

**GENERAL NOTES**

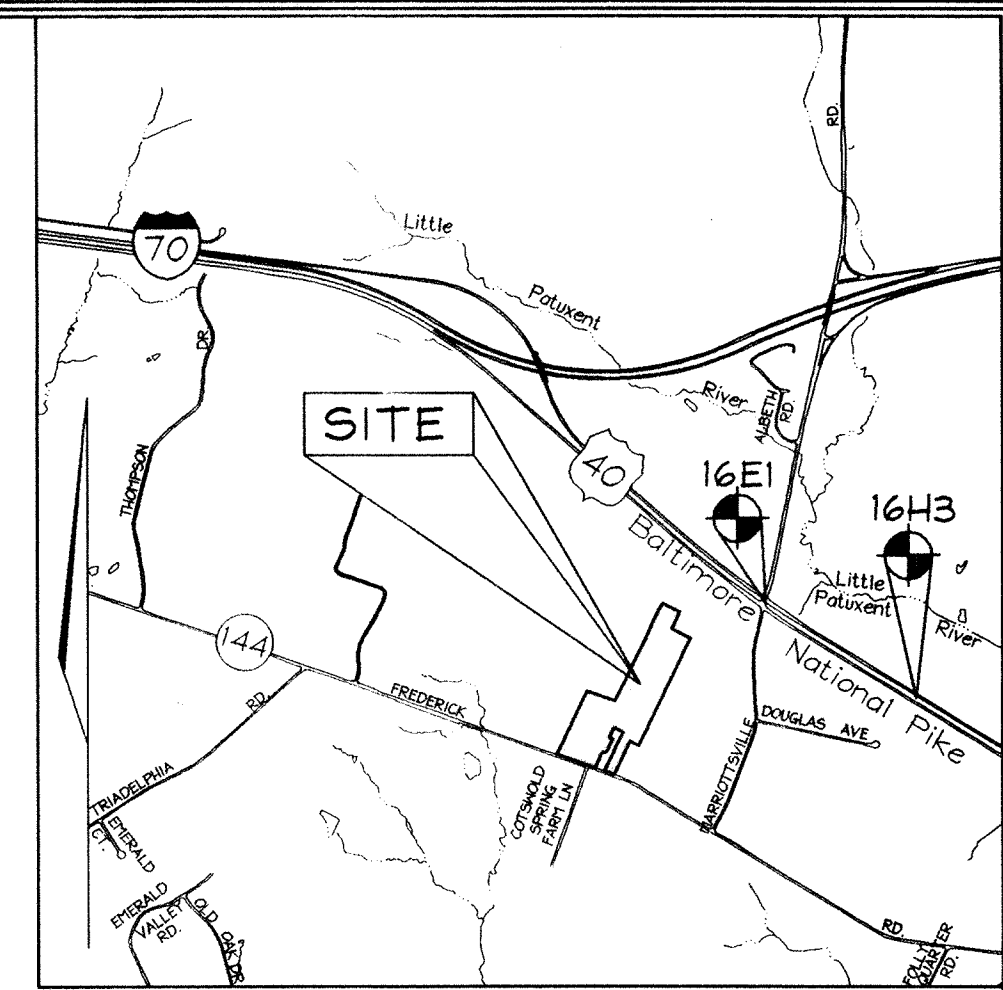
- Subject property zoned RC-DEO per 2/02/04 Comprehensive Zoning Plan.
- Public water and private sewer will be used within this site.
- Total area of property = 20.098 ac.±
- Area of proposed public R/W: 0.555 ac.
- Number of proposed buildable lots: 9  
Area of proposed buildable lots: 9,198 ac.±
- Number of proposed non-buildable preservation parcels: 3  
Area of proposed non-buildable preservation parcels: 8,274 ac.±
- Number of proposed buildable preservation parcels: 1  
Area of proposed buildable preservation parcels: 2,071 Ac.±
- Density calculations:  
a.) Number of lots based on own density:  
20.098ac / 4.25 = 4.72, therefore 4 units  
b.) Net Tract Area:  
20.098ac - 0.04ac(100 yr. Floodplain) - 0.04ac(slopes 25% or greater) = 20.058ac  
c.) Maximum number of lots allowed based on DEO option:  
20.058ac / 2 = 10.029 = 10 units  
d.) Total number of Buildable Lots/Parcels proposed: 10  
e.) Total number of DEO units required:  
10 = 4 units
- The lots shown herein comply with the minimum ownership, width and lot area as required by the Maryland State Department of the Environment.
- This area designates a private sewage easement of at least 10,000 square feet (or 10,000 square feet per lot for shared drain fields associated with a shared sewage disposal facility) 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 be null and void upon connection to a public sewerage system. The County Health Officer shall have the authority to grant adjustments to the private sewage easement.  
Recordation of a modified sewage easement shall not be necessary.
- The septic fields are located on soil types CHB2, CHC2, GIC2 and HIG2 as per the soil survey of Howard County, Soils Map # 15.
- All percolation test holes and their elevations have been field located by FSH Associates.
- On-site topography based on a Field Run Topographic Survey prepared by FSH Associates in July, 2003 with two foot contours. Off-site topography based on Howard County 1993 Aerial Topographic Surveys with five foot contours.
- The existing house is proposed to remain on Buildable Preservation Parcel 'C'. The existing house on proposed Lot 9 to be removed.
- A.P.F.O. traffic study prepared by Street Traffic Studies on 3/22/04 and amended on 11/23/04.
- Wetlands delineation and report 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.
- The coordinates shown herein are based upon the Howard County Geodetic Control which is based on the Maryland State Plane Coordinate system. Howard County monument numbers 16E1 and 16H3 were used for this project.
- No clearing, grading or construction is permitted within wetlands, streams or their required buffers unless approved by Howard County.
- For flag or pipestem lots, refuse collection, snow removal and road maintenance are provided to the junction of the flag or pipestem and road right-of-way line and not to the pipestem lot driveway.
- There are no Floodplains or Cemeteries on-site.
- Forest Conservation for this project is met by onsite retention of 5.23 Acres and 0.29 Acres of reforestation planting in two Forest Conservation Easements. Easement #1 contains 4.87 Ac. of retention and 0.29 Ac. of reforestation. Easement #2 contains 0.34 Ac. of retention. Surety for the project in the amount of \$51,880.30 shall be posted with the Developer's Agreement. For the remaining 0.01 Ac. of mitigation required, we are requesting payment of a fee-in-lieu in the amount of \$218.00 (436s.f. @ \$0.50/s.f.).
- This plan is subject to the April 13, 2004 Zoning Regulations and the Amended 5th Edition Subdivision and Land Development Regulations.
- This project does not require a noise study in accordance with the September 10, 1996 Revised Noise Policy.
- The existing house to be razed was built in 1941.
- Preservation Parcels 'B', 'C' & 'D' shall be privately owned and maintained with HOA and Howard County as easement holders. Preservation Parcel 'A' shall be HOA owned and maintained with Ho.Co. as Easement holders.
- For Lots utilizing shared septic systems, maintenance charges will be assessed by Ho.Co.
- This Plan is subject to Maiver Petition Wp-04-145, on July 22, 2004, the Planning Director Denied a waiver from section 16.119(f)(3) to allow 2 Access Points onto a Restricted Access Road (RD Route 144).
- THE EXISTING WELL ON BUILDABLE PRESERVATION PARCEL 'C' SHALL BE PROPERLY ABANDONED PRIOR TO RECORDATION OF FINAL PLAT.

# PRELIMINARY EQUIVALENT SKETCH PLAN WILLOW RIDGE

## LOTS 1 THRU 9 AND PRESERVATION PARCELS 'A', 'B', 'C' & 'D' HOWARD COUNTY, MARYLAND

**LEGEND**

- Existing Contour
- Proposed Contour
- Direction of Flow
- Existing Spot Elevation
- Proposed Spot Elevation
- Existing Trees
- Proposed Septic Easement
- Wetlands
- Use-In-Common Access Easement
- Existing Perc Test (Passed)
- Existing Dry Well
- Utility Poles
- Proposed House



VICINITY MAP  
SCALE: 1"=2000'

**BENCHMARKS**

Howard County Monuments:  
Sta. 16E1 N 180,823.2544 E 408,491.5573 EL: 141.6071 (meters)  
(Concrete Monument 0.6' below the surface of the east island divide at the intersection of Route 40 and Marriottville Road, 24.0' from the west bound lane of Route 40 and 9.6' from the east bound lane of Route 40.)  
Sta. 16H3 N 180,566.3370 E 408,847.3367 EL: 143.3812 (meters)  
(Concrete Monument at the surface of east bound Route 40, 20.0' west of C concrete channel extended 0.3 miles east of Marriottville Road.)

**SHEET INDEX**

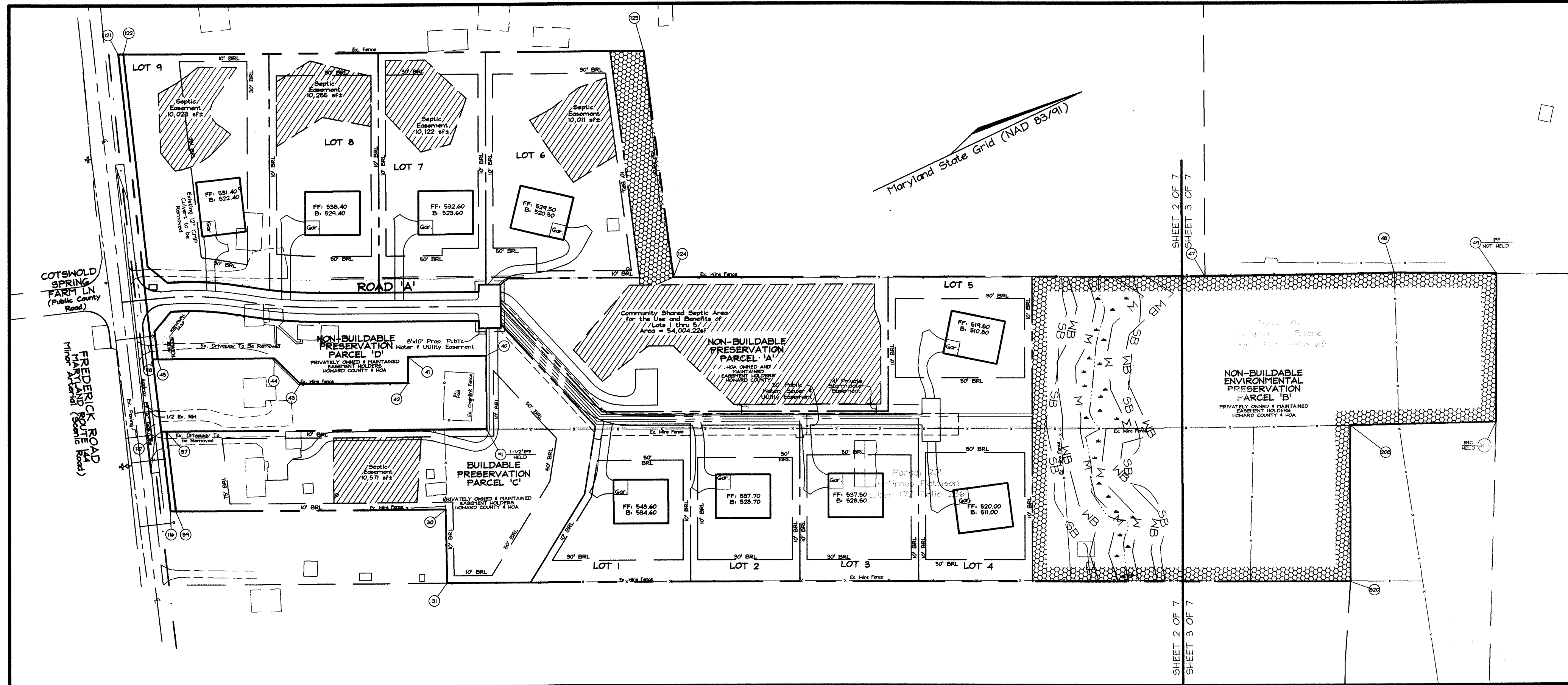
DESCRIPTION	SHEET No.
Cover Sheet	1 of 7
Preliminary Equivalent Sketch Plan	2 of 7
Preliminary Equivalent Sketch Plan	3 of 7
Preliminary Grading, Landscaping, Sediment Control and Soils Plan	4 of 7
Preliminary Grading, Landscaping, Sediment Control and Soils Plan	5 of 7
Preliminary Forest Conservation Plan	6 of 7
Preliminary Forest Conservation Plan	7 of 7

**MINIMUM LOT SIZE CHART**

LOT NUMBER	GROSS AREA (SF)	PIPESTEM AREA (SF)	MINIMUM LOT SIZE (SF)
1	35,917±	463±	35,253±
2	34,145±	1,112±	33,033±
3	38,080±	1,629±	36,451±
4	37,649±	2,191±	35,505±
5	34,486±	2,053±	37,432±

**CURVE TABLE**

CURVE	LENGTH	RADIUS	DELTA	Chord Bearing	Chord Length
C1	103.66	400.00	15°42'25"	N27°21'56"E	104.31
C2	100.58	600.00	9°36'16"	N30°33'00"E	100.46



LOCATION MAP  
SCALE: 1"=100'

**U.S. EQUIVALENT COORDINATE TABLE**

POINT	NORTHING	EASTING
30	591,865.8225	1,338,740.8990
31	591,823.5681	1,338,832.7133
37	591,567.7753	1,338,476.4754
39	591,531.5381	1,338,581.0763
40	592,008.0910	1,338,574.4330
41	591,911.0510	1,338,528.4340
42	591,895.3830	1,338,561.1020
43	591,761.9370	1,338,497.1020
44	591,745.3260	1,338,449.8760
45	591,600.7340	1,338,381.3370
47	592,943.8896	1,338,906.4158
48	593,180.5680	1,339,015.6620
49	593,305.2210	1,339,077.8540
91	591,964.2613	1,338,665.8242
116	591,525.1826	1,338,578.0377
117	591,561.4188	1,338,473.4397
118	591,594.3742	1,338,378.3224
121	591,734.8449	1,337,979.3693
122	591,741.1932	1,337,982.4164
123	592,385.2679	1,338,291.5638
124	592,285.9096	1,338,590.5247
208	593,033.9881	1,339,178.1569
820	592,940.9339	1,339,371.6101
3,041	593,215.5629	1,339,262.0100

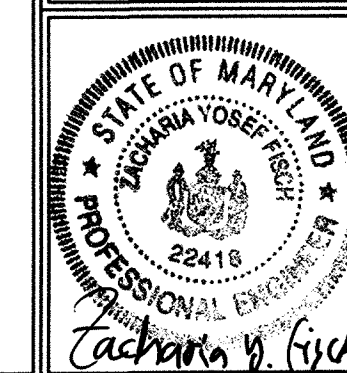
APPROVED FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS.  
HOWARD COUNTY HEALTH DEPARTMENT

Robert W. Dale  
COUNTY HEALTH OFFICER  
6/21/05  
DATE

TEMPORARILY APPROVED  
DEPT. OF PLANNING AND  
SCENIC DESIGN  
HOWARD COUNTY  
Mark A. Nye 7/15/05  
PLANNING DIRECTOR  
DATE

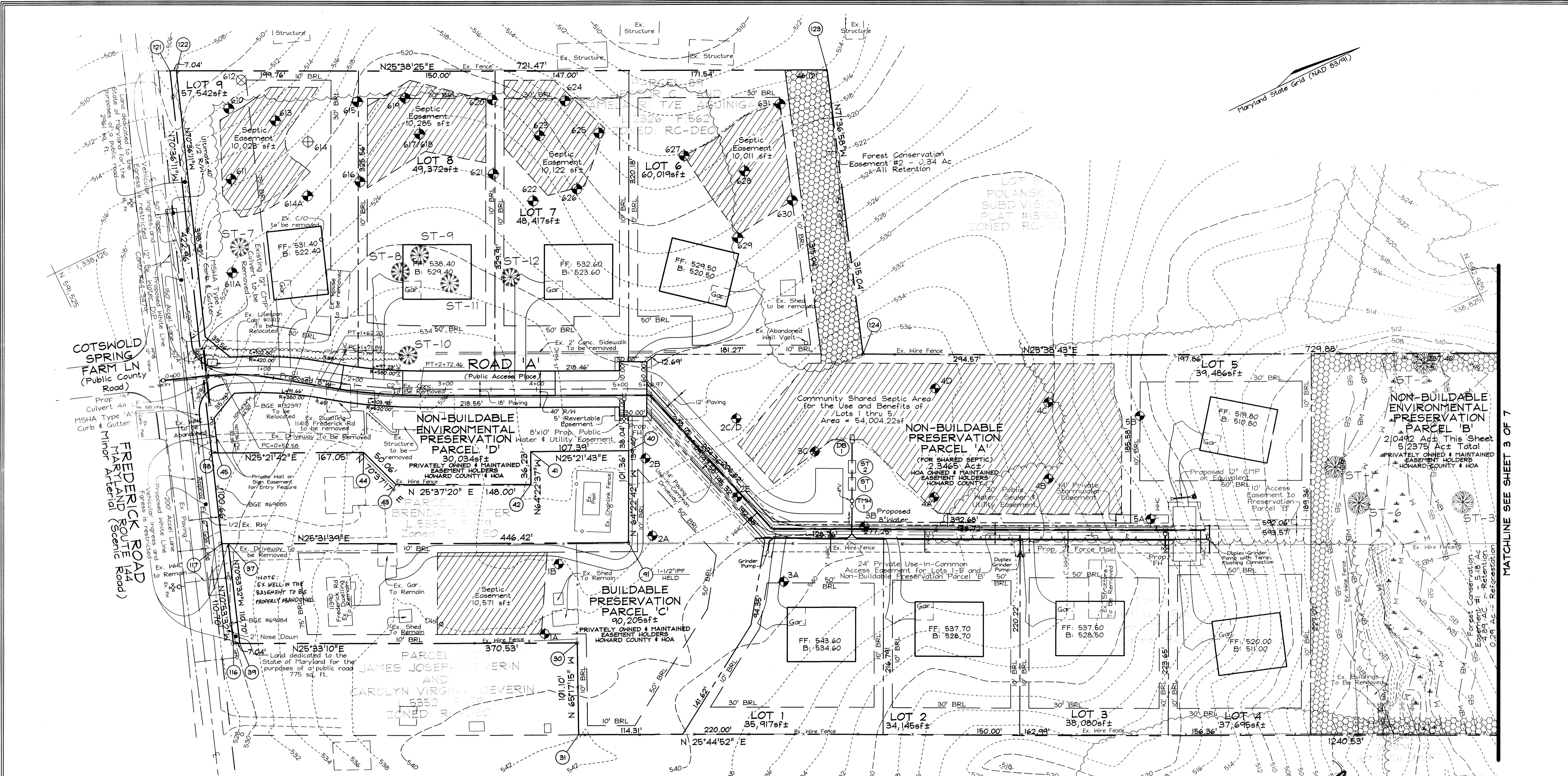
OWNER/DEVELOPER  
GREENFIELD HOMES, Inc.  
665e Luster Drive  
Highland, Maryland 20777  
(410) 781-6782

COVER SHEET  
WILLOW RIDGE  
LOTS 1 THRU 9, AND  
PRESERVATION PARCELS 'A', 'B', 'C' & 'D'  
TAX MAP 16 GRID 15 PARCELS 89, 91 & 201  
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND



**FSH Associates**  
Engineers/Planners/Surveyors  
8318 Forrest Street, Ellicott City, MD 21043  
Tel: 410-750-2251 Fax: 410-750-7350  
E-mail: info@fsha.biz

DESIGN BY: PS  
DRAWN BY: MS/AY  
CHECKED BY: ZYF  
SCALE: As Shown  
DATE: June 16, 2005  
W.O. No.: 3033  
SHEET No.: 1 OF 7



PARCEL 92  
 BRUCE MAY  
 L.5387 F.309  
 ZONED: RC-DEO

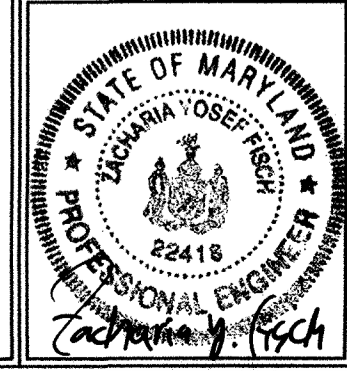
TENTATIVELY APPROVED  
 DEPT. OF PLANNING AND  
 ZONING OF  
 HOWARD COUNTY  
*M. J. ...*  
 PLANNING DIRECTOR JA DATE

OWNER/DEVELOPER  
 GREENFIELD HOMES, Inc.  
 6656 Luster Drive  
 Highland, Maryland 20777  
 (410) 781-6782

PRELIMINARY EQUIVALENT  
 SKETCH PLAN  
 WILLOW RIDGE  
 LOTS 1 THRU 9, AND  
 PRESERVATION PARCELS 'A', 'B', 'C' & 'D'  
 TAX MAP 16 GRID 15 PARCELS 89, 91 & 201  
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

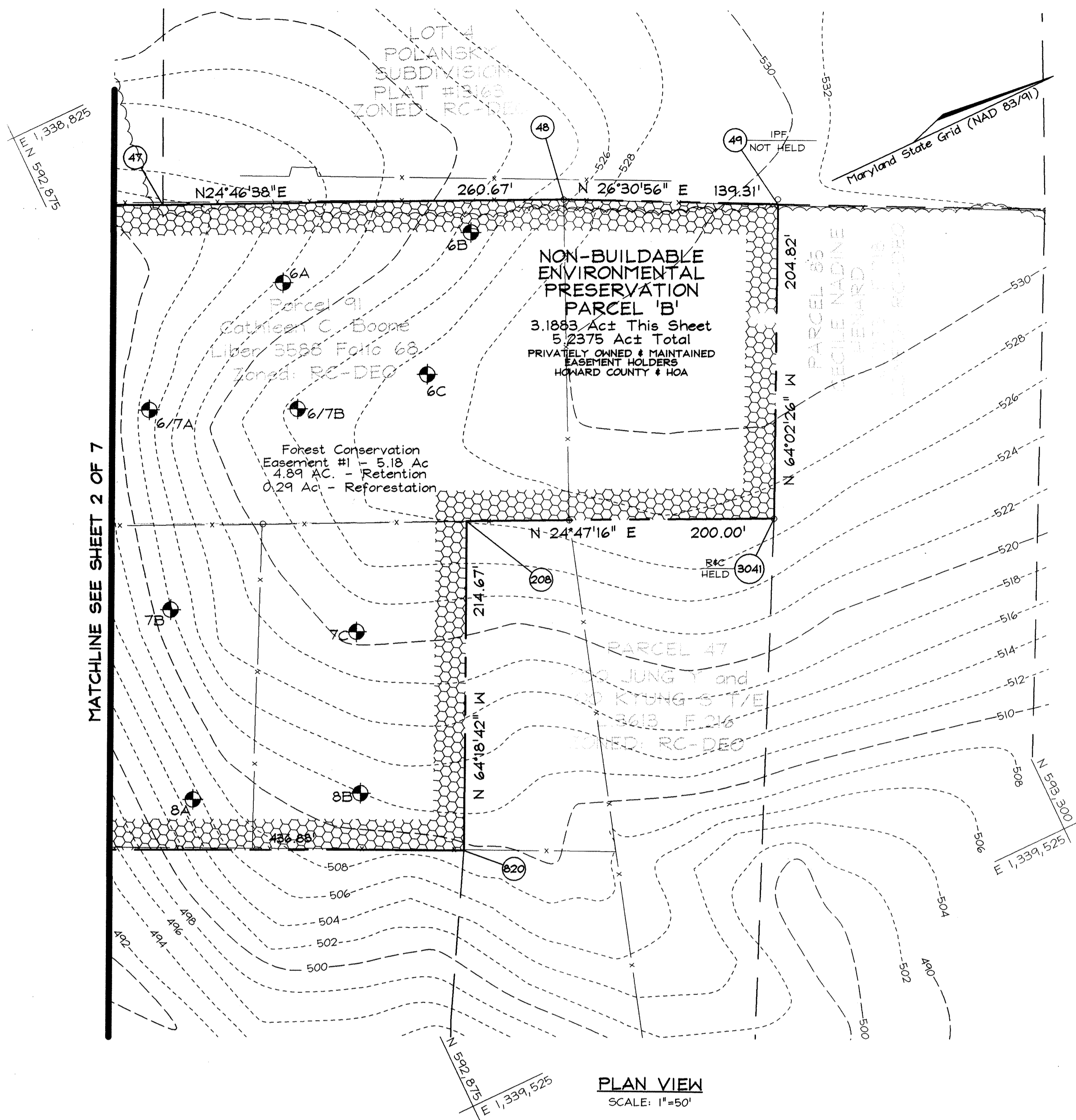
APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE  
 SYSTEMS IN ACCORDANCE WITH THE MASTER  
 PLAN OF HOWARD COUNTY

*Robert J. ...*  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT  
 DATE 6/16/05

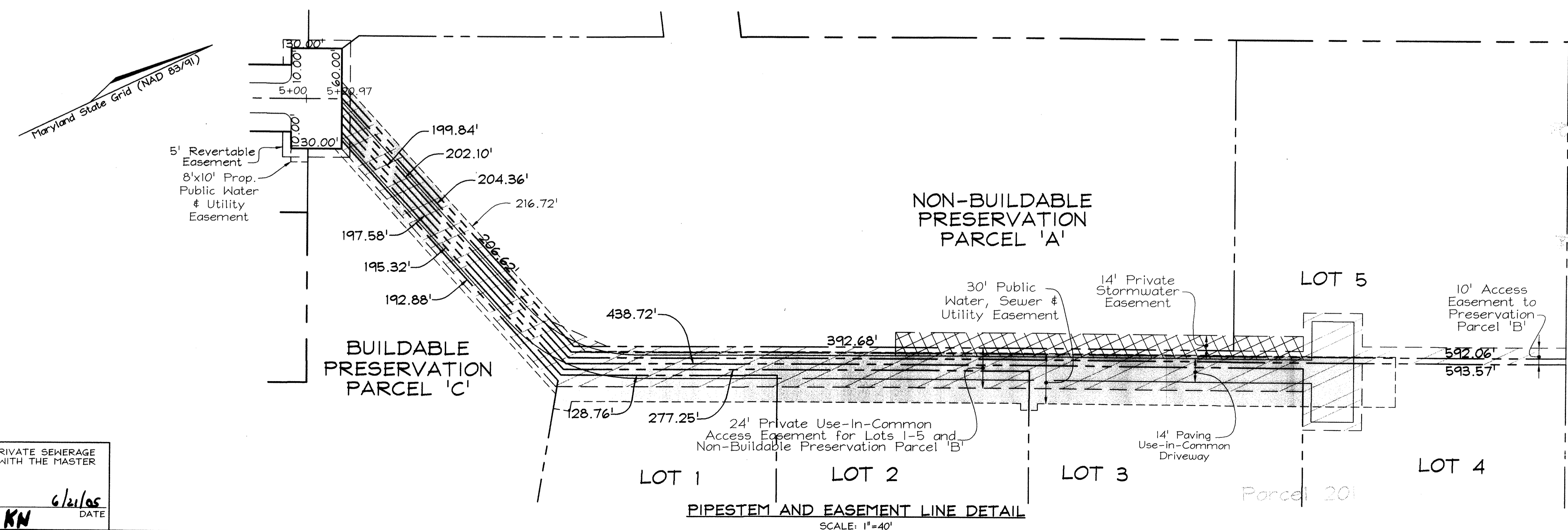


**FSH Associates**  
 Engineers Planners Surveyors  
 8318 Forrest Street Ellicott City, MD 21043  
 Tel: 410-750-2251 Fax: 410-750-7350  
 E-mail: info@fsha.biz

DESIGN BY: PS/KO  
 DRAWN BY: MS/KO  
 CHECKED BY: ZYF  
 SCALE: 1"=50'  
 DATE: June 16, 2005  
 P.L.O. No.: 3033  
 SHEET No.: 2 OF 7



PLAN VIEW  
SCALE: 1"=50'



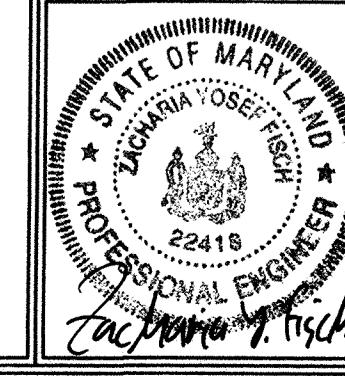
PIPESTEM AND EASEMENT LINE DETAIL  
SCALE: 1"=40'

TENTATIVELY APPROVED  
DEPT. OF PLANNING AND  
ZONING OF  
HOWARD COUNTY

*Mark H. ...*  
PLANNING DIRECTOR DATE

OWNER/DEVELOPER  
GREENFIELD HOMES, Inc.  
6656 Luster Drive  
Highland, Maryland 20777  
(410) 781-6782

PRELIMINARY EQUIVALENT  
SKETCH PLAN  
WILLOW RIDGE  
LOTS 1 THRU 9, AND  
PRESERVATION PARCELS 'A', 'B', 'C' & 'D'  
TAX MAP 16 GRID 15 PARCELS 89, 91 & 201  
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND



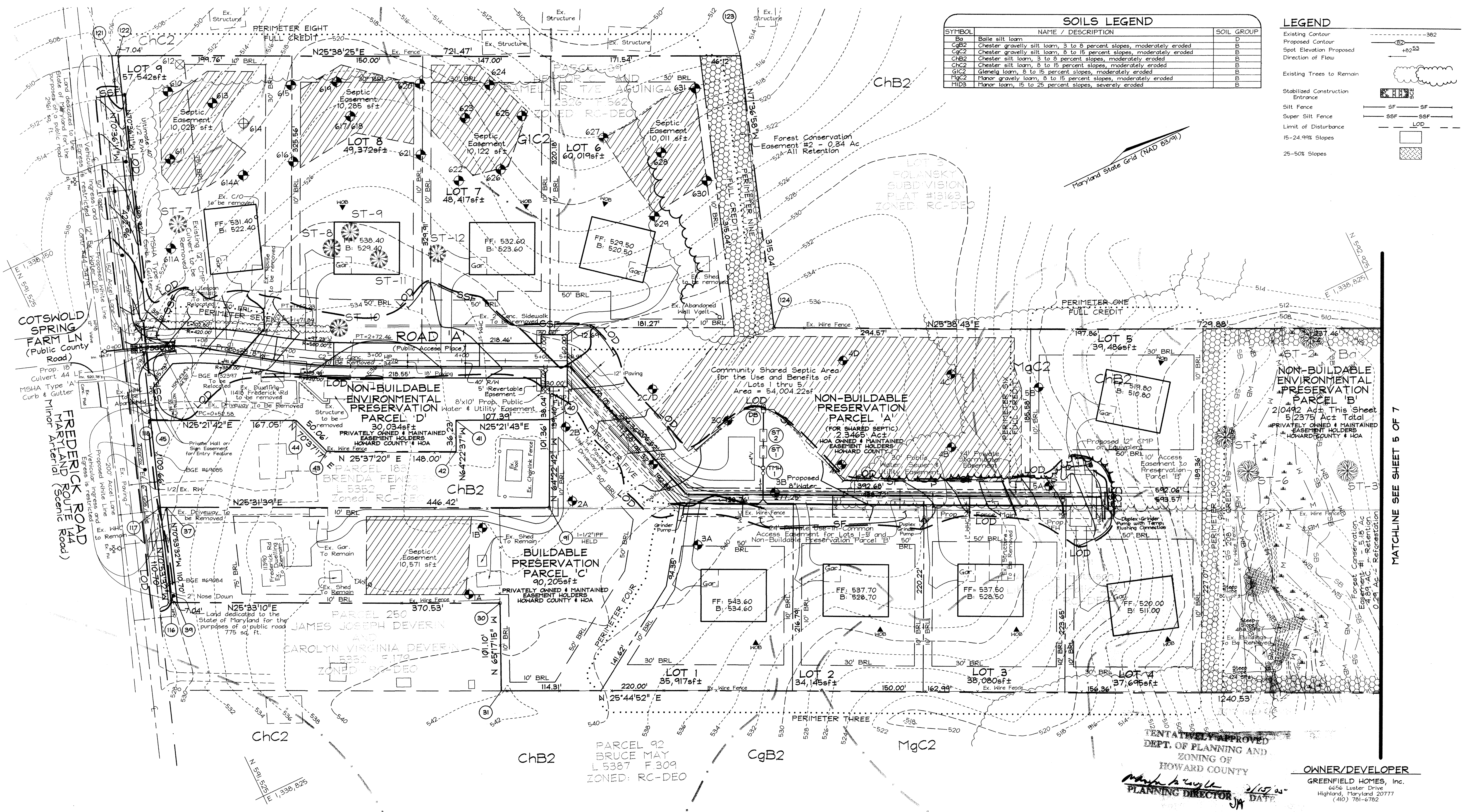
**FSH Associates**  
Engineers Planners Surveyors  
8318 Forrest Street, Ellicott City, MD 21043  
Tel: 410-780-2251 Fax: 410-780-7350  
E-mail: info@fsha.biz

DESIGN BY: PS  
DRAWN BY: MS  
CHECKED BY: ZYF  
SCALE: As shown  
DATE: June 16, 2005  
W.O. No.: 3033  
SHEET No.: 3 OF 7

APPROVED FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS IN ACCORDANCE WITH THE MASTER PLAN OF HOWARD COUNTY  
*Robert G. Weber*  
COUNTY HEALTH OFFICER  
HOWARD COUNTY HEALTH DEPARTMENT KN  
DATE: 6/16/05

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 gravelly silt loam, 8 to 15 percent slopes, moderately eroded	B
ChC2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
ChD2	Chester silt loam, 8 to 15 percent slopes, moderately eroded	B
GIC2	Glenela loam, 8 to 15 percent slopes, moderately eroded	B
MgC2	Manor gravelly loam, 8 to 15 percent slopes, moderately eroded	B
MID3	Manor loam, 15 to 25 percent slopes, severely eroded	B

LEGEND	
Existing Contour	--- 362
Proposed Contour	--- 362.53
Spot Elevation Proposed	+82.53
Direction of Flow	→
Existing Trees to Remain	
Stabilized Construction Entrance	
Silt Fence	SF SF
Super Silt Fence	SSF SSF
Limit of Disturbance	LOD
15-24.9% Slopes	
25-50% Slopes	



CATEGORY	SCHEDULE A PERIMETER LANDSCAPE EDGE							ADJACENT TO ROADWAYS
	1	2	3	4	5	6	7	
Perimeter/Frontage Designation	A	A	A	A	A	A	A	B
Linear Feet of Perimeter	198	420	804	101	176	186	350	162
Credit for Existing Vegetation (Yes, No, Linear Feet)	Yes* 198 (0)	Yes* 208 (212)	No	No	No	Yes* 186 (0)	Yes* 350 (0)	No
Remaining Perimeter Length	-	-	-	-	-	-	-	-
Number of Plants Required	1:60 0	1:60 4	1:60 14	1:60 2	1:60 3	1:60 0	1:60 0	1:50 3
Shade Trees	-	-	-	-	-	-	-	140 4
Evergreen Trees	-	-	-	-	-	-	-	-
Shrubs	-	-	-	-	-	-	-	-
* Existing woods to remain								

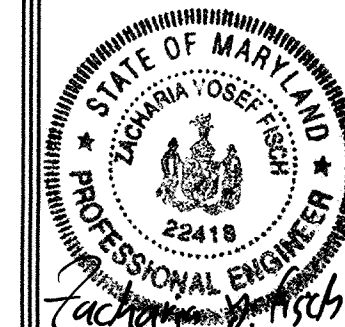
**LANDSCAPE NOTES**

- 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 and is the Developer's responsibility.

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS IN ACCORDANCE WITH THE MASTER PLAN OF HOWARD COUNTY  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT  
 Robert J. Walden  
 4/15/05  
 DATE

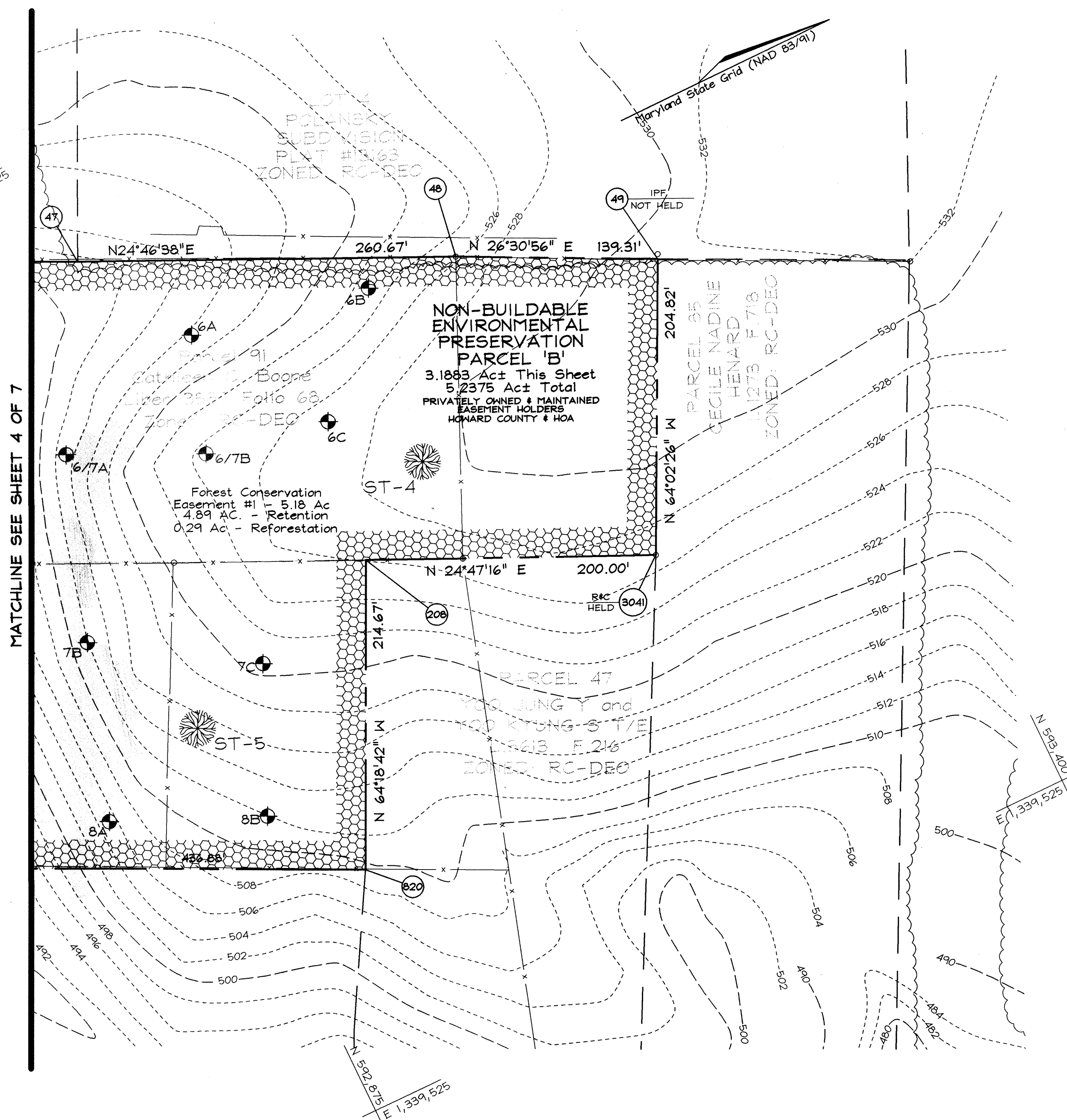
TENTATIVELY APPROVED  
 DEPT. OF PLANNING AND ZONING OF HOWARD COUNTY  
 OWNER/DEVELOPER  
 GREENFIELD HOMES, Inc.  
 6656 Luster Drive  
 Highland, Maryland 20777  
 (410) 781-6782  
 PLANNING DIRECTOR  
 DATE: 2/15/05

PRELIMINARY GRADING, LANDSCAPING AND SEDIMENT CONTROL PLAN  
 WILLOW RIDGE  
 LOTS 1 THRU 9, AND  
 PRESERVATION PARCELS 'A', 'B', 'C' & 'D'  
 TAX MAP 16 GRID 15 PARCELS 89, 91 & 201  
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND



**FSH Associates**  
 Engineers Planners Surveyors  
 8318 Forrest Street Ellicott City, MD 21043  
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 E-mail: info@fsh.biz

DESIGN BY: PS  
 DRAINED BY: MS & MY  
 CHECKED BY: ZTF  
 SCALE: 1" = 50'  
 DATE: June 16, 2005  
 H.O. No.: 3033  
 SHEET No.: 4 OF 7



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
CgC2	Chester gravelly silt loam, 8 to 15 percent slopes, moderately eroded	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
ChC2	Chester silt loam, 8 to 15 percent slopes, moderately eroded	B
Gic2	Glencig loam, 8 to 15 percent slopes, moderately eroded	B
MigC2	Manor gravelly loam, 8 to 15 percent slopes, moderately eroded	B
MiD3	Manor loam, 15 to 25 percent slopes, severely eroded	B

TENTATIVELY APPROVED  
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 HOWARD COUNTY

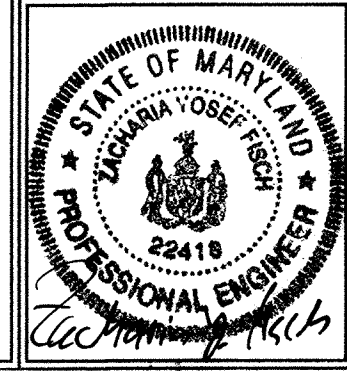
*Frank A. Long* 3/15/05  
 PLANNING DIRECTOR DATE

OWNER/DEVELOPER  
 GREENFIELD HOMES, Inc.  
 6656 Luster Drive  
 Highland, Maryland 20777  
 (410) 781-6782

PRELIMINARY GRADING, LANDSCAPING,  
 SEDIMENT CONTROL, AND SOILS PLAN  
 WILLOW RIDGE  
 LOTS 1 THRU 9, AND  
 PRESERVATION PARCELS 'A', 'B', 'C' & 'D'  
 TAX MAP 16 GRID 15 PARCELS 89, 91 & 201  
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE  
 SYSTEMS IN ACCORDANCE WITH THE MASTER  
 PLAN OF HOWARD COUNTY

*Robert J. Weber* 6/21/05  
 COUNTY HEALTH OFFICER DATE  
 HOWARD COUNTY HEALTH DEPARTMENT

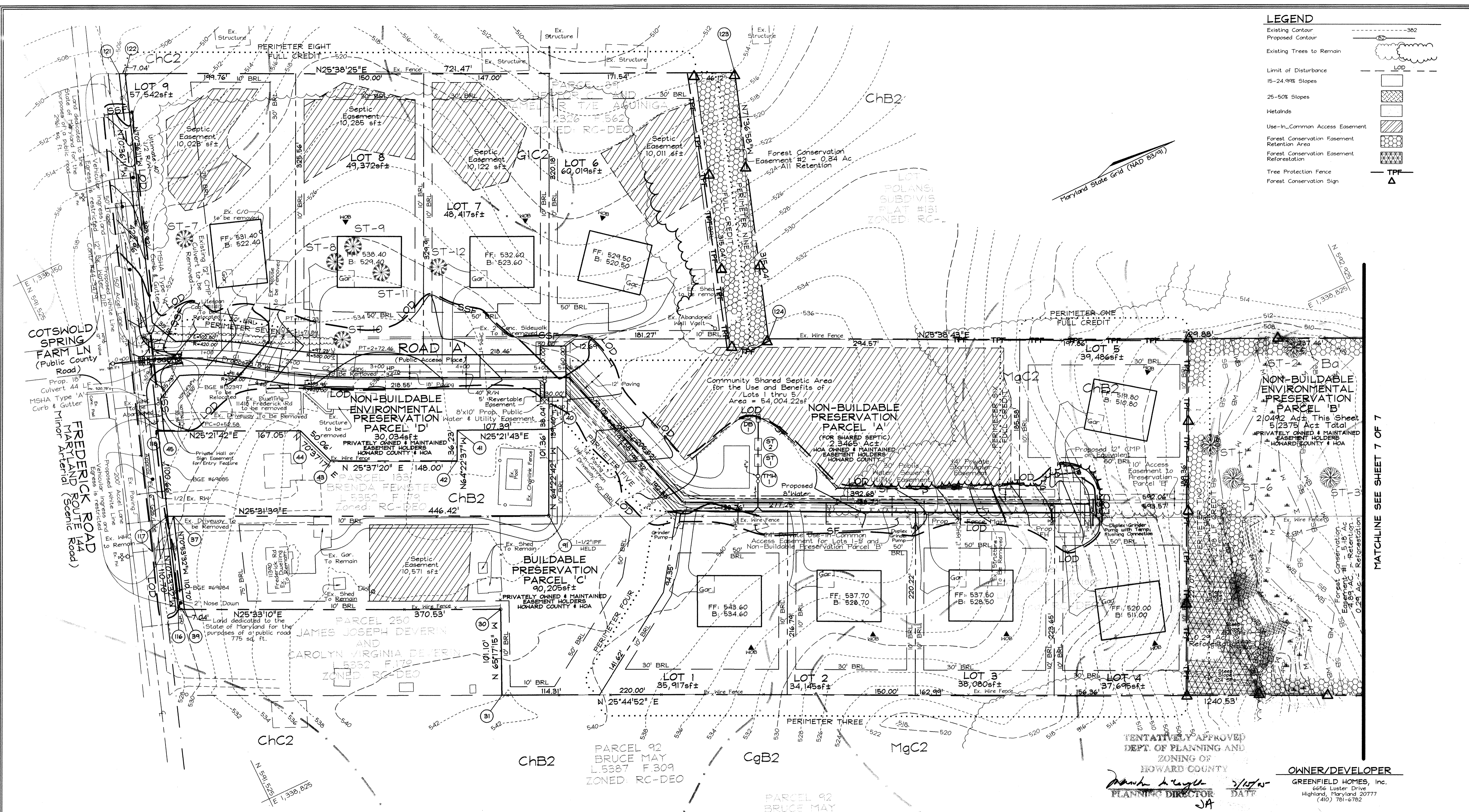


**FSH Associates**  
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 E-mail: info@fsha.tl

DESIGN BY: PS  
 DRAWN BY: MS & NY  
 CHECKED BY: ZYF  
 SCALE: 1" = 50'  
 DATE: June 16, 2005  
 W.O. No.: 3033  
 SHEET No.: 5 OF 7

**LEGEND**

- Existing Contour: ---382---
- Proposed Contour: ---382---
- Existing Trees to Remain: [Symbol]
- Limit of Disturbance: LOD
- 15-24.9% Slopes: [Symbol]
- 25-50% Slopes: [Symbol]
- Wetlands: [Symbol]
- Use-In-Common Access Easement: [Symbol]
- Forest Conservation Easement Retention Area: [Symbol]
- Forest Conservation Easement Reforestation: [Symbol]
- Tree Protection Fence: TPF
- Forest Conservation Sign: [Symbol]



MATCHLINE SEE SHEET 7 OF 7

TENTATIVELY APPROVED  
DEPT. OF PLANNING AND ZONING OF HOWARD COUNTY

*John H. Taylor* / 5/15/05  
PLANNING DIRECTOR / DATT

OWNER/DEVELOPER  
GREENFIELD HOMES, Inc.  
6656 Luster Drive  
Highland, Maryland 21043  
(410) 781-6782

**PRELIMINARY FOREST CONSERVATION PLAN**  
**WILLOW RIDGE**  
**LOTS 1 THRU 9, AND PRESERVATION PARCELS 'A', 'B', 'C' & 'D'**

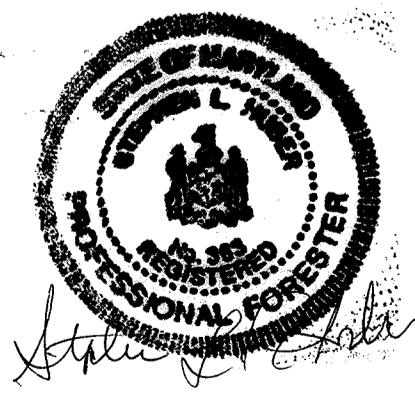
TAX MAP 16 GRID 15 PARCELS 89, 91 & 201  
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**SPECIMEN TREES**

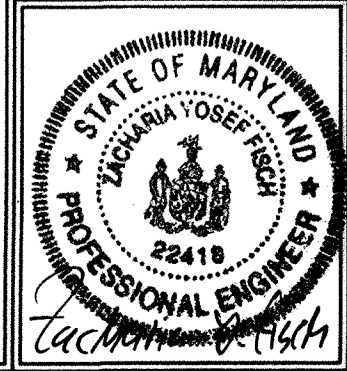
NO.	DBH	COMMON NAME	SCIENTIFIC NAME	CONDITION	RETAINED
ST-1	32.5"	Yellow poplar	Liriodendron tulipifera	Fair	YES
ST-2	34"	White oak	Quercus alba	Good	YES
ST-3	36"	Yellow poplar	Liriodendron tulipifera	Good	YES
ST-4	54.5"	Red oak	Quercus rubra	Good	YES
ST-5	45"	Mocker nut hickory	Carya tomentosa	Good	YES
ST-6	36"	Sweetgum	Liriodendron tulipifera	Fair	YES
ST-7	36"	White Oak	Quercus alba	Good	NO
ST-8	32"	European Larch	Larix decidua	Good	NO
ST-9	51"	White Oak	Quercus alba	Fair	NO
ST-10	39"	White Oak	Quercus alba	Good	NO
ST-11	43"	Red Maple	Acer rubrum	Floor	NO
ST-12	36"	Black Walnut	Juglans nigra	Good	NO

**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
CgC2	Chester gravelly silt loam, 8 to 15 percent slopes, moderately eroded	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
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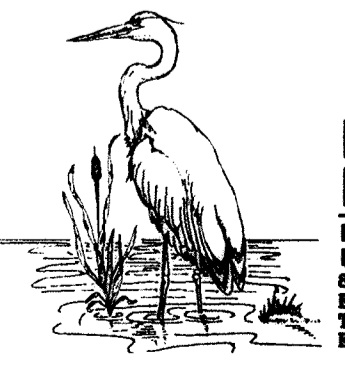


**EXPLORATION RESEARCH, INC.**  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS  
8818 FOREST STREET  
ELLSWORTH CITY, MARYLAND 21043  
TEL: (410) 780-1150 FAX: (410) 780-7800  
EMAIL: EXPLORATION@ERINC.COM



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Tel: 410-750-2251 Fax: 410-750-7350  
E-mail: info@fsha.biz

DESIGN BY: PS  
DRAWN BY: MS & MY  
CHECKED BY: ZYF  
SCALE: 1" = 50'  
DATE: June 16, 2005  
W.O. No.: 3033  
SHEET No.: 6 OF 7



**Reforestation Area Monitoring Notes**

- Monthly visits during the first growing season are to assess the success of the plantings and to determine if supplemental watering, pest control or other actions are necessary. Early spring visits will document winter kill and autumn visits will document summer kill.
- The minimum survival rate shall be 75% of the total number of trees planted per acre at the end of the two year maintenance period. Wild tree seedlings from natural regeneration at the planting site may be counted up to 50% toward the total survival number if they are healthy native species at least 12 inches tall.
- Certification at the end of the two-year post construction period must indicate that the survival rates will result in a 100 tree per acre ratio for a forest and the 3 to 4 foot height standard for whips by the end of the two growing season post construction period, with at least 50% of those trees having the potential of attaining a 2" caliper DBH within 7 years.
- Survival will be determined by a stratified random sample of the plantings. The species composition of the sample population should be proportionate to the amount of each species in the entire planting to be sampled.
- Effective monitoring will assess plant survivability during the first growing season and make recommendations for reinforcement planting if required at that time.

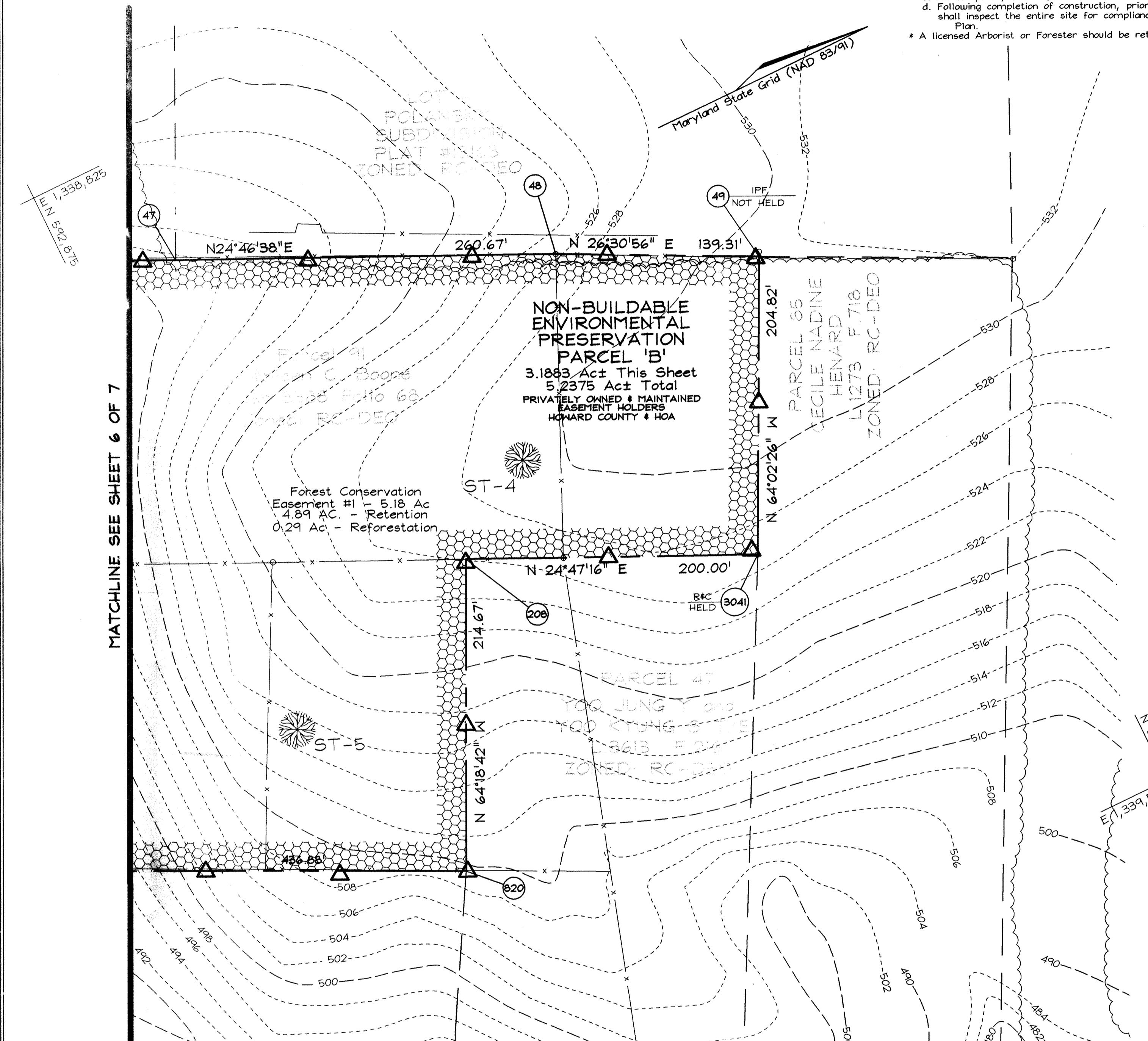
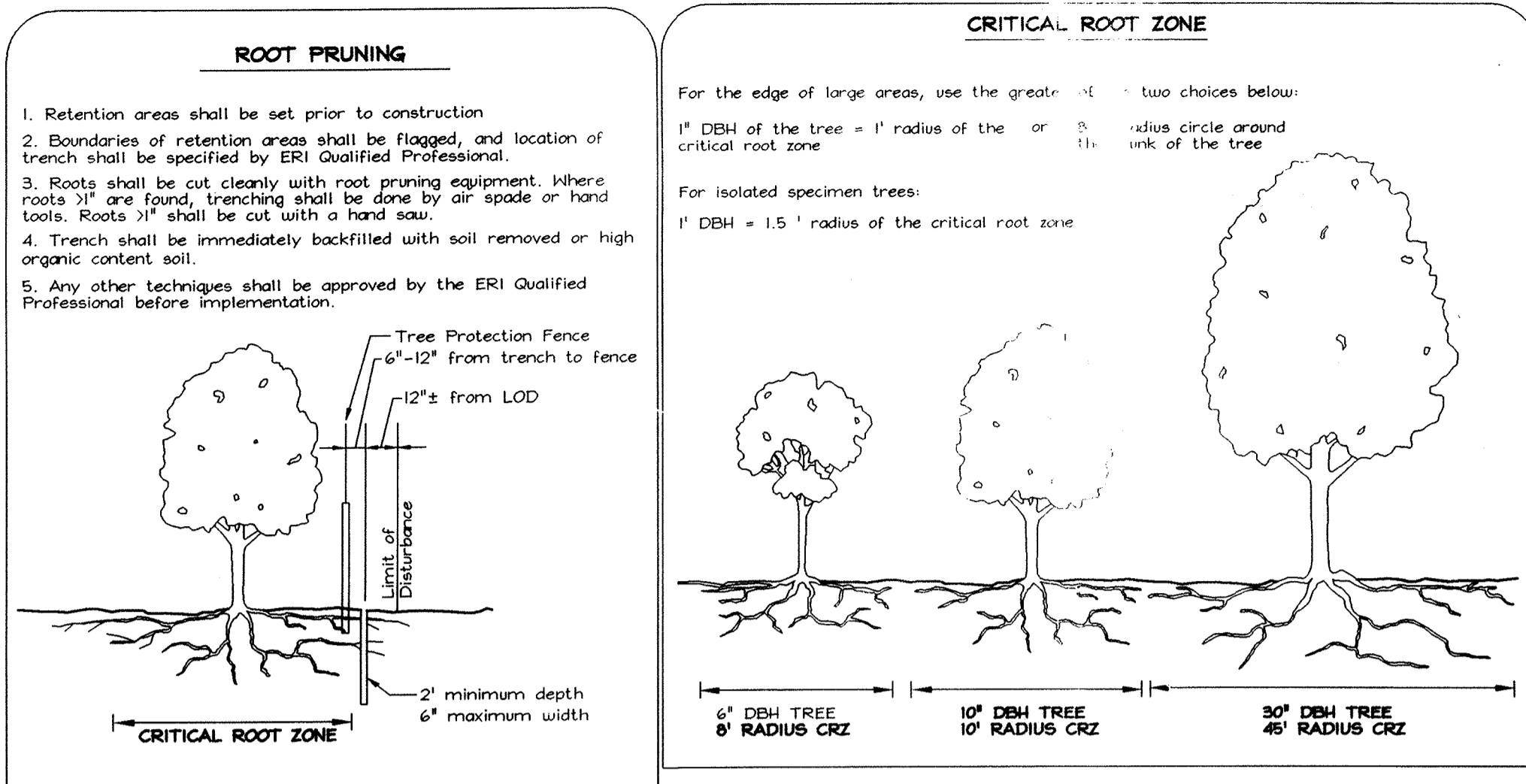
NO.	DBH	COMMON NAME	SCIENTIFIC NAME	CONDITION	RETAINED
ST-1	32.5"	Yellow poplar	Liriodendron tulipifera	Fair	YES
ST-2	34"	White oak	Quercus alba	Good	YES
ST-3	36"	Yellow poplar	Liriodendron tulipifera	Good	YES
ST-4	39.5"	Red oak	Quercus rubra	Good	YES
ST-5	45"	Blocker nut hickory	Carya tomentosa	Good	YES
ST-6	36"	Sweetgum	Liriodendron tulipifera	Fair	NO
ST-7	36"	White Oak	Quercus alba	Good	NO
ST-8	32"	European Larch	Larix decidua	Good	NO
ST-9	51"	White Oak	Quercus alba	Fair	NO
ST-10	35"	White Oak	Quercus alba	Good	NO
ST-11	43"	Red Maple	Acer rubrum	Poor	NO
ST-12	36"	Black Walnut	Juglans nigra	Good	NO

**Forest Tree Protection and Management Notes**

- Tree protection devices shall be installed prior to any grading or land clearing.
- After the boundaries of the retention areas have been staked and flagged and before any disturbance has taken place a pre-construction meeting with the Howard County Inspector is required.
- Provide maintenance to tree protection devices and signage to maintain their integrity throughout the duration of the project.
- Attachment of signs to tree protection devices to maintain their integrity throughout the duration of the project.
- Any significant changes made to the Forest Conservation Plan shall be made with the prior approval of the Howard County Dept Of Planning and Zoning.
- No burial of discarded material is permitted within the Forest Conservation and Planting areas.
- No open burning within 100 feet of wooded areas is permitted.
- Post construction phase.
  - Inspect existing trees around the perimeter of the site for signs of root or trunk damage and excessive soil compaction.
  - Remove dead or dying trees and evaluate for hazard tree removal.
  - All temporary forest protection devices will be removed after construction.
- Following completion of construction, prior to use, the county inspector shall inspect the entire site for compliance with this Forest Conservation Plan.
  - A licensed Arborist or Forester should be retained for this service as needed.

**Reforestation Area Planting Notes**

- Initial planting inspection and certification required. Planting contractor to notify ERI qualified professional 24 hours in advance of planting.
- Reforestation areas may be planted as soon as reasonable to do so. Late winter-early spring plantings are preferred. Earliest planting dates will vary from year to year but planting may generally begin as soon as the ground is no longer frozen. Alternate planting dates may be considered as conditions warrant.
- Soil amendments and fertilization recommendations will be made based upon the results of soil analysis for nitrogen, phosphorus, potassium, organic matter content and pH. If required, fertilizer will be provided using a slow release, soluble 16-8-16 analysis designed to last 5-8 years contained in polyethylene perforated bags such as manufactured by ADCO Warks, P.O. Box 310 Hollis, N.Y. 11423 or approved equal.
- Plant materials shall be planted in accordance with the planting diagram, planting details and planting schedule.
- Plant stock must be protected from desiccation at all times prior to planting. Materials held for planting shall be moistened and placed in cool shaded areas until ready for placement.
- Planting materials shall be nursery grown and inspected prior to planting. Plants not conforming to the American Standards for Nursery Stock specifications for size, form, vigor, or roots, or due to trunk wounds, breakage, desiccation, insect or disease must be replaced.
- Newly planted trees may require watering at least once per week during the first growing season depending on rainfall in order to get established. The initial planting operation should allow for watering during installation to completely soak backfill materials.
- Mulch shall be applied in accordance with the diagram provided and shall consist of composted, shredded hardwood bark mulch, free of wood alcohol.
- Planting holes should be excavated to a minimum diameter of 2.5 to 3 times the diameter of the root ball or container. Mechanical angoring is preferred with scarification the sides of each hole.
- All nursery stock to be sprayed with deer repellent containing Biltrex such as Repellex All nursery stock to be grown with deer repellent tablets in growing medium, such as Repellex Tablets.



**FOREST CONSERVATION WORKSHEET**

Item	Acres
<b>Net Tract Area</b>	
A. Total Tract Area	20.10
B. Area Within 100 Year Floodplain	--
C. Other deductions	--
D. Net Tract Area	20.10
<b>Zoning Use Category: RESIDENTIAL-SUBURBAN</b>	
<b>Land Use Category</b>	
E. Afforestation Minimum (20 % x D)	4.02
F. Conservation Threshold (25 % x D)	5.03
<b>Existing Forest Cover</b>	
G. Existing Forest on Net Tract Area	7.23
H. Forest Area Above Conservation Threshold	2.20
<b>Breakeven Point</b>	
I. Forest Retention Above Threshold with no Mitigation	5.47
J. Clearing Permitted without Mitigation	1.76
<b>Proposed Forest Clearing</b>	
K. Forest Areas to be Cleared	2.00
L. Forest Areas to be Retained	5.23
<b>Planting Requirements</b>	
M. Reforestation for Clearing Above Threshold	0.50
N. Reforestation for Clearing Below the Threshold	0
P. Credit for Retention Above Conservation Threshold	0.20
Q. Total Reforestation Required	0.30
R. Total Afforestation Required	0
S. Total Reforestation and Afforestation Requirement	0.30

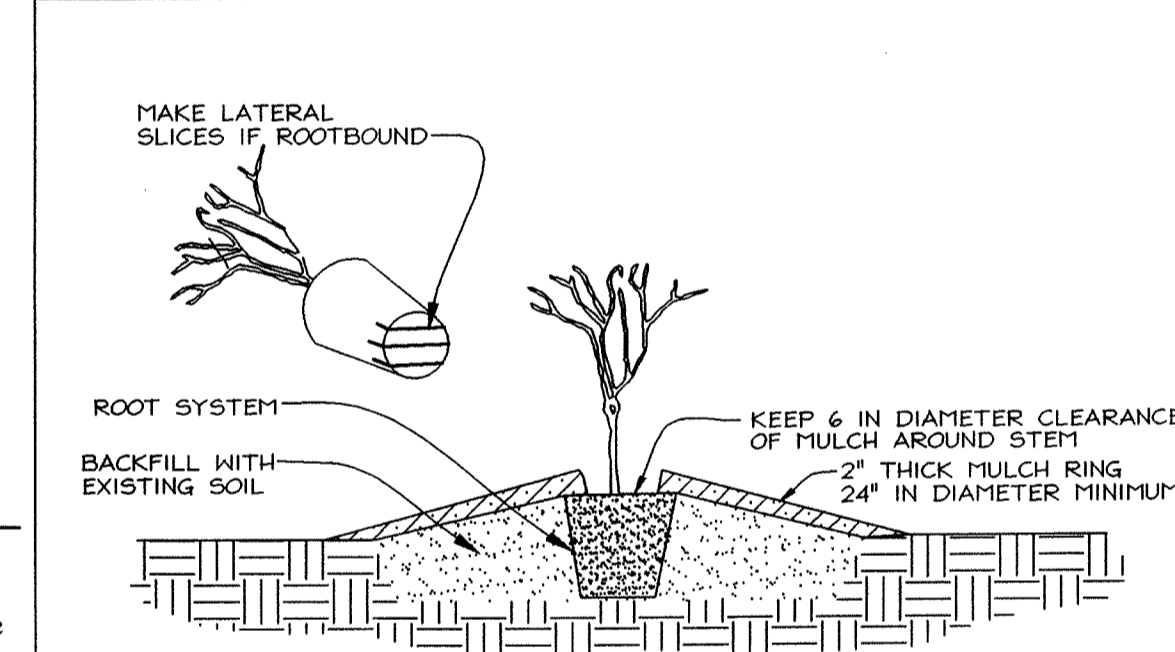
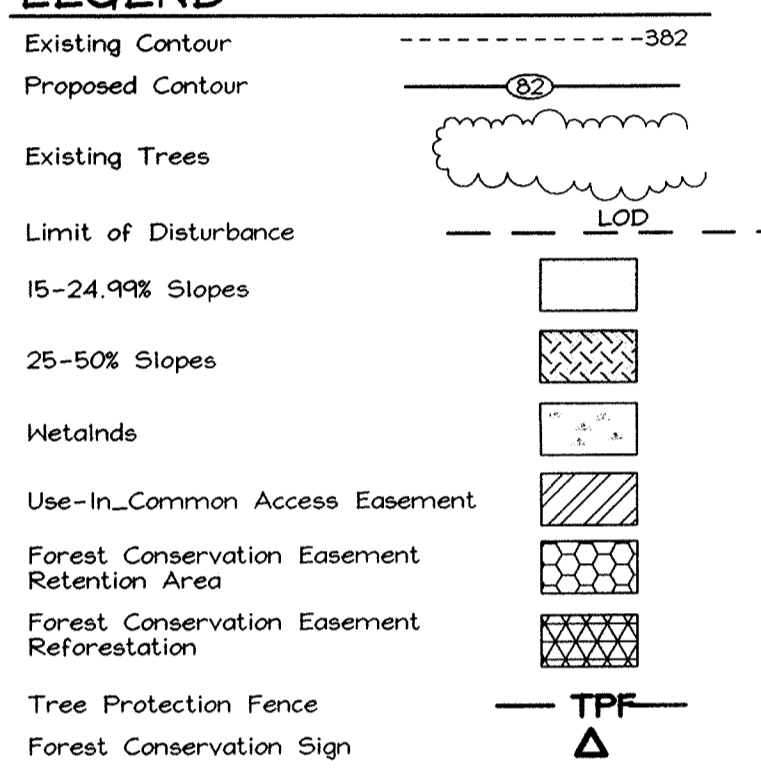
**Forest Conservation Narrative**

This Forest Conservation Plan was prepared in accordance with the Howard County Forest Conservation Manual. The subject property has a gross and net tract area of 20.10 Ac. There is 7.23 Ac. of forest on site. There are several specimen trees around the site, which will be preserved where possible. Forest has been retained to the greatest extent possible, including all forest in sensitive environments. The forest will be retained in two easements of 5.18 Ac. on Parcel B and as 0.34 Ac. of retention on Parcel A. Easement #1 on Parcel B includes a 0.29 Ac. area of Reforestation and 4.89 Ac. of Retention. For the remaining 0.01 Ac. of mitigation required, we are requesting payment of a fee-in-lieu in the amount of \$218.00 (436.s.f. @ \$0.50/s.f.).

New on-site plantings will be 2-3' containerized whip stock planted at 350 stems/acre with tree shelters.

The total forest conservation obligation met on this site is 5.52 acres, with a total forest conservation surety amount of \$51,880.30 (\$45,563.80 for retention of 5.23 Ac. or 227,819 s.f. @ \$ 0.20/s.f. and \$6,316.50 for 0.29 Ac. or 12,633 s.f. @ \$0.50/s.f.).

**LEGEND**

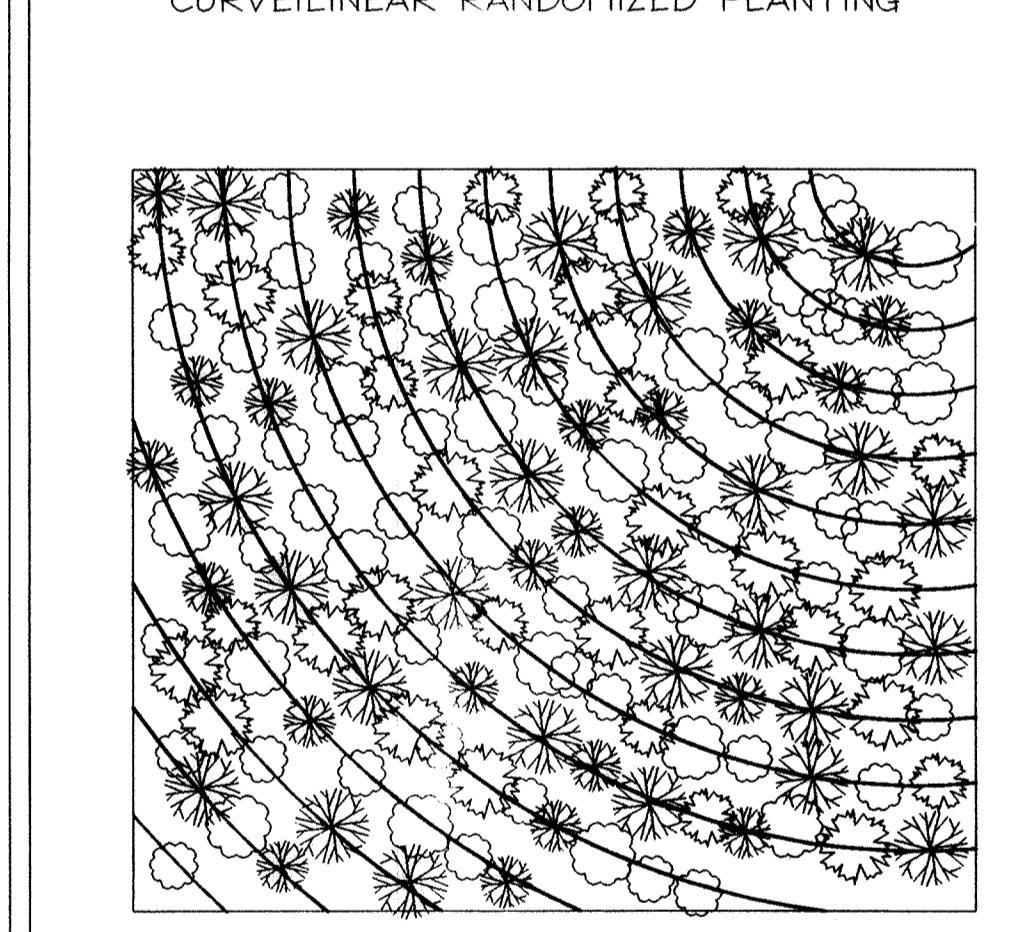


- PLANTING PROCEDURE FOR CONTAINER GROWN PLANTS**
- REMOVE THE PLANT EITHER BY CUTTING OR INVERTING THE CONTAINER
  - USE A KNIFE TO CUT THROUGH BOTTOM HALF OF THE ROOT BALL
  - PLANT SHRUBS ON FORMED UP MOUNDS 4" ABOVE THE EXISTING GRADE WHEN HIGH WATER TABLE CONDITIONS EXIST, OTHERWISE PLANT FLUSH WITH EXISTING GRADE
  - PLANTING HOLE TO BE 2-3 TIMES THE DIAMETER OF THE CONTAINER.
  - INSERT FERTILIZER TABLET, BACKFILL 2/3 OF THE ROOT BALL AND WATER.
  - AFTER WATER PERCOLATES, BACKFILL HOLE TO TOP OF ROOT BALL AND GENTLY TAMP SOIL TO FIRM CONTACT WITH PLANT.
  - APPLY MULCH RING AROUND PLANT KEEPING A 6 IN CLEARANCE FROM STEM.

**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.

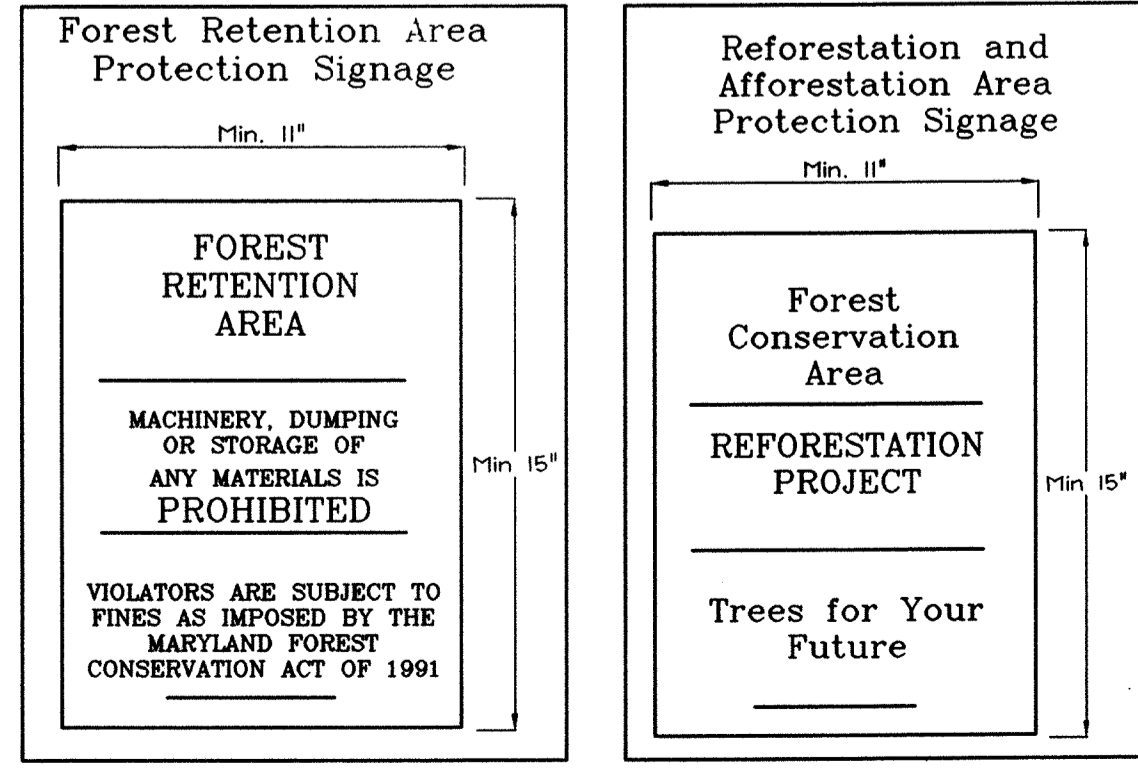
**CURVILINEAR RANDOMIZED PLANTING**



- PLANT PLACEMENT DETAIL NOT TO SCALE**
- MIX TREE AND SHRUB SPECIES IN THE STAGING AREA.
  - SET THE GUIDE CURVILINEAR LINE AS CLOSE TO CONTOUR AS POSSIBLE.

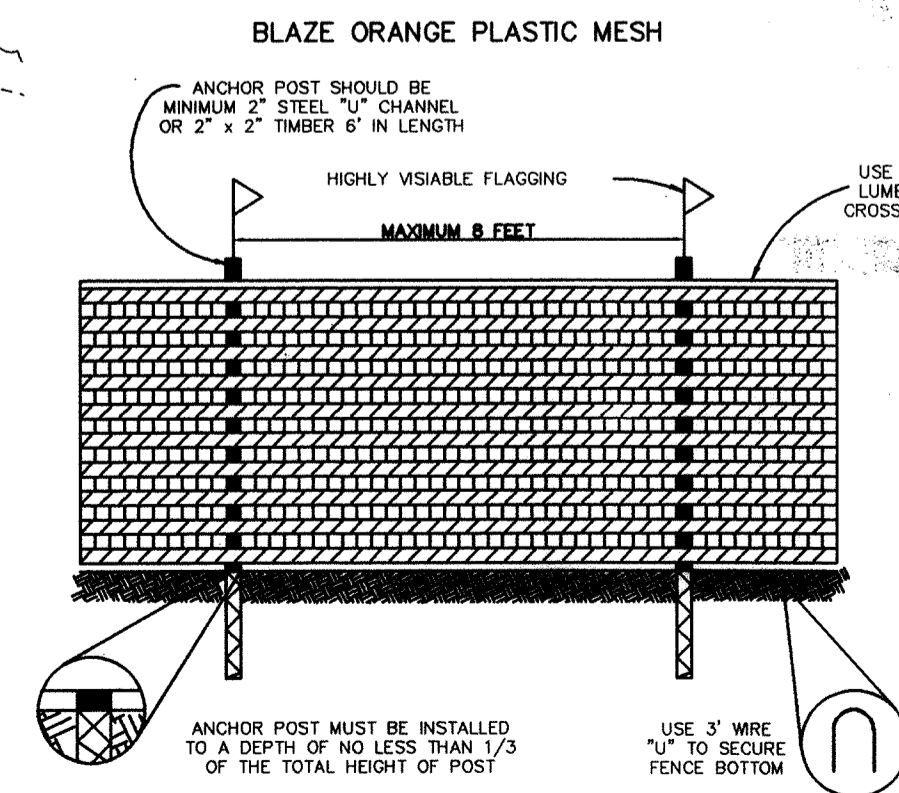
**SOILS LEGEND**

SYMBOL	NAME	DESCRIPTION	SOIL GROUP
Ba	Baile silt loam	0 to 15 percent slopes, moderately eroded	D
CgB2	Chester gravelly silt loam	0 to 15 percent slopes, moderately eroded	B
CgC2	Chester gravelly silt loam	0 to 15 percent slopes, moderately eroded	B
ChB2	Chester silt loam	0 to 15 percent slopes, moderately eroded	B
ChC2	Chester silt loam	0 to 15 percent slopes, moderately eroded	B
GIC2	Glencleary loam	0 to 15 percent slopes, moderately eroded	B
MgC2	Major gravelly loam	0 to 15 percent slopes, moderately eroded	B
MHD3	Major loam	15 to 25 percent slopes, severely eroded	B



**SIGN DETAIL: PERMANENT SIGN**

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.



- 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 DEVICE.
  - ROOT DAMAGE SHOULD BE AVOIDED.
  - PROTECTIVE SIGNAGE MAY ALSO BE USED.
  - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

**FOREST CONSERVATION EASEMENT #1**  
Reforestation Area : 0.29 Ac. (102 trees @ 350 TPA)

Qty	Botanical Name	Common Name	Min. Size	Spacing	Notes
17	Acer rubrum	Red Maple	WHIP 2-3'	11' o.c.	1-3 Gallon Container
17	Liriodendron tulipifera	Tulip Poplar	WHIP 2-3'	11' o.c.	Grow with tree shelters
17	Nyssa sylvatica	Black Gum	WHIP 2-3'	11' o.c.	
17	Quercus rubra	Red Oak	WHIP 2-3'	11' o.c.	
17	Amelanchier canadensis	Serviceberry	WHIP 2-3'	11' o.c.	
17	Acer negundo	Box-elder	WHIP 2-3'	11' o.c.	

**FOREST CONSERVATION EASEMENT TABLE**

EASEMENT	TYPE	AREA (ACRES)
1	Retention	4.89
	Reforestation	0.29
2	Retention	0.34
	TOTAL	5.52
	Retention	5.23
	Reforestation	0.29

**TENTATIVELY APPROVED**  
DEPT. OF PLANNING AND ZONING OF HOWARD COUNTY

*Mark A. Lytle* 2/16/05  
PLANNING DIRECTOR

**EXPLORATION RESEARCH, INC.**  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS  
8919 ROBERT STREET  
ELLSWORTH, MARYLAND 21043  
TEL: (410) 760-1180 FAX: (410) 760-7860  
EMAIL: EXPLORATION@AOL.COM

**OWNER/DEVELOPER**  
GREENFIELD HOMES, Inc.  
6656 Luster Drive  
Highland, Maryland 20777  
(410) 781-6782

**PRELIMINARY FOREST CONSERVATION PLAN**  
WILLOW RIDGE  
LOTS 1, 4RU 9, AND  
PRESERVATION PARCELS 'A', 'B', 'C' & 'D'  
TAX MAP 16 GRID 15 PARCELS 89, 91 & 201  
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**SH Associates**  
Surveyors  
6500 Green Street, Ellicott City, MD 21043  
Tel: 410-751-5151 Fax: 410-751-7350  
E-mail: info@shassoc.com

DESIGN BY: PS  
DRAWN BY: MS & MY  
CHECKED BY: ZYF  
SCALE: 1" = 50'  
DATE: June 16, 2005  
I.N.O. No.: 3033  
SHEET No.: 7 OF 7