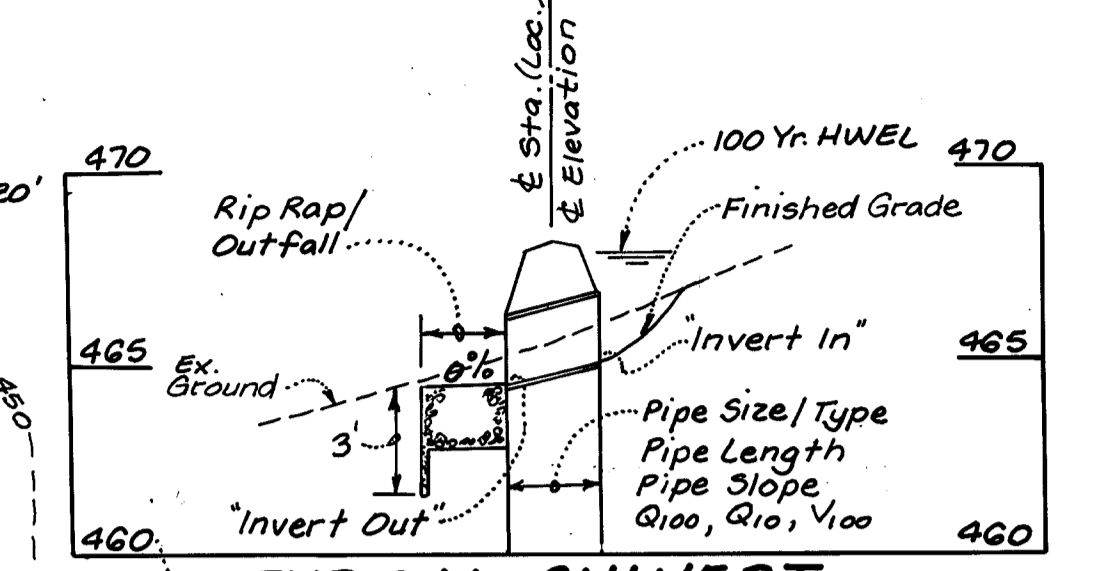


**DRIVEWAY CULVERT DESIGN DATA:**

CULVERT No.:	1	2	3	4
LOCATION:	13+85	4+55	1+20	5+10
ELEVATION:	459.88	468.12	468.18	476.50
SIZE:	(3) 24" x 35"	(2) 24" x 35"	(1) 24" x 35"	36"
PIPE TYPE:	CMP	CMP	CMP	CMP
LENGTH:	25 LF	25 LF	35 LF	18 LF
INVERT IN:	456.25	465.00	460.06	472.20
INVERT OUT:	455.75	464.50	471.00	471.00
SLOPE:	2.00%	2.00%	1.60%	6.67%
Q <sub>100</sub> :	78.3 CFS	45.8 CFS	18.5 CFS	43.7 CFS
Q <sub>10</sub> :	43.7 CFS	26.4 CFS	10.5 CFS	7.00 CFS
V <sub>100</sub> :	7.09 FPS	6.66 FPS	4.08 FPS	7.00 FPS
100YR. HWEL:	459.10	467.63	462.27	475.50
OUTFALL:	22 LF	20 LF	20 LF	20 LF
RIPRAP:	450 = 19"	450 = 19"	450 = 19"	450 = 19"
	Min. Width: 31'	Min. Width: 22'	Min. Width: 20'	Min. Width: 20'
	Class: II	Class: I	Class: I	Class: I

THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC 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 RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.



**HORIZONTAL CURVE DATA FOR PRIVATE USE-IN-COMMON DRIVEWAY**

CURVE #1	CURVE #2	CURVE #3	CURVE #4
PC 0+86.89	PC 3+13.00	PC 3+80.65	PC 5+79.49
PT 1+53.67	PT 3+33.16	PT 4+29.29	PT 6+58.03
C <sub>L</sub> R=50'	C <sub>L</sub> R=50'	C <sub>L</sub> R=45'	C <sub>L</sub> R=50'
L=66.78'	L=20.16'	L=48.64'	L=78.54'
T=39.44'	T=10.22'	T=27.00'	T=50'
Δ=76°-31'-44"	Δ=23°-06'-20"	Δ=61°-55'-55"	Δ=90°

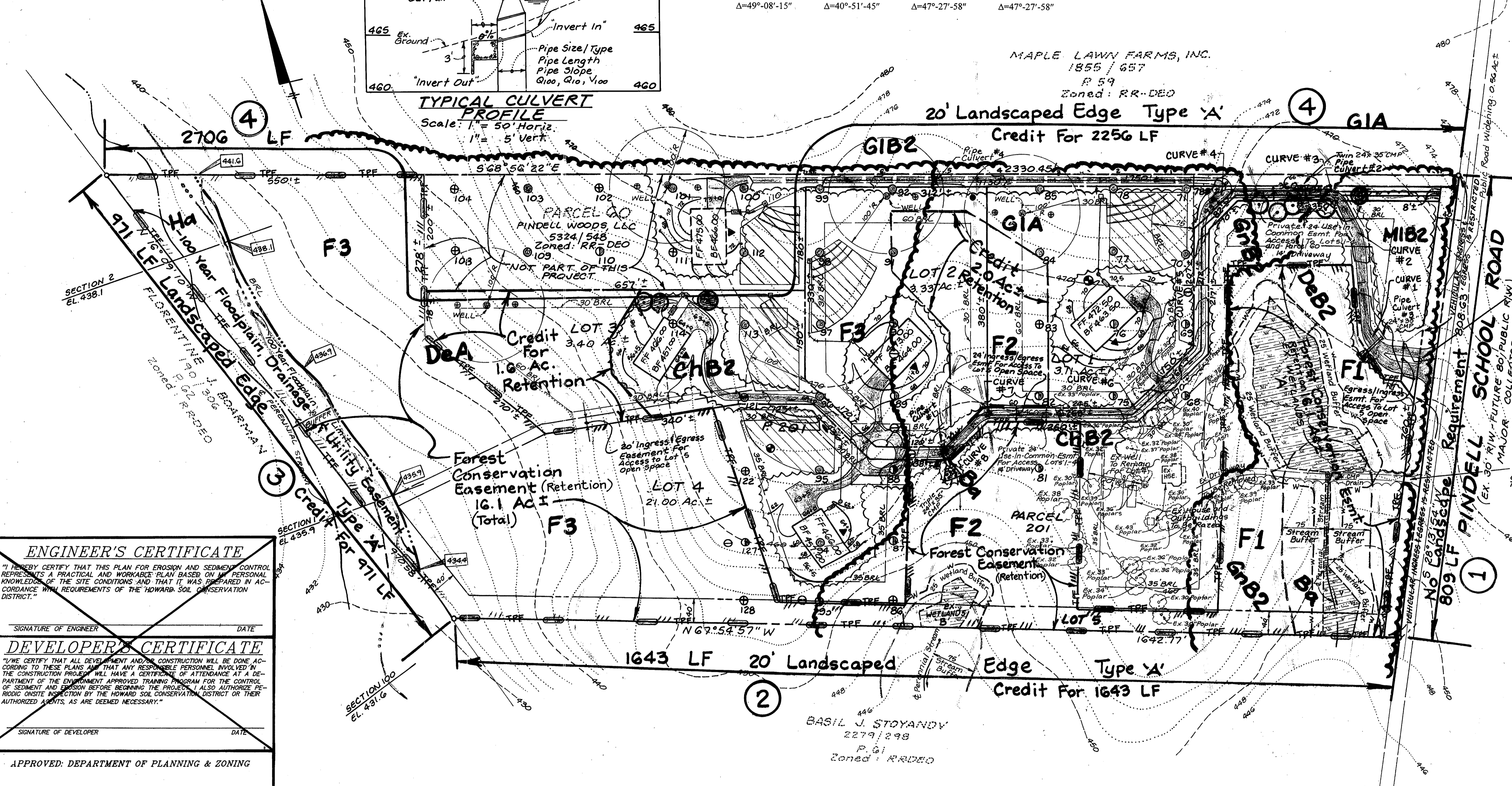
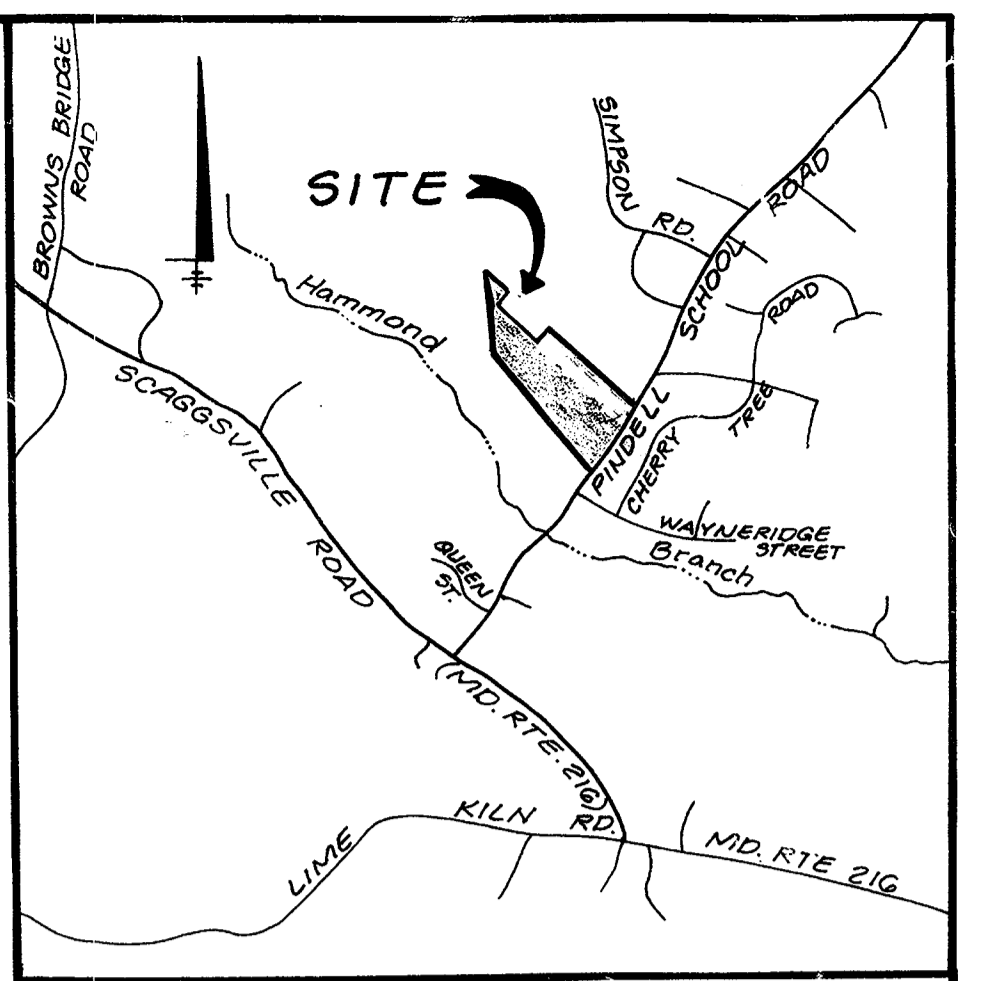
CURVE #5	CURVE #6	CURVE #7	CURVE #8
PC 8+61.71	PC 10+24.60	PC 12+71.92	PC 13+62.91
PT 9+00.30	PT 10+56.70	PT 13+09.20	PT 14+00.19
C <sub>L</sub> R=45'	C <sub>L</sub> R=45'	C <sub>L</sub> R=45'	C <sub>L</sub> R=45'
L=38.59'	L=32.09'	L=37.28'	L=37.28'
T=20.57'	T=16.76'	T=19.78'	T=19.78'
Δ=49°-08'-15"	Δ=40°-51'-45"	Δ=47°-27'-58"	Δ=47°-27'-58"

**LANDSCAPE SCHEDULE**

QUANTITY	SYMBOL	BOTANICAL / COMMON NAME	SIZE
8	(Symbol)	ACER RUBRUM / OCTOBER GLORY™	2 1/2" - 3" CAL. 848

**LEGEND**

- Ex. Ground Prop. Grade
- Ex. Well Prop. Well
- Ex. Woods/Trees To Be Removed
- Ex. Woods/Trees To Be Retained
- Prop. Landscape Tree
- Forest Conservation Signage
- Forest Conservation Easement
- Ex. Non-Tidal Wetlands
- Prop. House Site w/ Front Orientation
- Soil Delineation
- Prop. Sewage Disposal Area
- TPF - Tree Protection Fence



- GENERAL NOTES:**
- EXISTING ZONING: RR-(RURAL/RESIDENTIAL) PER 10/18/93 COMPREHENSIVE ZONING PLAN.
  - DEED REFERENCES: PARCEL 201
  - TOTAL AREA OF PROPERTY: 32.3216 AC. ±
  - THE LOTS SHOWN COMPLY WITH THE MINIMUM LOT AREA AND OWNERSHIP WIDTH AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
  - THE TOPOGRAPHY SHOWN IS COMPILED FROM THE HOWARD COUNTY AERIAL PHOTOGRAMMETRY.
  - THE EXISTING DWELLING AND ACCESSORY BUILDINGS ON LOT 4 SHALL BE RAZED PRIOR TO RECORD PLAT SIGNATURE APPROVAL.
  - SOIL GROUP DELINEATION TAKEN FROM USDA MAP No. 28.
  - ALL PERCOLATION TESTS HAVE BEEN FIELD LOCATED. ALL EXISTING WELLS AND SEPTIC SYSTEMS HAVE BEEN SHOWN WITHIN 100 FT. OF PROPERTY BOUNDARY WHICH MAY IMPACT THIS SUBDIVISION.
  - THE EXISTING SEPTIC SYSTEM SHALL BE PROPERLY ABANDONED PRIOR TO RECORD PLAT APPROVAL.
  - ALL PROPOSED WELLS SHALL BE DRILLED PRIOR TO FINAL PLAT SIGNATURE APPROVAL. LOT 4 WILL UTILIZE THE EXISTING WELL SITE.
  - LOTS 1 THRU 4 WILL REQUIRE A PUMP SYSTEM WITH VISUAL AND AUDIBLE ALARMS FOR INSTALLATION OF THE SEPTIC SYSTEM.
  - TREE PROTECTION FENCE OR BLAZE ORANGE FENCE SHALL BE PLACED AROUND THE PERIMETER OF THE SEWAGE DISPOSAL EASEMENT PRIOR TO ANY CONSTRUCTION OF DRIVEWAY OR LOT IMPROVEMENTS TO INSURE THAT PLACEMENT OF FILL MATERIAL UPON THE EASEMENT AREA WILL NOT OCCUR.
  - THE 100 YEAR FLOODPLAIN SHOWN HEREON IS TAKEN FROM THE HAMMOND BRANCH FLOODPLAIN STUDY.
  - ALL WOODED AREAS SHALL BE PROTECTED BY TREE PROTECTION FENCE.
  - VEHICULAR INGRESS AND EGRESS IS RESTRICTED TO PINDELL SCHOOL ROAD, IN ACCORDANCE WITH DESIGN MANUAL WAIVERS APPROVED ON 2/8/01 AND 1/10/01. ALL VEHICULAR INGRESS AND EGRESS IS RESTRICTED FOR LOTS 1-4 AND PARCEL 201 TO THE APPROVED ACCESS POINT SHOWN ON THE FINAL PLAT AND THIS PLAN. PARCEL 201'S VEHICULAR ACCESS TO PINDELL SCHOOL ROAD VIA THE PRIVATE USE-IN-COMMON DRIVEWAY IS MANDATORY. NO OTHER MEANS OF VEHICULAR ACCESS IS PERMITTED. THE DIRECTOR OF PLANNING AND ZONING HAS DETERMINED THAT DUE TO LIMITED INTERSECTION SITE DISTANCE AND THE DESIRABILITY TO HAVE ONLY ONE DRIVEWAY CONNECTION ONTO PINDELL SCHOOL ROAD, A MAJOR COLLECTOR ROAD, THE MAXIMUM NUMBER FOUR (4) USERS NORMALLY PERMITTED TO USE A USE-IN-COMMON DRIVEWAY CAN BE EXCEEDED BY ONE (1) FOR A TOTAL OF FIVE (5) USERS. THE DIRECTOR'S DETERMINATION IS IN COMPLIANCE WITH THE DEVELOPMENT ENGINEERING DIVISION'S POLICY INTERPRETATION.

**ENGINEER'S CERTIFICATE**  
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

**DEVELOPER'S CERTIFICATE**  
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

APPROVED: DEPARTMENT OF PLANNING & ZONING

Signature of Engineer: *[Signature]* Date: 8/1/01  
Signature of Developer: *[Signature]* Date: 8/1/01

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING, ENVIRONMENTAL DIVISION

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS. HOWARD COUNTY HEALTH DEPARTMENT.  
Signature: *[Signature]* Date: 8/21/01

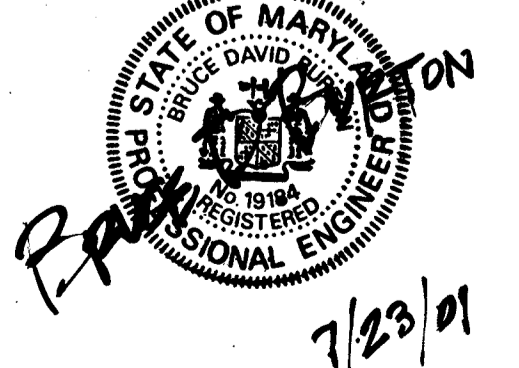
**SOILS LEGEND**

SYMBOL	NAME	SLOPE/CHARACTERISTICS
Ba	Baile Silt Loam	
ChB2	Chester Silt Loam	3 to 8% Moderately Eroded
DeA	Delanco Silt Loam	0 to 3%
DeB2	Delanco Silt Loam	3 to 8% Moderately Eroded
G1A	Glenelg Loam	0 to 3%
G1B2	Glenelg Loam	3 to 8% Moderately Eroded
G1C2	Glenelg Silt Loam	3 to 8% Moderately Eroded
Ha	Hatboro Silt Loam	
M1B2	Manor Loam	3 to 8% Moderately Eroded

**PERCOLATION TEST LEGEND**

- (Symbol) FAILED PERCOLATION TEST
- (Symbol) PASSED PERCOLATION TEST
- (Symbol) PERCOLATION TEST HELD FOR WET SEASON
- (Symbol) PASSED PERCOLATION TEST 3/24/00
- (Symbol) VISUAL FOR WATER TABLE DETERMINATION 3/24/00 (Fail)

DENNIS I. LABARE, M.S., & ASSOCIATES  
Environmental Consulting Services  
3923 Hopkins Circle  
Baltimore, MD 21133  
Tel: (410) 922-7476



**DEVELOPER'S/BUILDER'S CERTIFICATE**  
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. We further certify that upon completion a Certificate of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.  
Signature: *[Signature]* Date: 7/10/01

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

DESIGNED: BDB	LANDSCAPING / FOREST CONSERVATION PLAN	SCALE: 1" = 100'
DRAWN: KBW	<b>PINDELL CROSSING</b>	DRAWING: 1 of 2
CHECKED: BDB	LOTS 1-5	JOB NO. 99-060
DATE: 7/2001	TAX MAP 41 PARCEL 201 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	FILE NO. F01-63

DEVELOPER: PINDELL WOODS, LLC  
8835 - B Columbia 100 Parkway  
Columbia, MD 21045 (410) 730-0810

FOREST PROTECTION PROCEDURES - PRECONSTRUCTION PHASE

Stress Reduction and Protection of Specimen  
Trees Isolated from Forest Retention Areas and  
General Forest Retention Areas  
(As They May Apply)

1) The edge of the woods to be protected will be marked (staked or flagged) in the field per the limits of disturbance shown on this approved Final Construction Plan prior to the start of construction activity. All areas within protective fences are to be considered "off limits" to any construction activities. The protective fencing shall be installed at the outside edge of forested areas and specimen trees to be retained and should be combined with sediment control devices when possible. The limit of the critical root zone and therefore the location of the protective devices is to be determined as follows:

Isolated Specimen Trees - 15 feet of protective radius per inch of DBH

Edge of Forested Area - 1 foot of protective radius/inch of DBH or an eight foot protective radius, whichever is greater.

2) Construction activities expressly prohibited within the preservation areas are:

- Placing or stockpiling backfill or top soil in protected areas
- Felling trees into protected area
- Driving construction equipment into or through protected areas
- Burning in or close proximity to protected areas
- Stacking or storing supplies of any kind
- Concrete wash-off areas
- Conducting trenching operations
- Grading beyond the limits of disturbance
- Parking vehicles or construction equipment
- Removal of root mat or topsoil
- Siting and construction of: Utility lines
- Access roads

3) Protective fencing (see Figure "Protective Fencing") shall be the responsibility of the general contractor. The general contractor shall affix signs to the fencing at 25' minimum intervals indicating that these areas are "Forest Retention Area" or "Specimen Tree" (see Figures "Signage"). The general contractor shall take great care to assure the restricted areas are not violated and that root systems are protected from smothering, flooding, excessive wetting from de-watering operations, off-site run-off, spillage, and drainage or solutions containing materials hazardous to tree roots.

4) The general contractor shall be responsible for any tree damaged or destroyed within the preservation areas whether caused by the contractor, his agents, employees, sub-contractors, or licensees.

5) Foot traffic shall be kept to a minimum in the protective areas.

6) All trees which are not to be preserved within fifty feet of any tree preservation areas are to be removed in a manner that will not damage those trees that are designated for preservation. It is highly recommended that tree stumps within this fifty foot area be ground out with a stump grinding machine to minimize damage.

7) The general contractor shall designate a "wash out" area on-site for concrete trucks which will not drain toward a protected area.

8) A pre-construction meeting shall be held with local authorities before any disturbance has taken place on site.

FOREST PROTECTION PROCEDURES - CONSTRUCTION PHASE

Forest and tree conditions should be monitored during construction and corrective measures taken when appropriate.

The following shall be monitored:

- a) Soil compaction
- b) Root injury - prune and monitor; consider crown reduction
- c) Limb injury - prune and monitor
- d) Flooded conditions - drain and monitor; correct problem
- e) Drought conditions - water and monitor; correct problem
- f) Other stress signs - determine reason, correct, and monitor

FOREST PROTECTION PROCEDURES - POST CONSTRUCTION PHASE

The following measures shall be taken:

- 1) Corrective measures if damages were incurred due to negligence:
  - a.) Stress reduction
  - b.) Removal of dead or dying trees. This may be done only if trees pose an immediate safety hazard
- 2) Removal of temporary structures:
  - a.) No burial of discarded materials will occur on-site within the conservation area.
  - b.) No open burning within 200 feet of a wooded area.
  - c.) All temporary forest protection structures will be removed after construction.
  - d.) Remove temporary roads by removing stone or broadcasting mulch; pre-construction elevation should be maintained.
  - e.) Aerate compacted soil.
  - f.) Replant disturbed sites with trees, shrubs and/or herbaceous plants.
  - g.) Retain signs for retention areas or specimen trees.
  - g.) A County official shall inspect the entire site.

APPROVED: DEPARTMENT OF PLANNING & ZONING

Chief, Development-Engineering Division  
Date: 8/10/01  
Chief, Division of Land Development  
Date: 8/9/01

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.

NATURAL RESOURCE CONSERVATION SERVICE  
DATE  
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
DATE  
HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

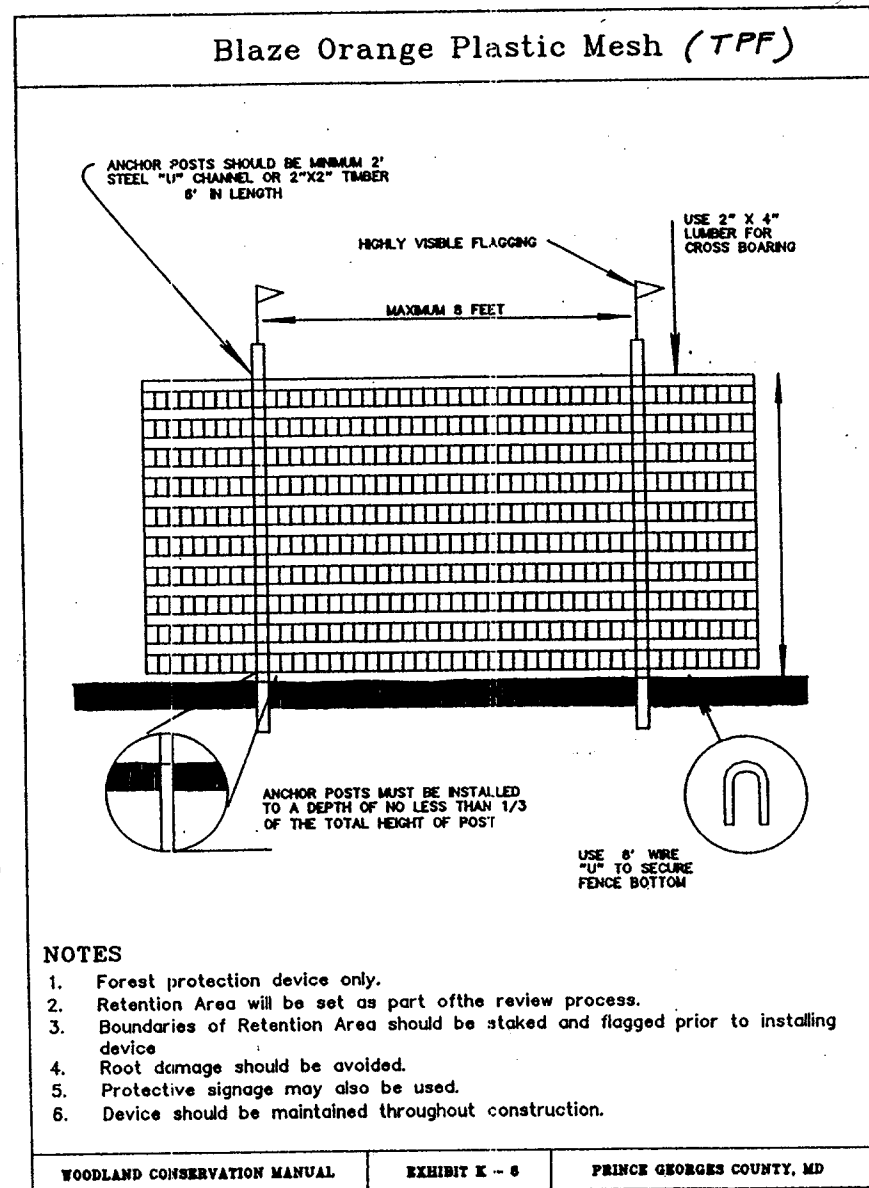
SIGNATURE OF ENGINEER  
DATE  
DEVELOPER'S CERTIFICATE  
"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."  
SIGNATURE OF DEVELOPER  
DATE

DEVELOPER'S/BUILDER'S CERTIFICATE

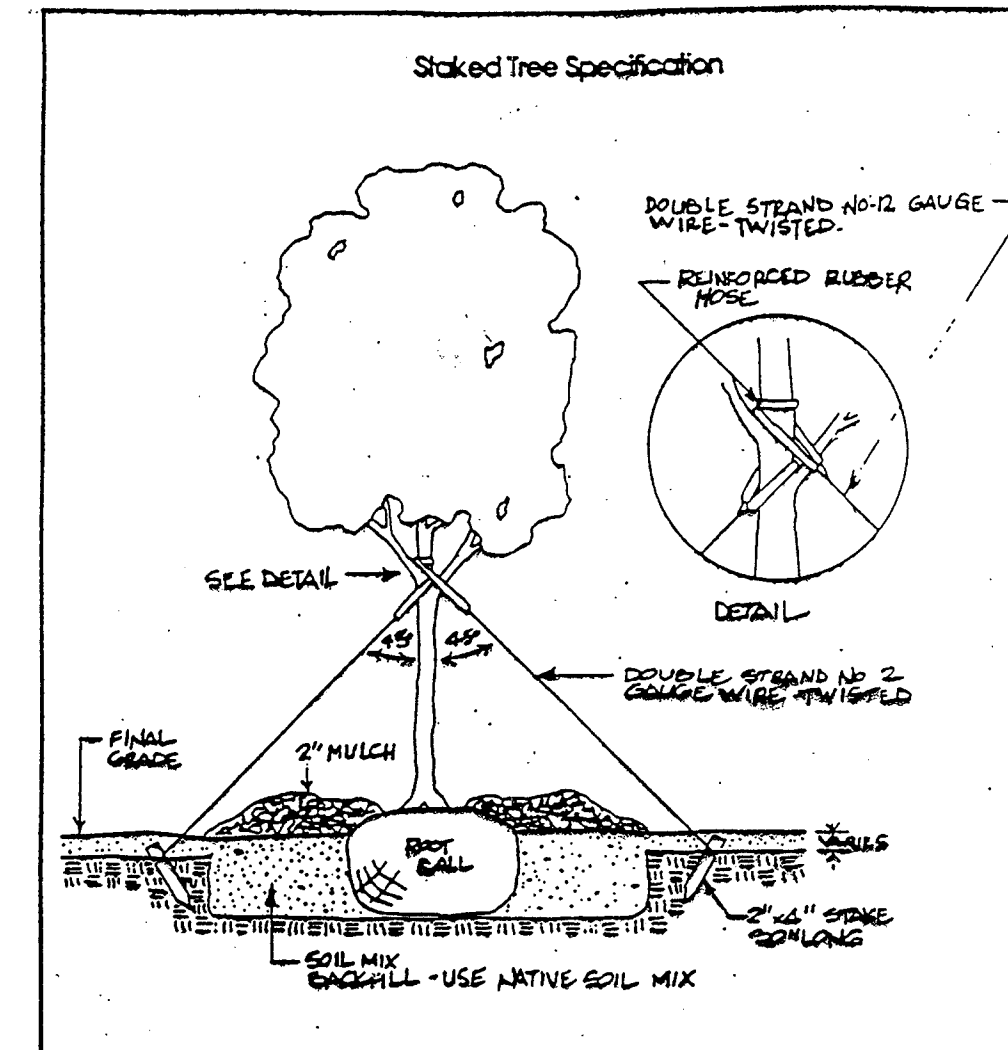
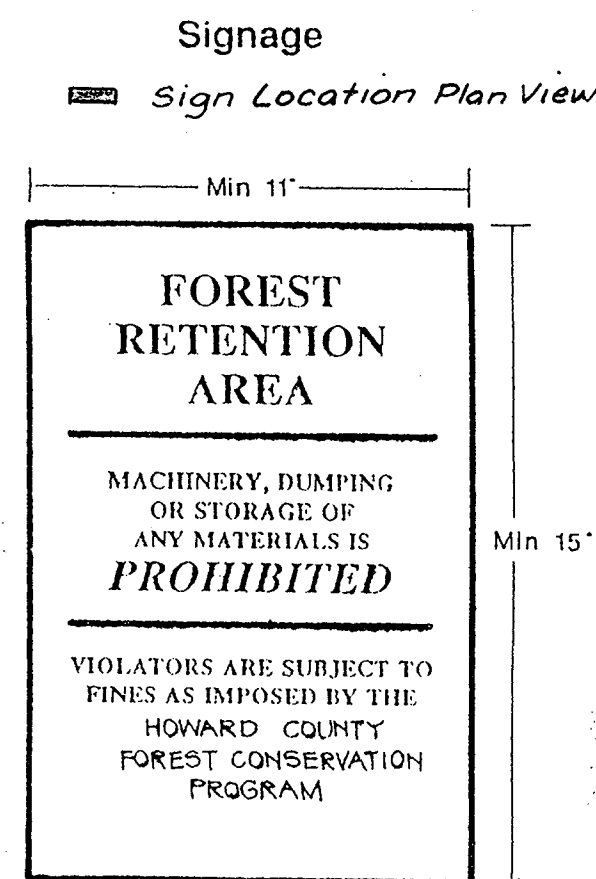
We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Code and the Howard County Landscape Manual. We further certify that upon completion a Certificate of Landscaping Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Owner: [Signature]  
Date: 7/18/01  
Owner: [Signature]  
Date:

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING, ENVIRONMENTAL DIVISION  
SIGNATURE  
DATE



TPF TPF Tree Protection Fence Plan View



Staking of trees may be used only when transplanting in areas of high winds for trees larger than eight feet in height. Stakes and wires should be removed after the first growing season.

HOWARD COUNTY FOREST CONSERVATION WORKSHEET

Setterholm Property - Preliminary  
3 Sept 00

ACRES  
(1/10 acre)

I. BASIC SITE DATA

GROSS SITE AREA 32.3  
AREA WITHIN 100 YEAR FLOODPLAIN 1.3  
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE) -  
NET TRACT AREA 31.0  
LAND USE CATEGORY (R-RLD, R-RMD,R-S, C/I/O, I) R-RLD

II. INFORMATION FOR CALCULATIONS

A. NET TRACT AREA 31.0  
B. REFORESTATION THRESHOLD (50% x A) 15.5  
C. AFFORESTATION MINIMUM (20% x A) 6.2  
D. EXISTING FOREST ON NET TRACT AREA 24.5  
E. FOREST AREAS TO BE CLEARED 11.1  
F. FOREST AREAS TO BE RETAINED 18.4  
(Includes 3.6 acres of credit for Forest Retained on Lots 1-3)

IV. REFORESTATION CALCULATIONS

A. Net Tract Area 31.0  
B. Reforestation Threshold (50% X A) 15.5  
C. Existing Forest on Net Tract Area 24.5  
D. Forest Areas to Be Cleared 11.1  
E. Forest Areas to Be Retained 18.4  
F. Forest Areas Cleared Above Reforestation Threshold (D - F, if F equals or is greater than B, Alternate 1) (D - B, if F is less than B, Alternate 2) -  
G. Forest Areas Cleared Below Reforestation Threshold (B - F, if applicable) -  
H. Forest Areas Retained Above Reforestation Threshold (F - B, Retention Credit, if applicable) 2.9

SELECT THE ALTERNATIVE THAT APPLIES:

1. CLEARING ABOVE THE THRESHOLD ONLY

If forest areas to be retained equal or are greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:

Reforestation for clearing above threshold G x 1/4 11.1 x 0.25 2.8  
Credit for forest areas retained above threshold I = Retention Credit 18.4 - 15.5 2.9  
Total Reforestation required (G x 1/4) - I 0

If the total reforestation requirement is equal to or less than 0, no reforestation is required. The obligation is addressed by credit for retention above the threshold.

SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways		Adjacent to Perimeter Properties	
	1	2	3	4
Landscape Type	N/A	A	A	A
Linear Feet of Roadway Frontage/Perimeter	809	1643	971	2706
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	N/A	Yes 1643	Yes 971	Yes 2256
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	N/A	N/A	N/A	N/A
Number of Plants Required				
Shade Trees	-	0	0	8
Evergreen Trees	-	-	-	-
Shrubs	-	-	-	-
Number of Plants Provided				
Shade Trees	-	0	0	8
Evergreen Trees	-	-	-	-
Other Trees (2:1 substitution)	-	-	-	-
Shrubs (10:1 substitution)	-	-	-	-
(Describe plant substitution credits below if needed)	-	-	-	-

Comments

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

NOTES:

1. The Forest Conservation Easement has been established to fulfill the requirements of Section 16.1200 of the Howard County Code / Forest Conservation Act. No clearing, grading or construction are permitted within the easement; however forest management practices as defined in the Deed of Forest Conservation Easement are permitted. The Forest Conservation obligation is met by Retention on site. The Forest Conservation Easement shown on this plan for 18.4 acres is for development of lots 1 thru 4 only. 14.8 acres of Retention Easement will be placed on lots 4. 3.6 acres of Retention Credit is provided on lots 1, 2 and 3. No Surety is required for Forest Conservation due to the project's Minor Subdivision status with all obligations being fulfilled through retention.
2. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape Manual. Landscape surety of \$ 2,400.00 shall be posted prior to issuance of the Grading Permit.

DEENNIS J. LAWARE, M.S., & ASSOCIATES  
Environmental Consulting Services  
8903 Flagstone Circle  
Randallstown, MD 21133  
Wetland Delineations & Mitigation  
Stream Assessment & Restoration  
Water Quality Monitoring  
Microbiological Taxonomy  
Floral Stand Delineations  
Forest Conservation Plans  
Ph. Fax (410) 922-7476

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

DESIGNED: BDB	LANDSCAPING / FOREST CONSERVATION PLAN DETAILS AND SPECIFICATIONS	SCALE: As Shown
DRAWN: KBW	<b>PINDELL CROSSING</b> LOTS 1-5	DRAWING: 2 of 2
CHECKED: BDB	TAX MAP 41 PARCEL 201 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 99-060
DATE: 7/2001	DEVELOPER: PINDELL WOODS, LLC 8835 - P Columbia 100 Parkway Columbia, MD 21045 (410) 730-0810	FILE NO. FOI-63