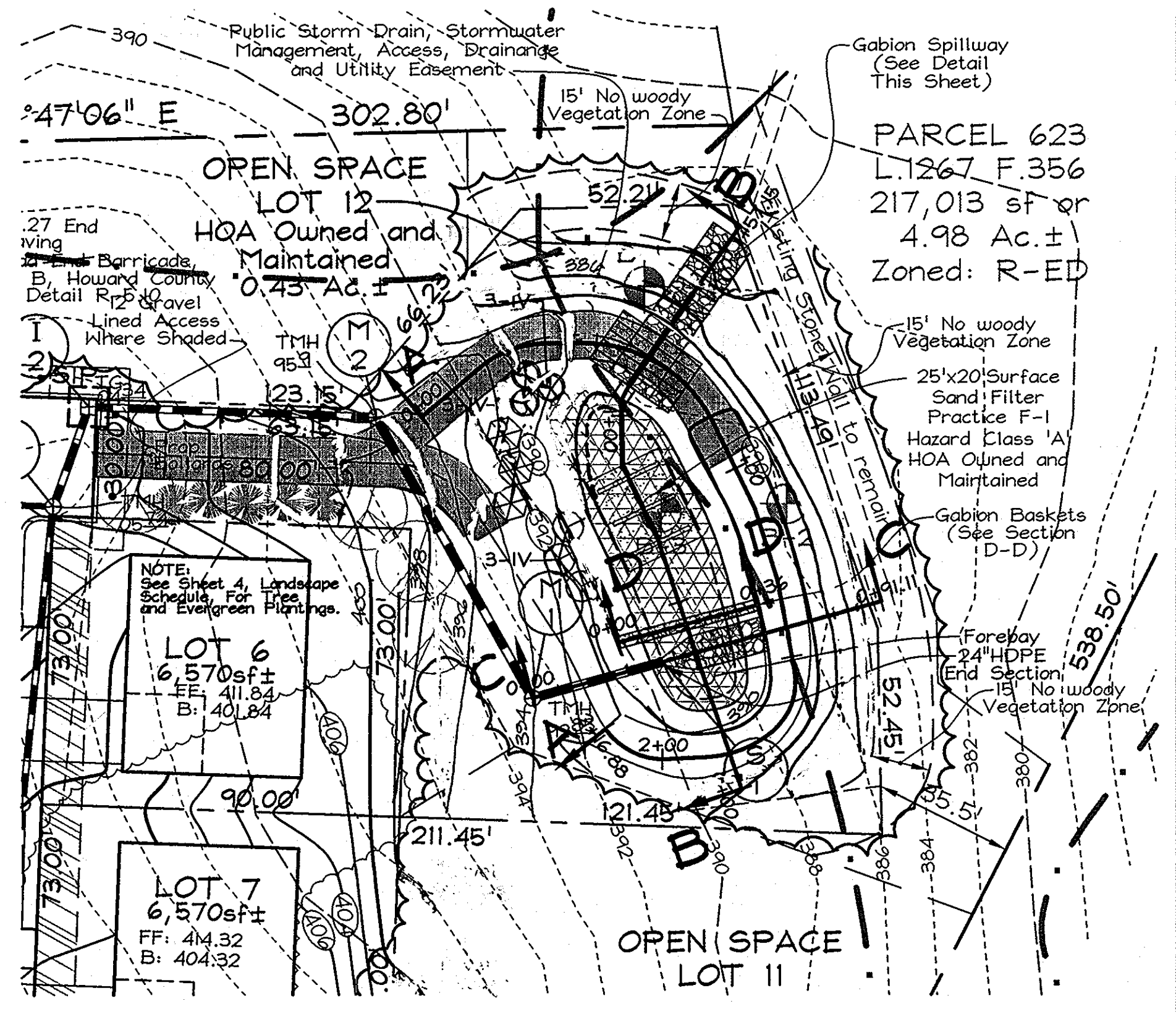
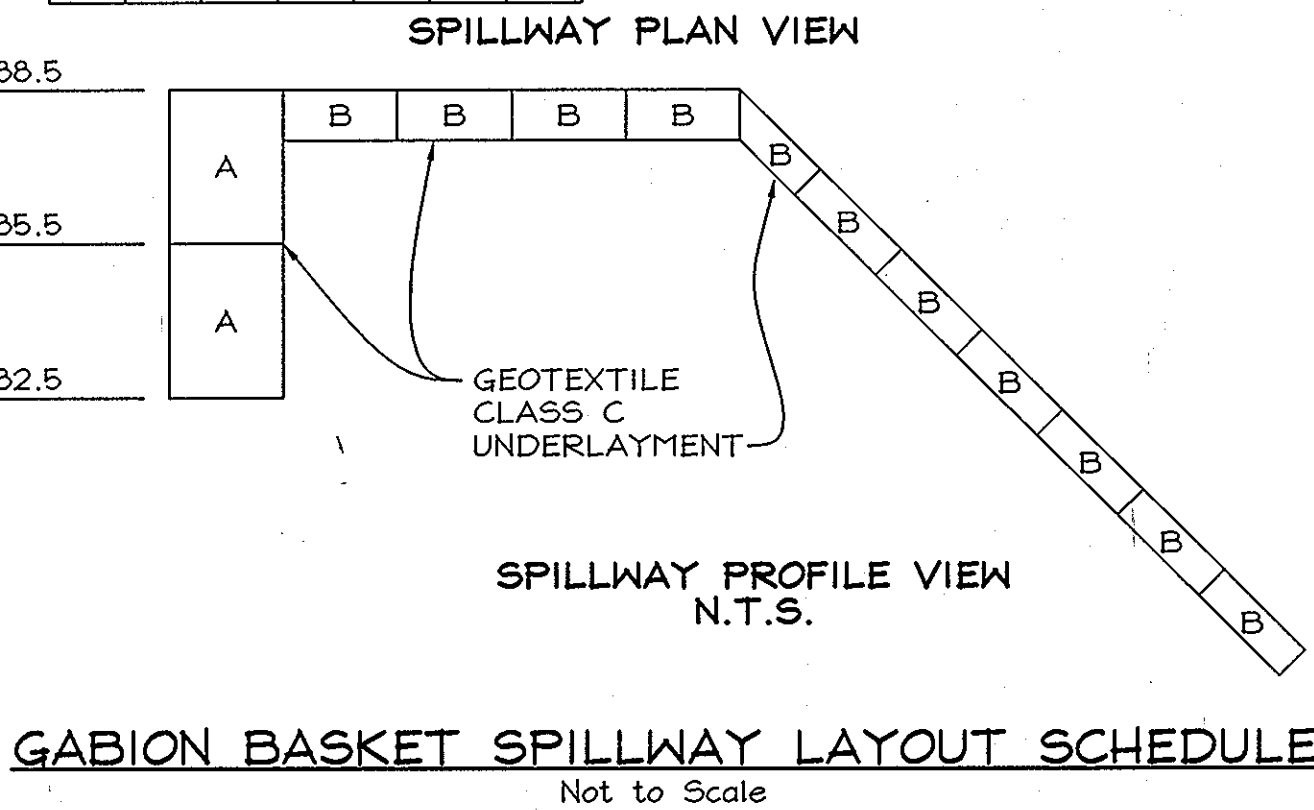
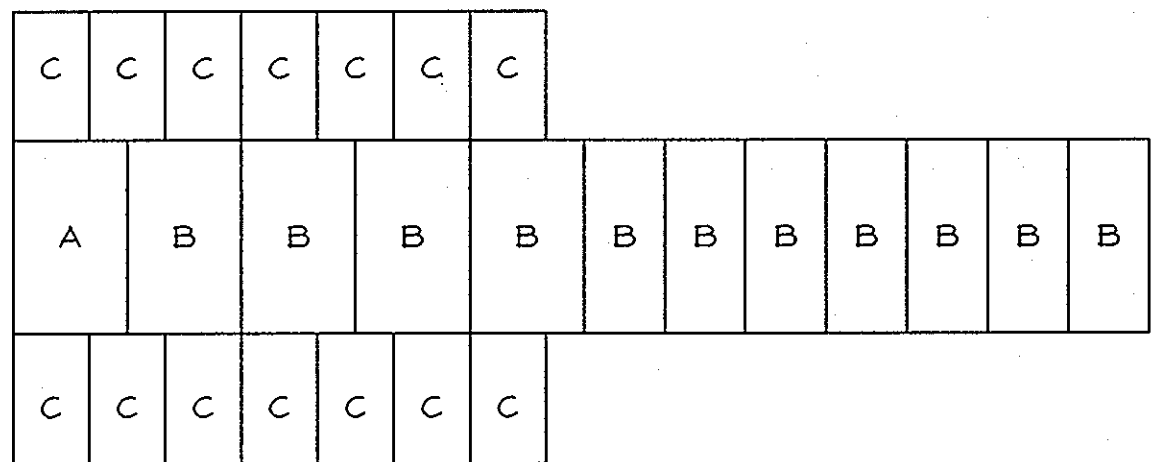


**SECTION 'D'-'D' CL GABION FOREBAY**  
Scale: Horizontal 1"=30'  
Vertical 1"=3'



**ANTI-SEEP COLLAR**  
NOT TO SCALE  
**GABION SIZE CHART**

LETTER CODE	LENGTH	WIDTH	THICKNESS
A	12'	3'	3'
B	12'	3'	1'
C	6'	2'	1'



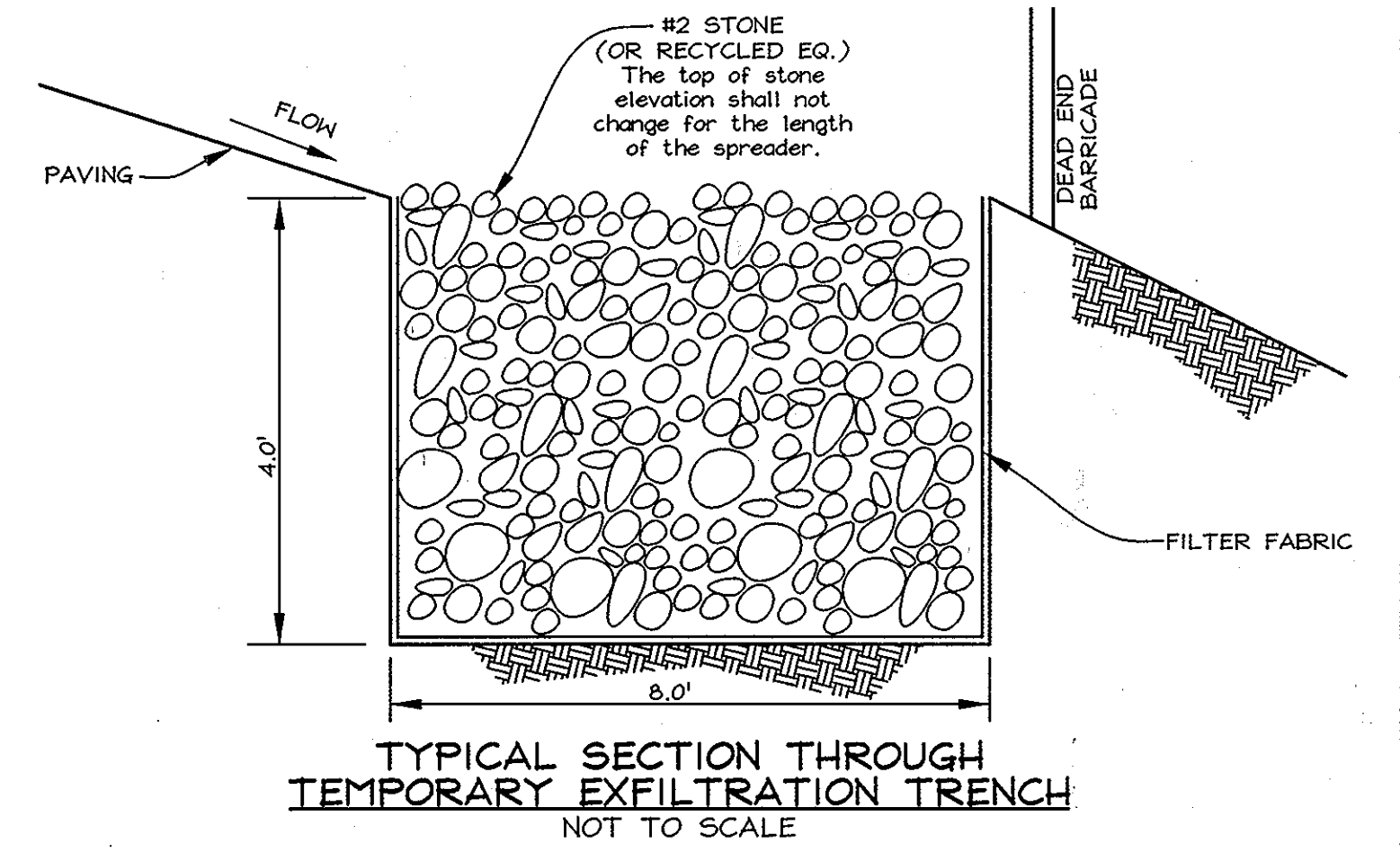
**SURFACE SAND FILTER SWM FACILITY ENLARGEMENT**  
Scale: 1"=30'

**SWM Planting Notes**  
Within Facility - Bottom to 388.0 - 2,108 sq. ft. To be planted with Red Top (*Agrostis alba*) at 5 lbs / 1000 sq. ft.

**SWM POND WOODY PLANT SCHEDULE**

KEY SYMBOL	QUAN.	BOTANICAL NAME	SIZE	NOTE
CA	3	Clethra alnifolia Sweet Pepperbush	3'-4' Ht.	Cont.
CO	3	Cephalanthus occidentalis Buttonbush	3'-4' Ht.	Cont.
VD	3	Viburnum dentatum Arrowwood	3'-4' Ht.	Cont.

Remaining area around the stormwater management facility will be stabilized as per the permanent seeding notes, Sheet 5 of 8, and vegetated as per the landscape buffer requirements; see sheet 4 of 8. Entire area to be prepared as per the permanent seeding notes.



**TYPICAL SECTION THROUGH TEMPORARY EXFILTRATION TRENCH**  
NOT TO SCALE

**OWNER/DEVELOPER**  
Mr. Robert A. Hale  
4 Kim Hale  
4635 Ilchester Road  
Ellicott City, MD 21043-6019  
Tel: 410-788-8618

PARCEL 623 HOWARD COUNTY, MARYLAND

DESIGN BY: SH  
DRAWN BY: PS  
CHECKED BY: ZYF  
SCALE: 1"=50'  
DATE: August 14, 2008  
W.O. No.: 3046  
SHEET No.: 7 OF 8



**Management Notes for Forest Retention Areas**

- 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.
- Trees 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 (wire fencing, 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 retention 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. Inspection and evaluation shall be performed by a licensed arborist.
    - 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. Temporary signage shall be replaced with permanent signage on posts in locations shown.
    - Following completion of construction, prior to use, the County Inspector shall inspect the entire area.

**FOREST CONSERVATION EASEMENT TABLE**

EASEMENT	TYPE	AREA (ACRES)
1	RETENTION	0.35
2	RETENTION	0.76
3	RETENTION	0.35
TOTAL		1.46

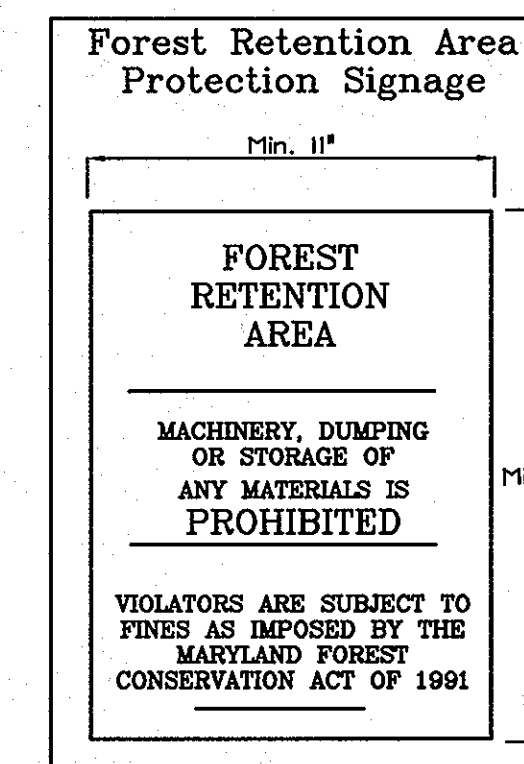
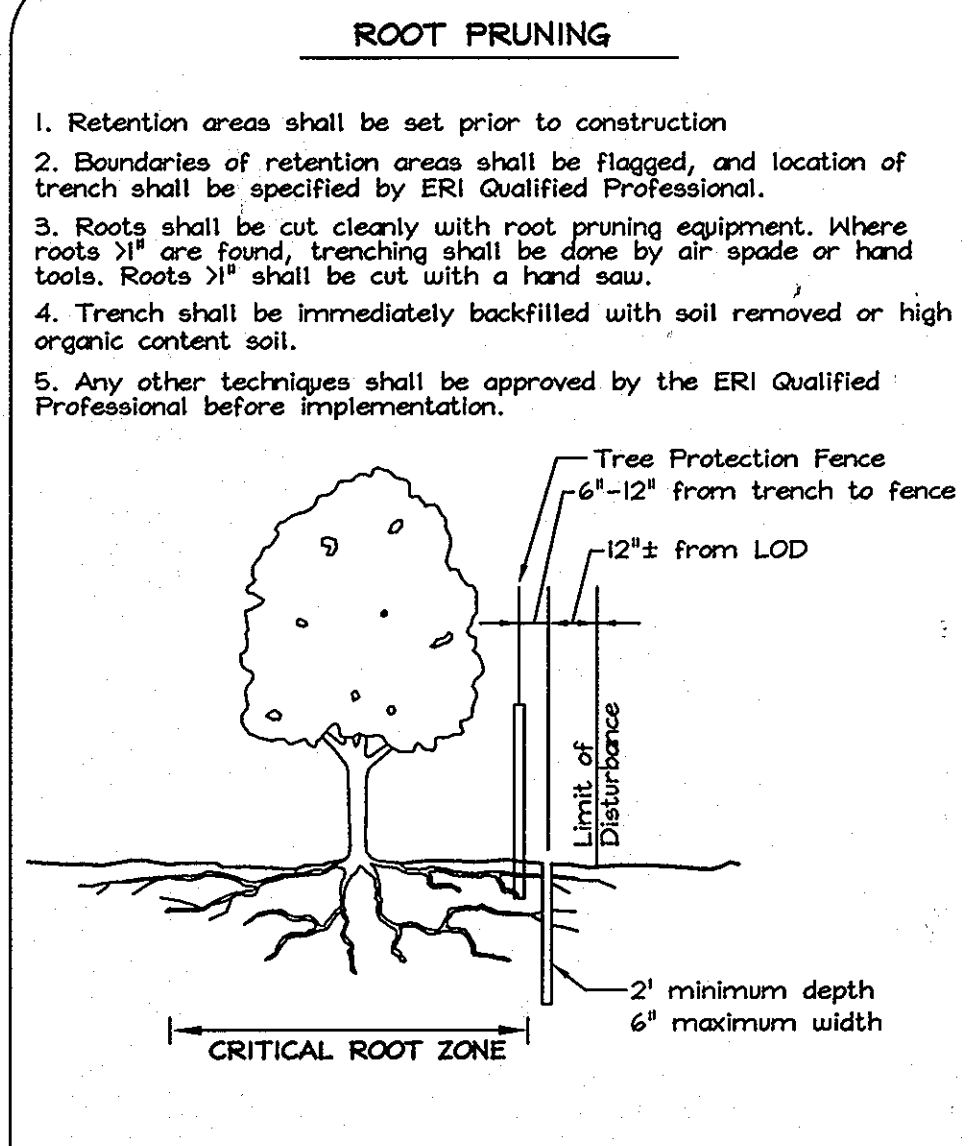
**FOREST CONSERVATION WORKSHEET**

Item	Acres
<b>Net Tract Area</b>	
A. Total Tract Area	4.99
B. Area Within 100 Year Floodplain	--
C. Other deductions	--
D. Net Tract Area	4.99
Zoning Use Category: RESIDENTIAL-SUBURBAN	
<b>Land Use Category</b>	
E. Afforestation Minimum (15 % x D)	0.75
F. Conservation Threshold (20 % x D)	1.00
<b>Existing Forest Cover</b>	
G. Existing Forest on Net Tract Area	2.66
H. Forest Area Above Conservation Threshold	1.66
<b>Breakeven Point</b>	
I. Forest Retention Above Threshold with no Mitigation	1.33
J. Clearing Permitted without Mitigation	1.33
<b>Proposed Forest Clearing</b>	
K. Forest Areas to be Cleared	1.20
L. Forest Areas to be Retained	1.46
<b>Planting Requirements</b>	
M. Reforestation for Clearing Above Threshold	0.30
N. Reforestation for Clearing Below the Threshold	0
P. Credit for Retention Above Conservation Threshold	0.46
Q. Total Reforestation Required	0
R. Total Afforestation Required	0
S. Total Reforestation and Afforestation Requirement	0

**SPECIMEN TREES**

Key	Name	Scientific Name	Size	Condition	Retained
ST-1	White Oak	Quercus alba	33"	Fair	NO
ST-2	Black Oak	Quercus velutina	39"	Fair	NO
ST-3	Tulip Poplar	Liriodendron tulipifera	31"	Fair	NO
ST-4	Tulip Poplar	Liriodendron tulipifera	33"	Good	NO
ST-5	Red Oak	Quercus rubra	32"	Fair	NO
ST-6	Tulip Poplar	Liriodendron tulipifera	34"	Good	NO
ST-7	Tulip Poplar	Liriodendron tulipifera	30"	Good	YES
ST-8	Red Oak	Quercus rubra	31"	Fair	NO
ST-9	Red Oak	Quercus rubra	31"	Fair	NO
ST-10	Tulip Poplar	Liriodendron tulipifera	46"	Fair	NO
ST-11	Tulip Poplar	Liriodendron tulipifera	31"	Good	NO
ST-12	Tulip Poplar	Liriodendron tulipifera	30"	Fair	NO
ST-13	Red Oak	Quercus rubra	35"	Fair	YES
ST-14	Red Oak	Quercus rubra	39"	Fair	NO
ST-15	Red Oak	Quercus rubra	37"	Fair	NO
ST-16	Red Oak	Quercus rubra	39"	Good	NO
ST-17	Tulip Poplar	Liriodendron tulipifera	32"	Good	NO
ST-18	Black Cherry	Prunus serotina	34"	Poor	NO
ST-19	Tulip Poplar	Liriodendron tulipifera	33"	Fair	YES
ST-20	Tulip Poplar	Liriodendron tulipifera	33"	Poor	NO
ST-21	Tulip Poplar	Liriodendron tulipifera	33"	Good	NO
ST-22	Tulip Poplar	Liriodendron tulipifera	31"	Good	NO
ST-23	Red Oak	Quercus rubra	35"	Poor	YES
ST-24	Tulip Poplar	Liriodendron tulipifera	41"	Poor	YES
ST-25	Tulip Poplar	Liriodendron tulipifera	36"	Fair	YES

ST-8 was re-evaluated and not found to be large enough  
ST-19 fell down in a storm



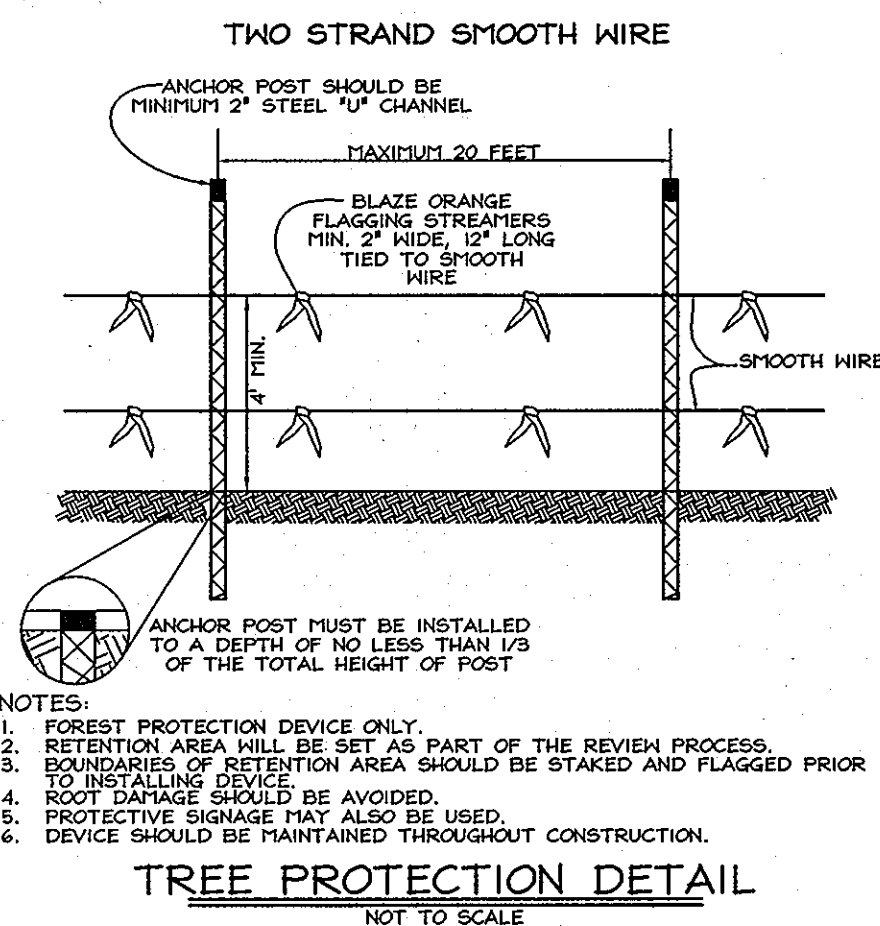
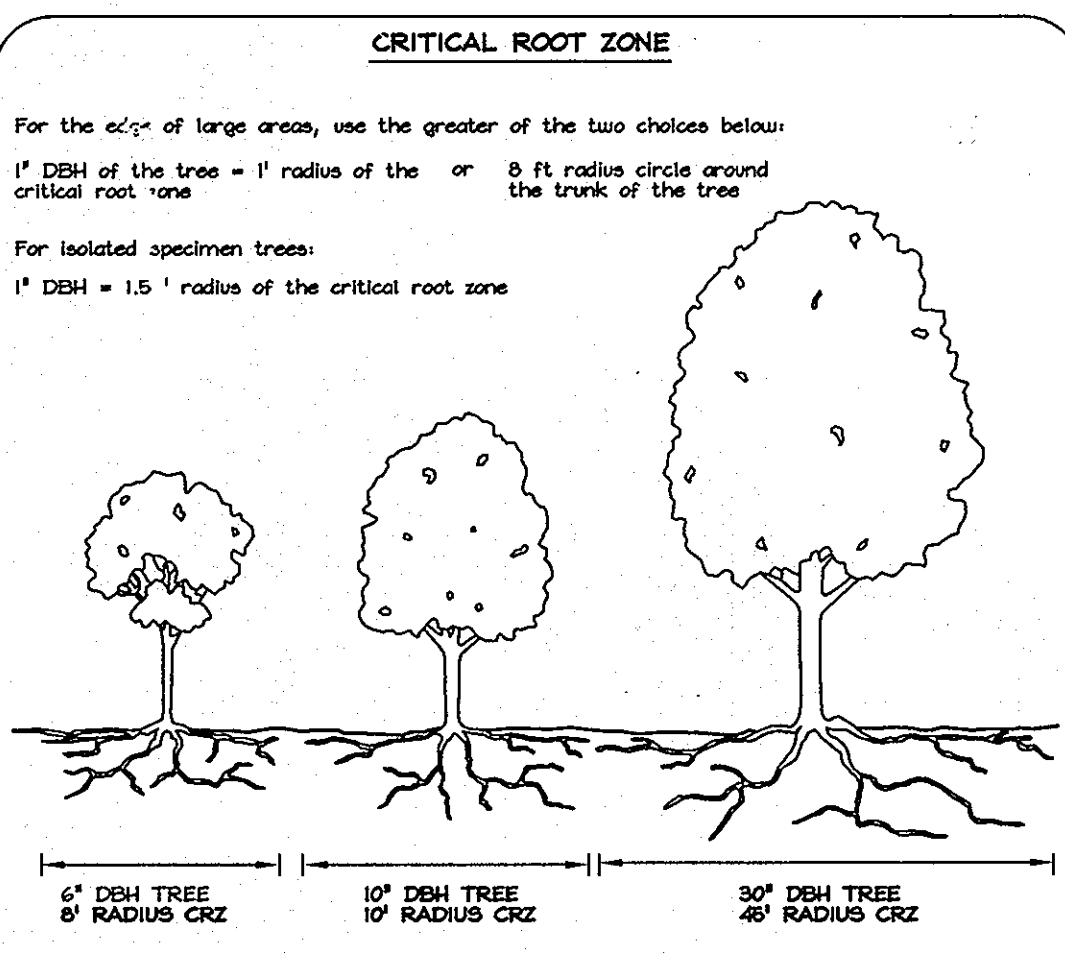
**Forest Conservation Narrative**

This Forest Conservation Plan complies with the Howard County Manual of 1998 and the Maryland Forest Conservation Act of 1991.

The site consists of 4.99 Ac. of which 2.66 Ac. are forested. These woodlands have been preserved to the maximum extent possible, resulting in retention within three Forest Conservation Easements of 1.46 Ac. There is no mitigation required for this development.

Due to the large number of Specimen Trees, it is necessary to remove several to accommodate development and required Storm Water Management facilities. Level spreaders located within easement #3 will avoid disturbing existing trees to the greatest extent possible.

Financial surety for the Forest conservation, retention, shall be posted as part of the Developers Agreement in the amount of \$12,719.52 (63,597.60 sf of retention @ \$0.20 per square foot).



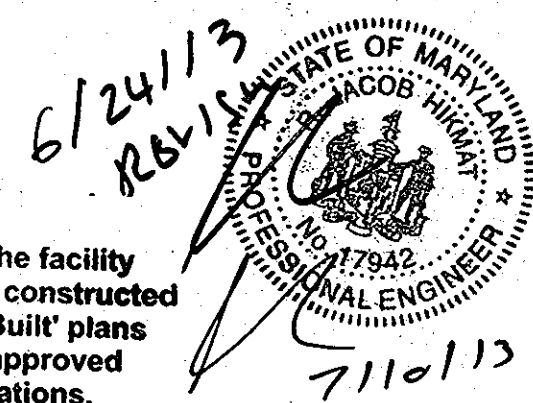
- NOTES:**
- FOREST PROTECTION DEVICE ONLY.
  - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
  - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICES.
  - ROOT DAMAGE SHOULD BE AVOIDED.
  - PROTECTIVE SIGNAGE THAT ALSO BE USED.
  - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

**TREE PROTECTION DETAIL**

I hereby certify that the facility shown on this plan was constructed as shown on the 'As-Built' plans and meets with the approved plans and specifications.

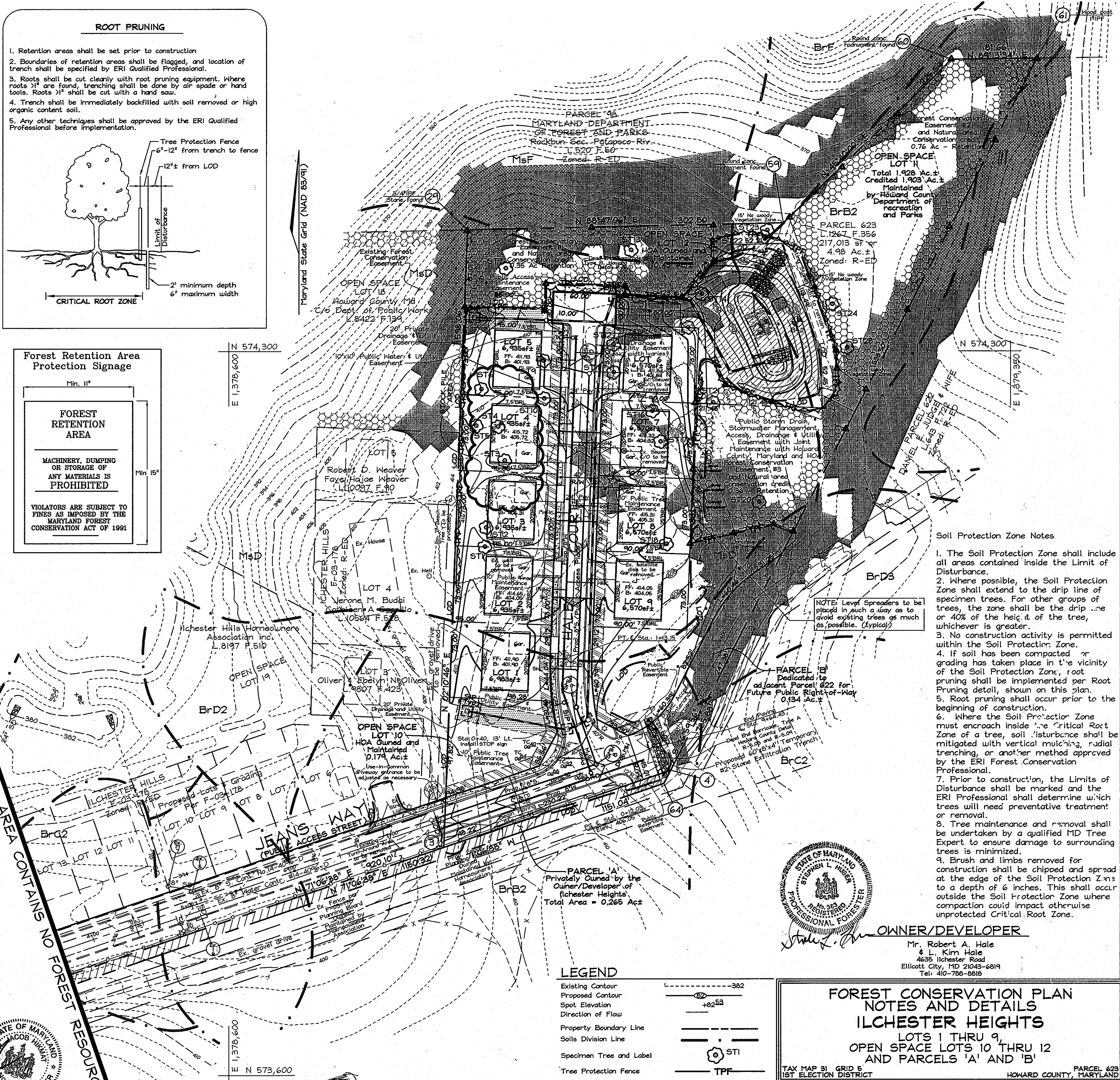
**PROFESSIONAL CERTIFICATION**

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: 7/29/09.



NO.	REVISIONS	BY	DATE
1	ELIMINATE LEVEL SPREADERS	MB	6/13/08
2	NO AS-BUILT DATA THIS SHEET	MB	7/9/08

NOT CONTINUED - AREA CONTAINS NO FOREST RESOURCES



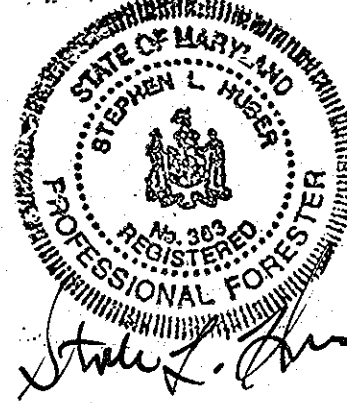
**Soil Protection Zone Notes**

- 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.

NOTE: Level Spreaders to be placed in such a way as to avoid existing trees as much as possible. (Typical)

**LEGEND**

- Existing Contour: ---
- Proposed Contour: - - -
- Spot Elevation: +
- Direction of Flow: --->
- Property Boundary Line: - - -
- Soils Division Line: ---
- Specimen Tree and Label: (S) STI
- Tree Protection Fence: TPF
- Forest Easement Signage: [Symbol]
- Forest Conservation Easement: [Symbol]



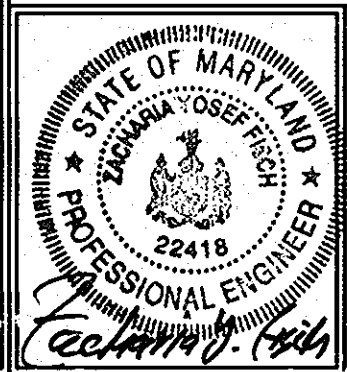
**OWNER/DEVELOPER**

Mr. Robert A. Hale  
& L. Kim Hale  
4635 Ilchester Road  
Ellicott City, MD 21043-6819  
Tel: 410-788-8818

**FOREST CONSERVATION PLAN NOTES AND DETAILS**  
**ILCHESTER HEIGHTS**  
LOTS 1 THRU 9  
OPEN SPACE LOTS 10 THRU 12  
AND PARCELS 'A' AND 'B'

TAX MAP 31 GRID 5  
1ST ELECTION DISTRICT

PARCEL 623  
HOWARD COUNTY, MARYLAND



**FSH Associates**

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

DESIGN BY: SH  
DRAWN BY: AB/SHM  
CHECKED BY: AB/SH  
SCALE: 1"=50'  
DATE: August 14, 2008  
P.L.O. No.: 3046  
SHEET No.: 9 OF 9

**EXPLORATION RESEARCH, INC.**

ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS  
6339 HOWARD LANE  
ELK RIDGE, MARYLAND 21075  
TEL (410) 567-5200 FAX (410) 798-1562



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development  
Chief, Development Engineering Division