

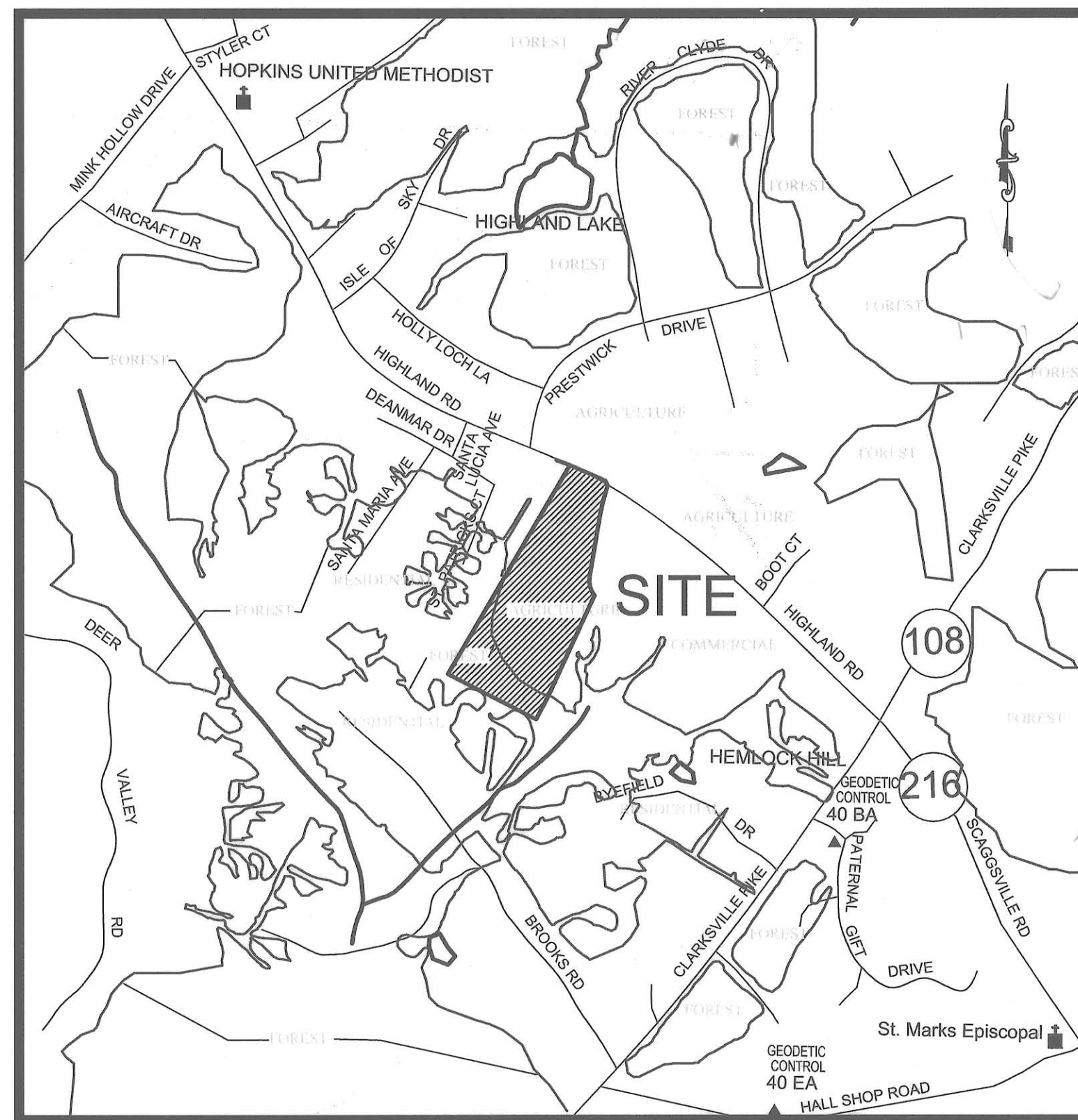
PRELIMINARY PLAN OWINGS PROPERTY, LOT 3

5th ELECTION DISTRICT

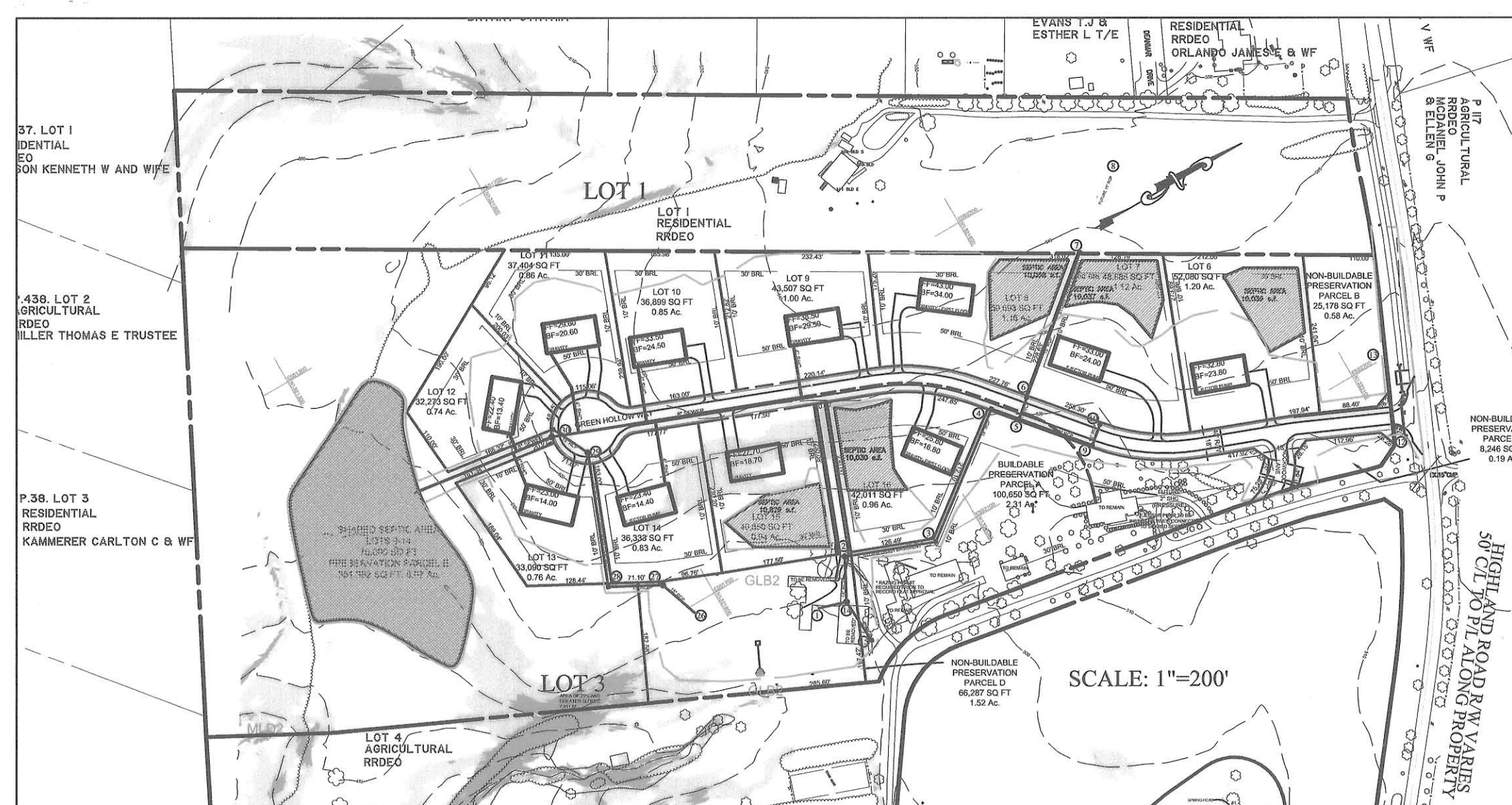
HOWARD COUNTY, MARYLAND

SHEET INDEX

1. COVERSHEET
2. PRELIMINARY GRADING PLAN
- 3-4. PRELIMINARY FOREST CONSERVATION AND LANDSCAPE PLAN



VICINITY MAP
SCALE: 1"=1000'



SCALE: 1"=200'

SITE DATA

1. LOCATION: TAX MAP 40, PARCEL 44
2. 5TH ELECTION DISTRICT
3. ZONING: RR-DEO
4. GROSS AREA OF PROJECT: 24.5002 AC
5. NO. OF DWELLING UNITS: 12
6. AREA OF PROPOSED RESIDENTIAL LOTS 6-16: 10.4454 AC
7. AREA OF BUILDABLE PRESERVATION PARCEL: 2.3237 AC
8. OPEN SPACE REQUIRED: NONE
9. NON-BUILDABLE PRESERVATION SPACE TO BE OWNED BY HOA: 10.3528 AC
10. RECREATION OPEN SPACE REQUIRED: NONE
11. AREA OF PROPOSED ROADS: 1.3932 AC
12. AREA OF 100 YEAR FLOOD PLAIN: NONE
13. NO. OF LOTS/PARCELS:
- 11 BUILDABLE LOTS
- 1 BUILDABLE PRESERVATION PARCEL
- 4 NON-BUILDABLE PRESERVATION PARCELS

GENERAL NOTES:

1. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
2. DEED REF: LIBER 1100 FOLIO 242
3. DENSITY CALCULATIONS:
NUMBER OF UNITS BY RIGHT: (24.5002/4.25) = 5
NUMBER OF UNITS BASED ON DEO/CEO OPTION (24.319/2) = 12
REQUIRED NUMBER OF DEOS (12 - 5) = 7 DEOS
4. PROJECT BOUNDARY IS BASED ON BOUNDARY SURVEY BY D&D, FEBRUARY 2002. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 40BA AND 40EA ARE THE CLOSES TO THIS PROJECT. TRAVERSE RAN BY MARKS AND ASSOCIATES, BOUNDARY SURVEY BY D&D
5. THE CONTOURS AND ELEVATIONS SHOWN HEREON ARE BASED ON AERIAL PHOTOGRAPHY BY AIR SURVEY PHOTOGRAMMETRIC MAPPING SERVICES, MARCH 18, 2001
6. SWM QUANTITY & WATER QUALITY PROVIDED BY A MICROPOOL EXTENDED DETENTION FACILITY TO BE OWNED AND MAINTAINED BY HOA.
7. WATER WILL BE PRIVATE FOR ALL LOTS
8. LOTS 6-8, 15 & 16 WILL HAVE PRIVATE SEPTIC SYSTEMS; SHARED SEPTIC SYSTEM FOR LOTS 9-14, APPROVED MAY 1, 2001 TO BE MAINTAINED BY HOWARD COUNTY
9. FOREST STAND DELINEATION BY DEWBERRY & DAVIS LLC, FEB 2002
10. APPO TRAFFIC STUDY PREPARED BY LEE CUNNINGHAM & ASSOC. JAN., 2001
11. LANDSCAPING WILL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE H.C. SUBDIVISION AND LAND DEVELOPMENT REGULATIONS & THE LANDSCAPE MANUAL.
12. STREET LIGHTING IS NOT REQUIRED FOR THIS SITE.
13. SEDIMENT & EROSION CONTROL PER SEPARATE PLAN
14. THE MICROPOOL EXTENDED DETENTION POND SHOWN IS APPROXIMATE IN SIZE, SHAPE, AND LOCATION. PRELIMINARY DESIGN AND COMPUTATIONS HAVE BEEN DONE. THE ACTUAL DESIGN MAY CHANGE WHEN FINAL PLAN IS PREPARED. CONCEPT PREPARED BY D&D, MAY 2002.
15. THIS PROPERTY IS NOT WITHIN THE METROPOLITAN DISTRICT.
16. THERE ARE NO BURIAL OR CEMETERY LOCATIONS ON THIS SITE.
17. THERE ARE NO WETLANDS ON THE SITE AS PER VOEGEL & ASSOC. JAN., 2001
18. THIS SITE MEETS THE OBJECTIVES OF ZONING SECTION 105 F.(6) BY:
 - A. PROVIDING PRESERVED AREAS THAT FUNCTION AS FOREST CONSERVATION AREAS AND PRESERVE THE RURAL CHARACTER OF THE SITE.
 - B. CLUSTERING LOTS & CONSOLIDATING SEPTIC AREAS TO MINIMIZE DISTURBANCE TO FOREST AREAS RESOURCES.
THE SHARED SEPTIC WILL BE CONSTRUCTED OUTSIDE OF THE WOODED AREAS WITH SOME OF THE FUTURE RECOVERY AREA IN THE WOODS.
 - C. ELIMINATING FARMING DISTURBANCE ACTIVITIES.
 - D. PRESERVING EXISTING VEGETATION ALONG HIGHLAND ROAD.
 - E. PRESERVING RURAL & SCENIC VIEWS FROM HIGHLAND ROAD BY LOCATING HOUSING A MINIMUM OF 200' FROM THE R/W & BY PRESERVING MOST OF THE EXISTING FARM BUILDINGS.
19. PLANNING & ZONING FILE NUMBERS: F-82-32, F-84-58, VP-82-43, VP-84-21 SKETCH PLAN FILE NO. S-01-18.
20. A FOREST CONSERVATION PLAN IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD CO. CODE & THE FOREST CONSERVATION MANUAL, PROVIDED AS PART OF THIS PRELIMINARY PLAN FOR THIS SITE. DEWBERRY & DAVIS LLC, FEB 2002
21. THERE ARE NO HISTORIC SITES ON THIS PROPERTY.
22. SOME OF THE EXISTING STRUCTURES ON PARCEL A ARE TO REMAIN.
23. WATERSHED: PATUXENT, STREAM USE DESIGNATION: NATURAL
24. PROPOSED POND IS A HAZARD CLASS 'A'.
25. Rev & WQ₂ WILL BE PROVIDED BY A MICROPOOL EXTENDED DETENTION POND
26. Rev WILL BE PROVIDED BY GRASS CHANNELS IN THE ROADWAY.

STORM WATER MANAGEMENT SUMMARY

WQ₂ = 0.221 AC FT
Rev = 0.118 AC FT
Cp_v (1 YEAR) = 0.399 AC FT
Cp_v RELEASE RATE = 0.23 CFS

27. THIS PLAN SHALL BE SUBJECT TO THE FOURTH EDITION OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AND AMENDED ZONING REGULATIONS PER COUNCIL BILL 50-2001
28. FOREST CONSERVATION WILL BE PROVIDED BY ON SITE REFORESTATION AND AFFORESTATION OF 1.26 AC, UNLESS OTHERWISE DETERMINED AT FINAL PLAN STAGE AREA OF FOREST TO BE RETAINED IS 3.64 AC.

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY
10/22/02
PLANNING DIRECTOR DATE

NOTE
INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF THE START OF EXCAVATION. CONTACT "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO THE START OF EXCAVATION. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE UTILITY BEFORE PROCEEDING WITH CONSTRUCTION.

PRELIMINARY PLAN OWINGS PROPERTY RESUBDIVISION OF LOT 3 CONSISTING OF LOTS 6-16, PARCELS A-E

Section:	Area:	Phase:	Scale:	Sheet:
NA	NA	NA	AS SHOWN	1 of 4
Tax Map Grid & Parcel:	Date:	Prior Submittal:	File number:	
MAP 40, PARCEL 44	OCT. 2002	SKETCH PLAN APPROVED JULY 17, 2001 (S-01-18) PRELIMINARY PLAN SUBMITTED MARCH 1, 2002 PRELIMINARY PLAN RESUBMITTED MAY 14, 2002	P-02-18	

Dewberry & Davis LLC
A Dewberry Company
Engineers
Planners
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www.dewberry.com



Drawn by: KDM
Designed by: IEV
Checked by: IEV
Zoned: RR-DEO
DEVELOPER:
DALE THOMPSON BUILDERS
6900 WOODSIDE COURT
COLUMBIA, MARYLAND 21046
PHONE: (410) 995-6756
FAX: (410) 381-8747

P:\PROJECT\2002\The Owings Drawings\PEE-103-01.dwg, 10/07/2002 02:48:58 PM, hiep, HP, Design\1055CH.dwg by HP-063

Category	Volume Required				Comments
	Drainage Area "A"	Drainage Area "B"	Drainage Area "C"	Drainage Area "D"	
Water Quality Volume (WQV)	0.14 Ac-Ft	0.298 Ac-Ft	0.010 Ac-Ft	0.040 Ac-Ft	Area "A" will use credit Area "B" will use wet pond Area "C" & "D" will use grassed swales
Retention Volume (Rev)	0.017 Ac-Ft (vol) 0.109 Ac-Ft (area)	0.077 Ac-Ft (vol) 0.798 Ac-Ft (area)	0.003 Ac-Ft (vol) 0.027 Ac-Ft (area)	0.013 Ac-Ft (vol) 0.131 Ac-Ft (area)	Area A, B, C, & D will use the open roadway swales in Area B.
Channel Protection Volume (Cov)	0.100 Ac-Ft	0.378 Ac-Ft	0.013 Ac-Ft	0.057 Ac-Ft	Area A, C, & D met the requirement of less than 2 cfs Area B will be controlled by a pond. Release rate 0.19 cfs.
Overbank Flood Protection Storage Volume (Cp)	N/A	N/A	N/A	N/A	
Extreme Flood Volume (E)	N/A	N/A	N/A	N/A	

Runoff	Acres		1-year storm		10-year storm		100-year storm	
	Existing	Proposed	Q Pre	Q Dev	Q Pre	Q Dev	Q Pre	Q Dev
Drainage Area "A"	9.55	8.40	0.3	1.2	10.9	13.7	25.0	28.1
Drainage Area "B"	14.06	18.20	0.7	7.8/10.19	16.6	42/31.4	37.2	77.5/51.6
Drainage Area "C"	2.30	0.55	0.1	0.4	3.1	1.9	6.9	3.4
Drainage Area "D"	2.04	2.80	0.1	0.8	2.5	4.8	5.6	9.2

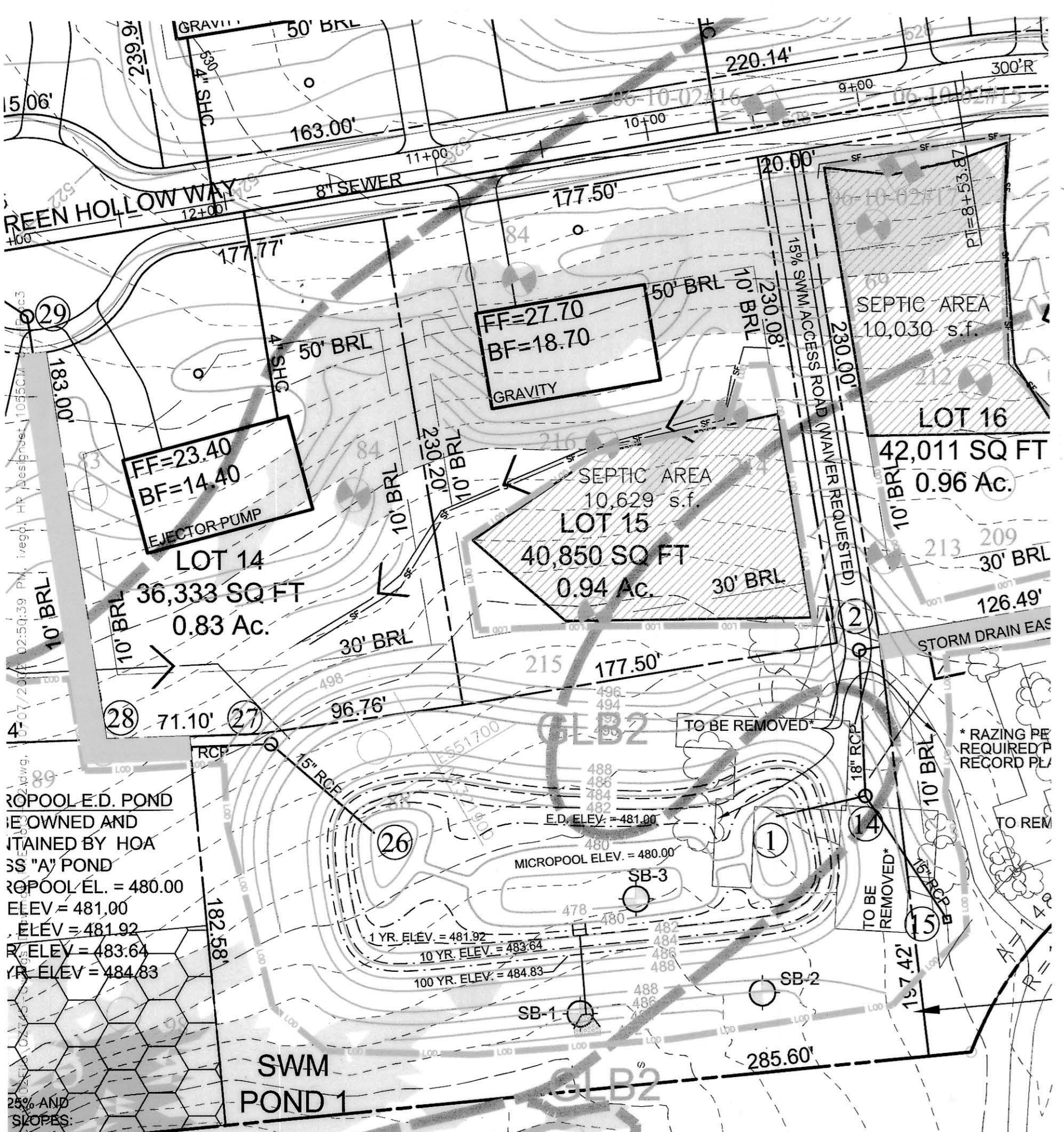
BMP SELECTION AND LOCATION OF FACILITIES

Drainage Area "A"
Rev Requirement met site wide in grass channels of Area "B".
WQV Requirement met due to Environmentally sensitive development credit.
Cpv Requirement met due to the One-year peak discharge being < 2.0 cfs.

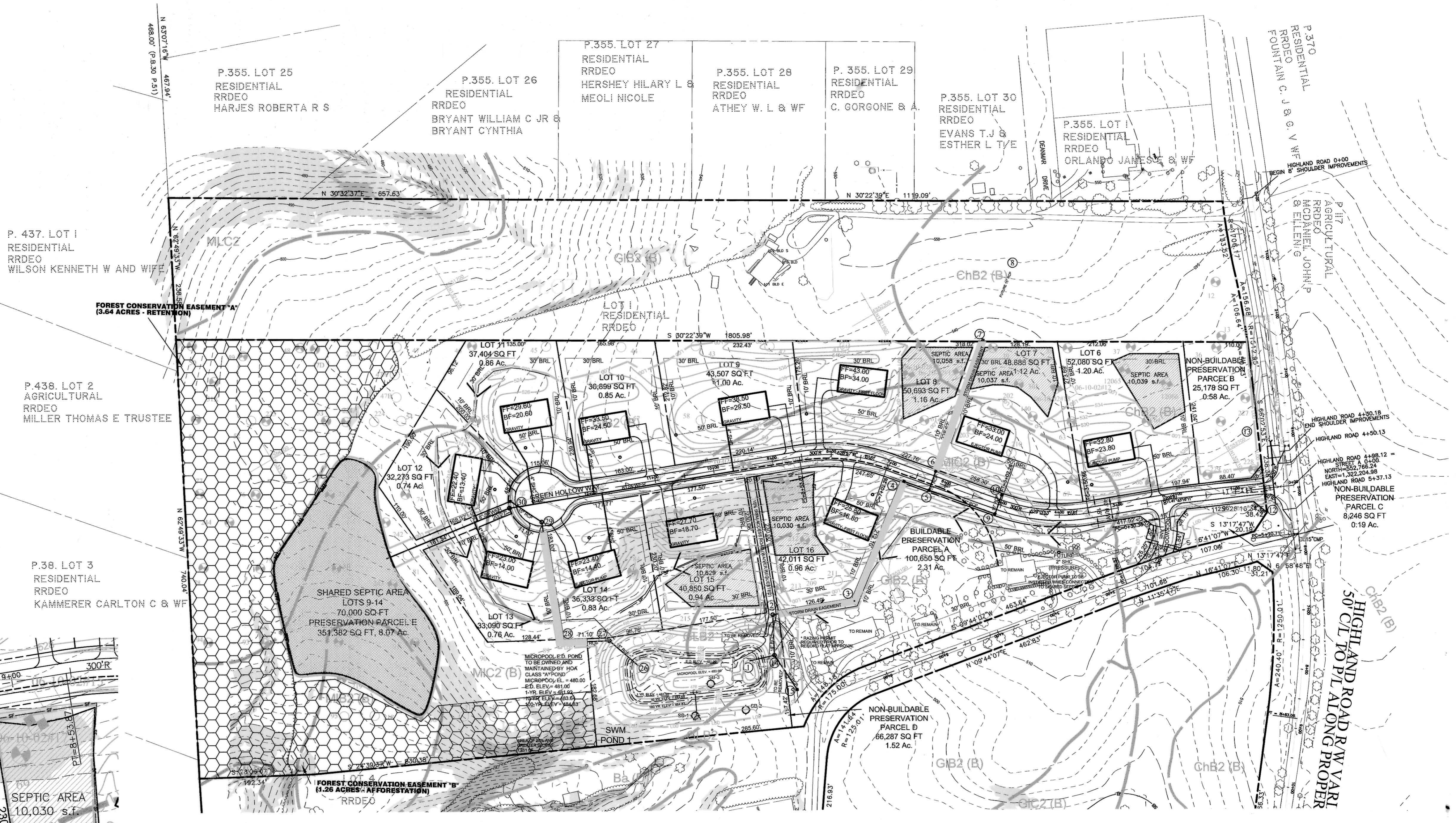
Drainage Area "B"
Rev Requirement met site wide in open section grass channels of Area "B".
WQV and Cpv are required and a BMP must be selected.
There are no known Watershed or Terrain factors which prohibit any BMP's at this site. Since Rev is being handled in the grass channels, we can select from Table 4.3 eight possible BMP facilities. Since the total drainage area is only 17.1 acres only one of the BMP's qualify under Table 4.4. The P-1 Micro-Pond Extended Detention Pond was selected and appears to satisfy all the community and environmental factors in Table 4.5.

Drainage Area "C"
Rev Requirement met site wide in grass channels of Area "B".
WQV Requirement met in designed grass channel along the road.
Cpv Requirement met due to the One-year peak discharge being < 2.0 cfs.

Drainage Area "D"
Rev Requirement met site wide in grass channels of Area "B".
WQV Requirement met in designed grass channel along the road.
Cpv Requirement met due to the One-year peak discharge being < 2.0 cfs.



STORM WATER MANAGEMENT SCALE 1"=50'



LEGEND

- EXISTING 2 FOOT CONTOURS
- EXISTING 10 FOOT CONTOURS
- PERC TEST HOLE: PASSED
- PERC TEST HOLE: FAILED
- PROPOSED WELL LOCATION
- FOREST CONSERVATION EASEMENT
- PROPOSED SHARED SEPTIC AREA
- EXISTING 15-24.9% SLOPES
- EXISTING 25% AND GREATER SLOPES
- SOILS LINE
- LIMITS OF DISTURBANCE

NOTE: GREEN HOLLOW WAY AND ROCKWOOD LANE ARE PUBLIC ACCESS PLACES

TENTATIVELY APPROVED
DEPT. OF PLANNING AND ZONING OF HOWARD COUNTY
[Signature] 10/29/02
PLANNING DIRECTOR DATE

APPROVED FOR PRIVATE WATER & PRIVATE SEWAGE SYSTEMS BY THE HOWARD COUNTY HEALTH DEPARTMENT
[Signature]
COUNTY HEALTH OFFICER DATE

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PRELIMINARY PLAN OWINGS PROPERTY
RESUBDIVISION OF LOT 3
CONSISTING OF LOTS 6-16, PARCELS A-E
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

Section: NA	Area:	Phase: NA	Scale: 1" = 100'	Sheet: 2 of 4
Map 40, Parcel 44	Date: OCT. 2002	Prior Submittals: SKETCH PLAN APPROVED JULY 17, 2001 (S-01-18) PRELIMINARY PLAN SUBMITTED MARCH 1, 2002 PRELIMINARY PLAN RESUBMITTED MAY 14, 2002	File number: P-02-18	

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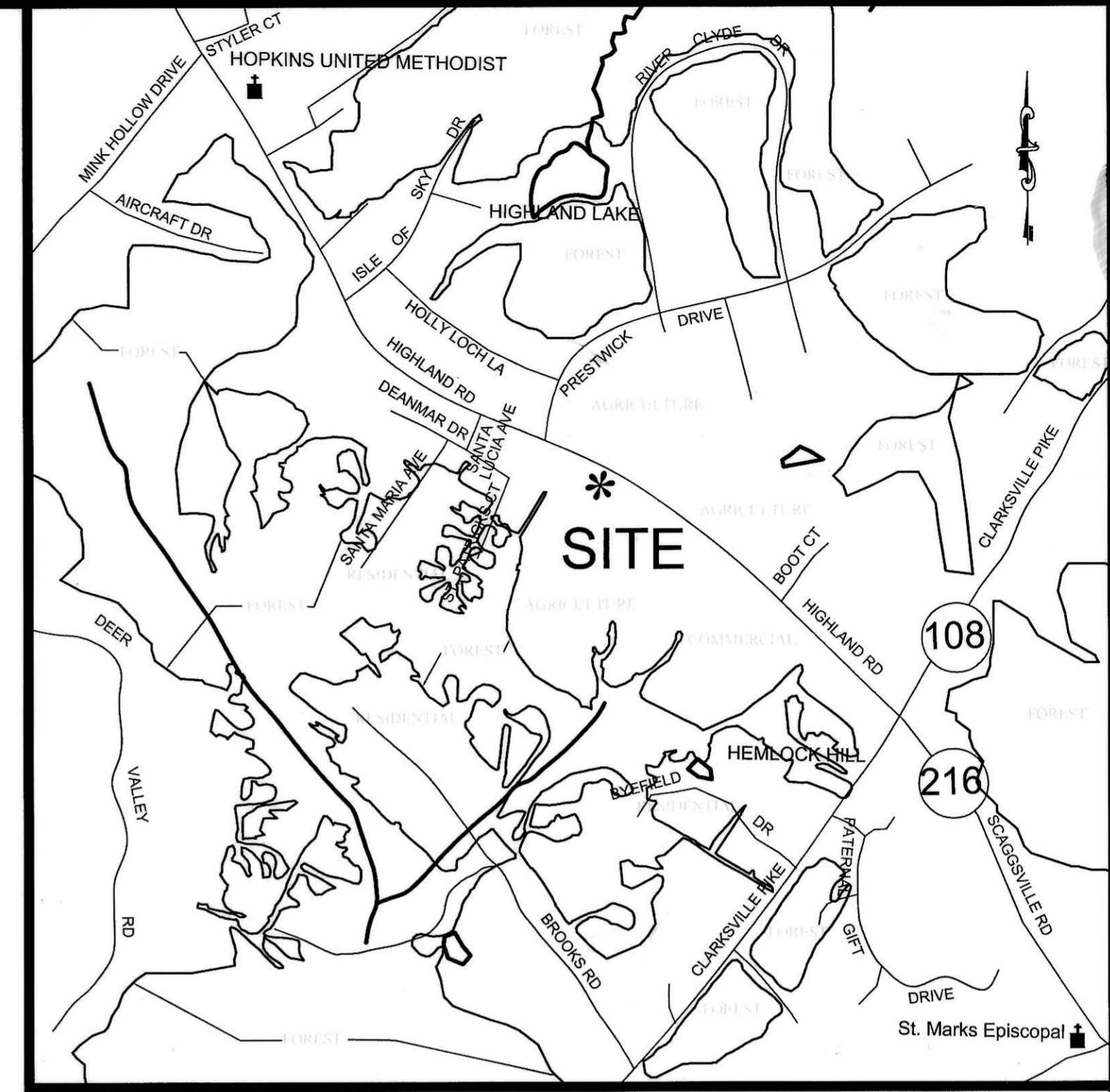
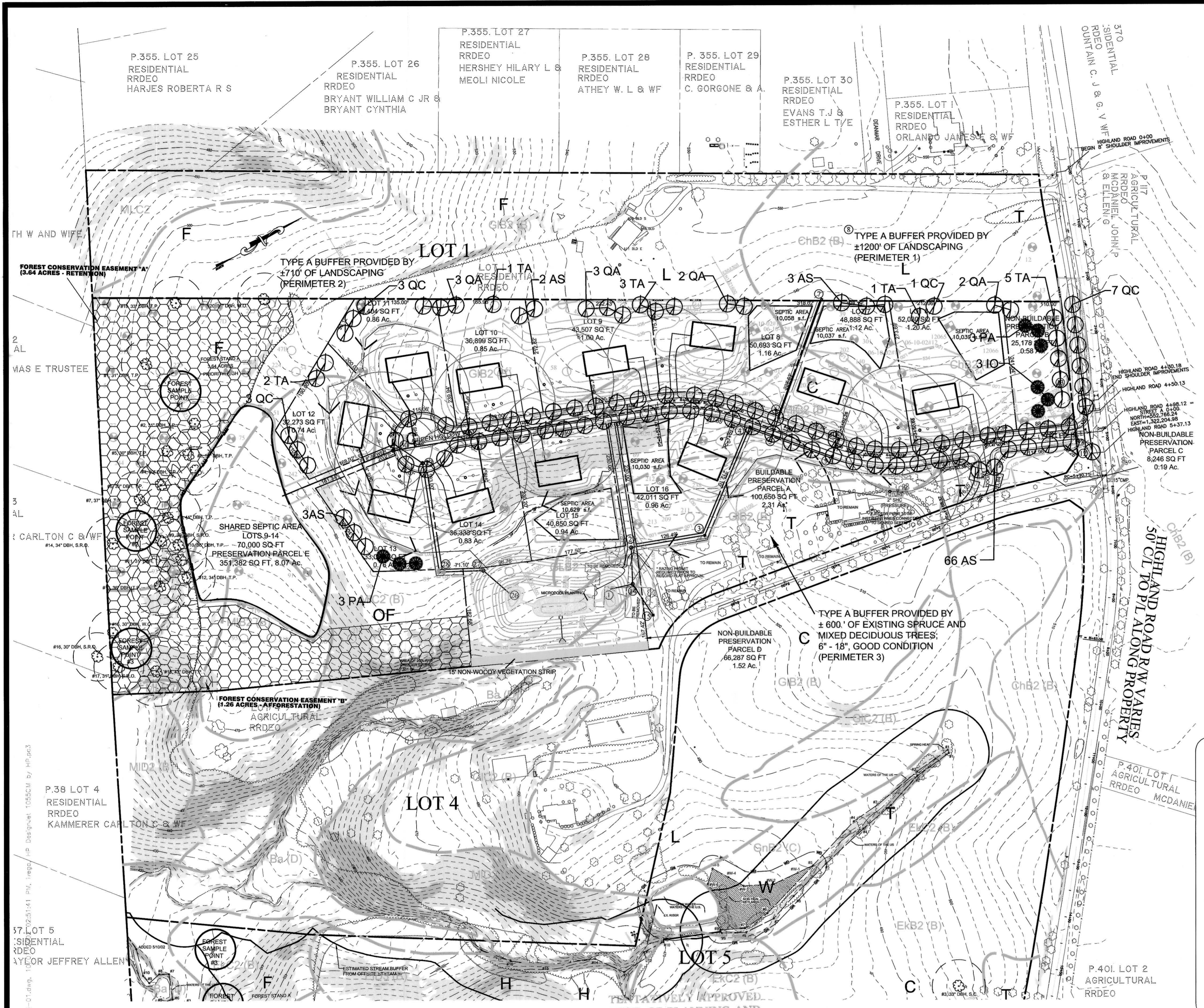
804 West Diamond Avenue, Suite 200
Gaithersburg, MD 20878-1414
(301) 948-8300 Fax: (301) 258-7607



Drawn by: KDM
Designed by: IEV
Checked by: IEV
Zone: RR-DEO

DEVELOPER:
DALE THOMPSON BUILDERS
6300 WOODSIDE COURT
COLUMBIA, MARYLAND 21046
PHONE: (410) 995-6736
FAX: (410) 381-8747

PRELIMINARY GRADING PLAN



SOILS LEGEND

HOWARD COUNTY

NON-HYDRIC SOILS LIST

CHB2 CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED

GLB2 GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED

MLB2 MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED

MLC2 MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED

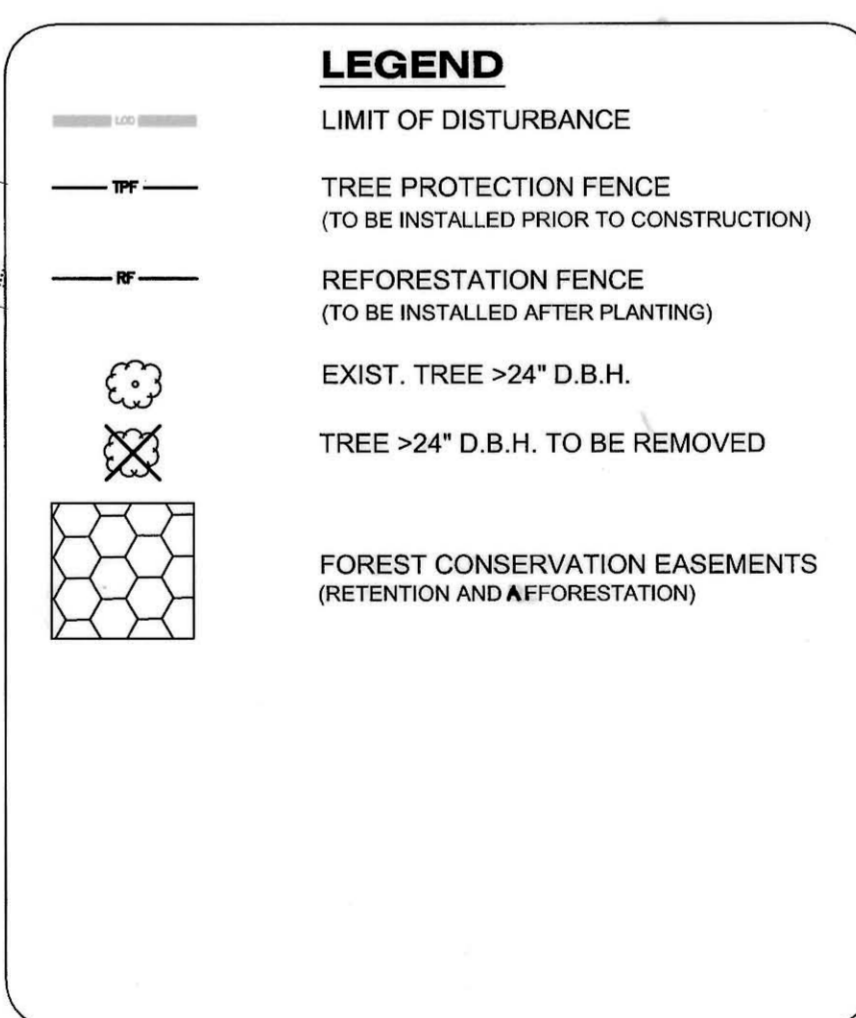
MLD2 MANOR LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED

HYDRIC SOILS LIST

NO HYDRIC SOILS ON SITE

DESCRIPTION PER HOWARD COUNTY SOIL SURVEY

- ### GENERAL NOTES
- SCALE: 1"=1000'
- TOTAL AREA OF TRACT: 24.50 AC.; 1,067,230± SQ.FT.
 - EXISTING ZONING: RRDEO
 - BOUNDARY FROM TAX MAP (40)
 - TOPOGRAPHY FROM SURVEY CONTOUR INTERVAL 2 FEET.
 - THERE ARE NO 100-YEAR FLOODPLAINS ON THIS SITE ACCORDING TO AVAILABLE INFORMATION (MDMERLIN.NET), AND SITE VISIT.
 - THERE ARE NO WETLANDS AND BUFFERS ON THIS SITE ACCORDING TO MDMERLIN.NET, AND SITE VISIT.
 - THE PRESENCE OF RARE, THREATENED & ENDANGERED SPECIES, OR CRITICAL HABITATS IS CURRENTLY BEING INVESTIGATED BY DNR.
 - THERE ARE NO CULTURAL OR HISTORIC FEATURES ON THIS SITE ACCORDING TO MDMERLIN.NET.
 - THE SUBJECT PROPERTY FALLS WITHIN THE ROCKY GORGE DAM SUB-WATERSHED (USE CLASS 1), OF THE PATUXENT WATERSHED.
 - THERE IS ONE FOREST STAND ON THIS SITE TOTALING 3.64 ACRES. SITE INVESTIGATIONS PERFORMED ON 2/1/02, BY DEWBERRY & DAVIS LLC.
 - THERE ARE NO HYDRIC SOILS ON THE SUBJECT PROPERTY ACCORDING TO THE HOWARD COUNTY SOIL SURVEY OF MARYLAND.



SPECIMEN TREE IDENTIFICATION LIST

BOTANICAL NAME/ COMMON NAME	TRUNK Ø (d.b.h.)	TREE HEIGHT	TREE CANOPY	TREE CONDITION
1. Liriodendron tulipifera TULIP POPLAR	31"	65'	40'	GOOD
2. Liriodendron tulipifera TULIP POPLAR	31"	60'	30'	FAIR
3. Liriodendron tulipifera TULIP POPLAR	32"	60'	20'	POOR
4. Liriodendron tulipifera TULIP POPLAR	30"	50'	30'	FAIR
5. Liriodendron tulipifera TULIP POPLAR	30"	50'	30'	GOOD
6. Liriodendron tulipifera TULIP POPLAR	30"	55'	30'	GOOD-TWN
7. Liriodendron tulipifera TULIP POPLAR	37"	50'	35'	GOOD
8. Liriodendron tulipifera TULIP POPLAR	41"	60'	40'	FAIR
9. Quercus falcata SOUTHERN RED OAK	32"	50'	25'	FAIR
10. Liriodendron tulipifera TULIP POPLAR	36"	45'	30'	FAIR
11. Liriodendron tulipifera TULIP POPLAR	31"	60'	40'	GOOD-TWN
12. Liriodendron tulipifera TULIP POPLAR	34"	45'	40'	GOOD
13. Liriodendron tulipifera TULIP POPLAR	36"	65'	40'	EXCELLENT
14. Quercus falcata SOUTHERN RED OAK	34"	55'	40'	GOOD
15. Quercus alba WHITE OAK	30"	60'	45'	POOR
16. Quercus falcata SOUTHERN RED OAK	30"	60'	40'	FAIR
17. Quercus falcata SOUTHERN RED OAK	31"	60'	50'	GOOD
18. Liriodendron tulipifera TULIP POPLAR	43"	65'	40'	GOOD
19. Liriodendron tulipifera TULIP POPLAR	31"	60'	50'	GOOD
20. Quercus alba WHITE OAK	43"	65'	40'	GOOD

TREE PLANT LIST

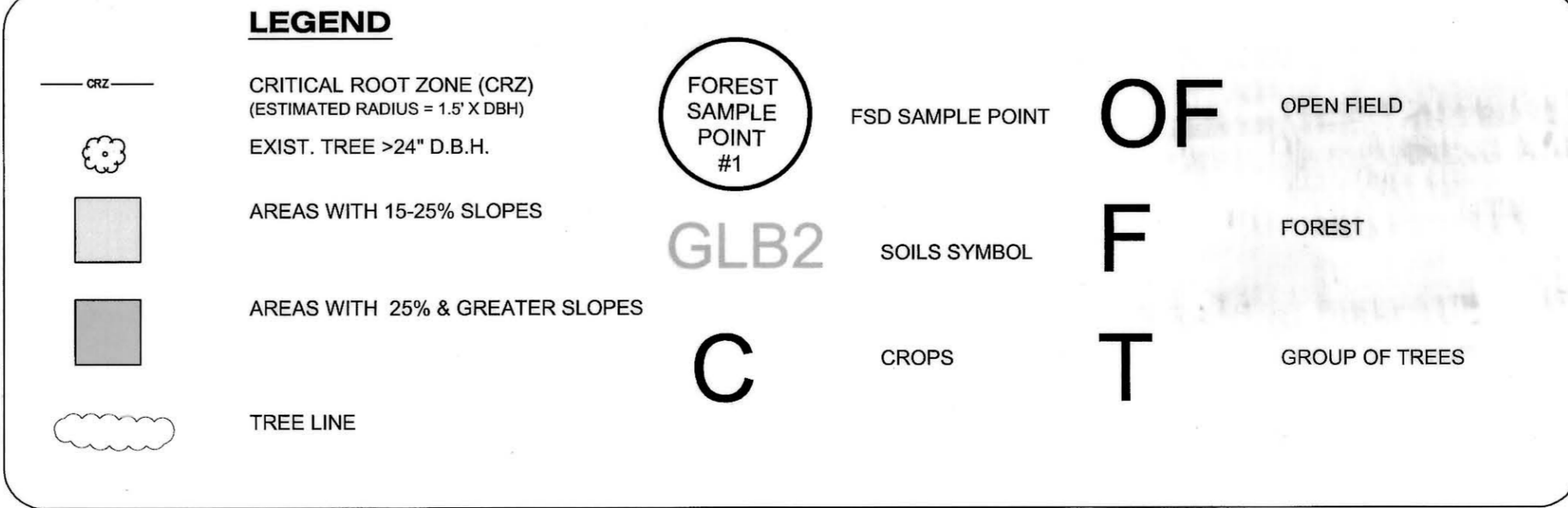
KEY	QUANT	BOTANICAL/COMMON NAME	SIZE	ROOT
AS	74	ACER SACCHARINUM (GREEN MOUNTAIN)/ GREEN MOUNTAIN MAPLE	2 1/2" - 3" Cal.	B & B
IO	3	ILEX OPACA/ AMERICAN HOLLY	5" - 6"	B & B
PA	6	PICEA ABIES/ NORWAY SPRUCE	5" - 6"	B & B
QA	10	QUERCUS ACUTISSIMA/ SAWTOOTH OAK	2 1/2" - 3" Cal.	B & B
QC	14	QUERCUS COCCINEA/ SCARLET OAK	2 1/2" - 3" Cal.	B & B
LD	12	TILIA AMERICANA (REDMONT)/ REDMONT LINDEN	2 1/2" - 3" Cal.	B & B

APPROVED: FOR PRIVATE WATER & PRIVATE SEWAGE SYSTEMS BY THE HOWARD COUNTY HEALTH DEPARTMENT.

DATE: 10/29/02

COUNTY HEALTH OFFICER: [Signature]

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PRELIMINARY PLAN

OWINGS PROPERTY

RESUBDIVISION OF LOT 3
CONSISTING OF LOTS 6-16, PARCELS A-E
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

Section: NA Area: NA Phase: NA Scale: 1" = 100' Sheet: 3 of 4

Tax Map Grid & Parcel: MAP 40, PARCEL 44 Date: OCT. 2002 Prior Submittals: SKETCH PLAN APPROVED JULY 17, 2001 (S-01-18) PRELIMINARY PLAN SUBMITTED MARCH 1, 2002 PRELIMINARY PLAN RESUBMITTED MAY 14, 2002 File number: P-02-18

Dewberry & Davis LLC

A Dewberry Company

Engineers
Surveyors
Landscape Architects

804 West Diamond Avenue, Suite 200
Columbia, Maryland 21046
(301) 948-8300 • Fax: (301) 258-7607
www.dewberry.com

10/29/02

Drawn by: MNJ
Designed by: MNJ
Checked by: GW
Zoned: RR-DEO

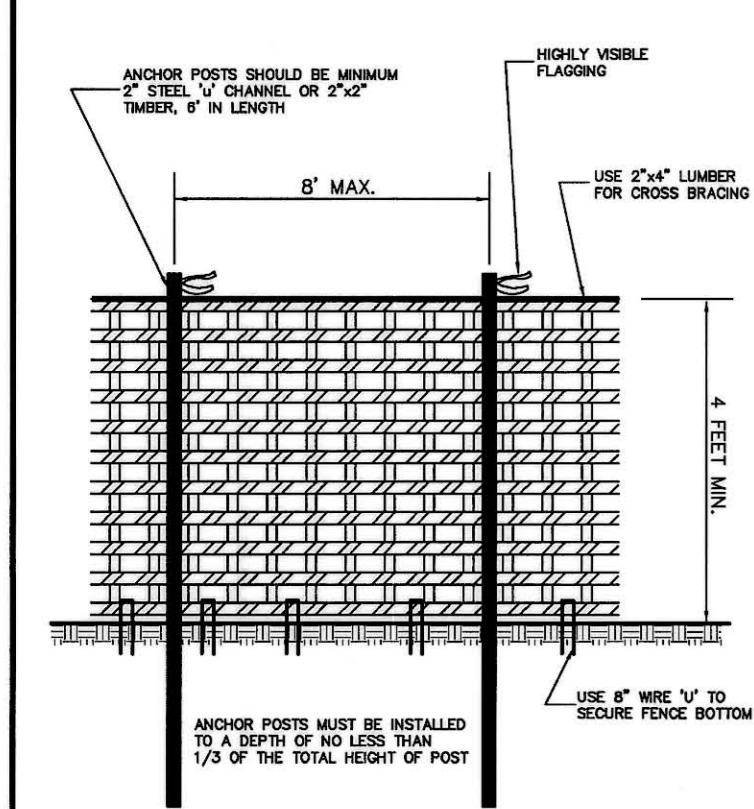
DEVELOPER:
DALE THOMPSON BUILDERS
6300 WOODSIDE COURT
COLUMBIA, MARYLAND 21046
PHONE: (410) 995-6756
FAX: (410) 381-8747

LANDSCAPE PLAN / FOREST CONSERVATION PLAN

10/29/02 10:41 AM, regis:hp, Design:hp, 10/29/02 10:55 AM by HP,regis
 10/29/02 10:41 AM, regis:hp, Design:hp, 10/29/02 10:55 AM by HP,regis
 10/29/02 10:41 AM, regis:hp, Design:hp, 10/29/02 10:55 AM by HP,regis

TREE PROTECTION FENCING

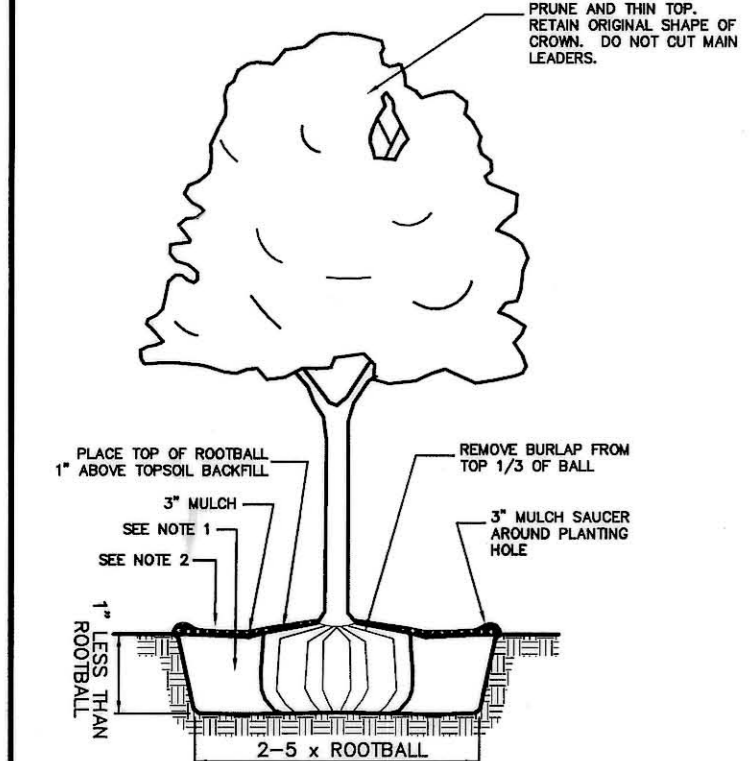
BLAZE ORANGE PLASTIC MESH



- NOTE: 1. FOREST PROTECTION DEVICE ONLY. 2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS. 3. BOUNDARIES OF RETENTION AREAS SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE. 4. ROOT DAMAGE SHOULD BE AVOIDED. 5. PROTECTIVE SIGNAGE IS REQUIRED. 6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

PLANTING DETAIL

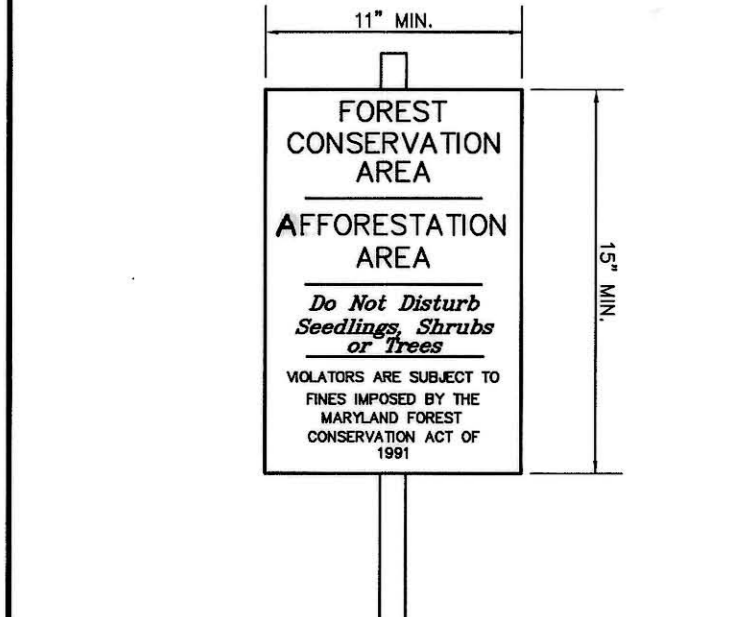
CONTAINER GROWN AND BALLED & BURLAPPED STOCK



- NOTE: 1. BACKFILL PLANTING HOLE WITH NATIVE TOP SOIL IN AREAS OF UNDISTURBED SOIL. USE HIGH QUALITY TOPSOIL BACKFILL IN AREAS OF DISTURBED SOIL. 2. MAKE TOP OF PLANTING HOLE LEVEL. SET CENTER OF TOP OF ROOTBALL EVEN WITH ORIGINAL GRADE ON SURROUNDING AREAS. 3. USE STAKING FOR TREES UP TO 3" CALIPER ONLY IN AREAS OF HIGH WIND. REMOVE AFTER 1ST GROWING SEASON.

SIGNAGE

REFORESTATION AREAS

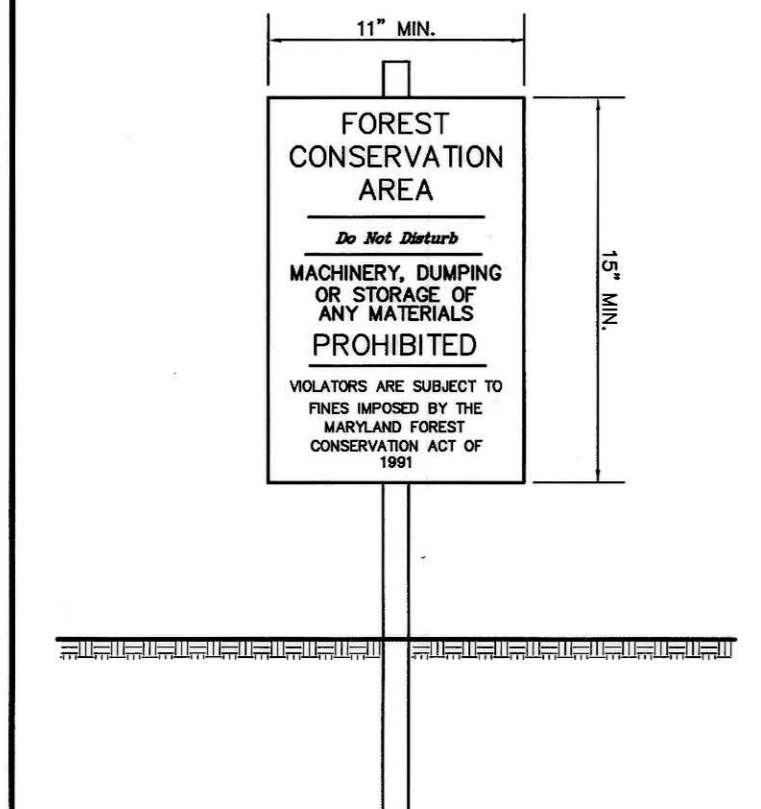


- NOTE: 1. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED. 2. SIGNS SHOULD BE PROPERLY MAINTAINED. 3. AVOID INJURY TO ROOTS WHEN PLACING POSTS FOR SIGNS. 4. SIGNS SHOULD BE PLACED AT A MAX. INTERVAL OF 100' ALONG ALL REFORESTATION AREAS (PLACE ALONG REFORESTATION FENCE IF INSTALLED)

FOREST CONSERVATION EASEMENT STANDARD NOTES: THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.12000 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

SIGNAGE

FOREST RETENTION AREAS



- NOTE: 1. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED. 2. SIGNS SHOULD BE PROPERLY MAINTAINED. 3. AVOID INJURY TO ROOTS WHEN PLACING POSTS FOR SIGNS. 4. SIGNS SHOULD BE PLACED AT A MAX. INTERVAL OF 100' ALONG ALL LOT'S AND/OR STREAM BUFFERS IN AREAS OF FOREST RETENTION.

FCE NOTES

- 1. ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREIN IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS. 2. FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS. 3. LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMITS OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER. 4. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. 5. NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS. 6. TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE. 7. PERMANENT SIGNAGE SHALL BE PLACED 50-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.

FOREST PROTECTION PROCEDURES-CONSTRUCTION PHASE

- 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 CONDITION-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 SHOW 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 100 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. h. A COUNTY OFFICIAL SHALL INSPECT THE ENTIRE SITE.

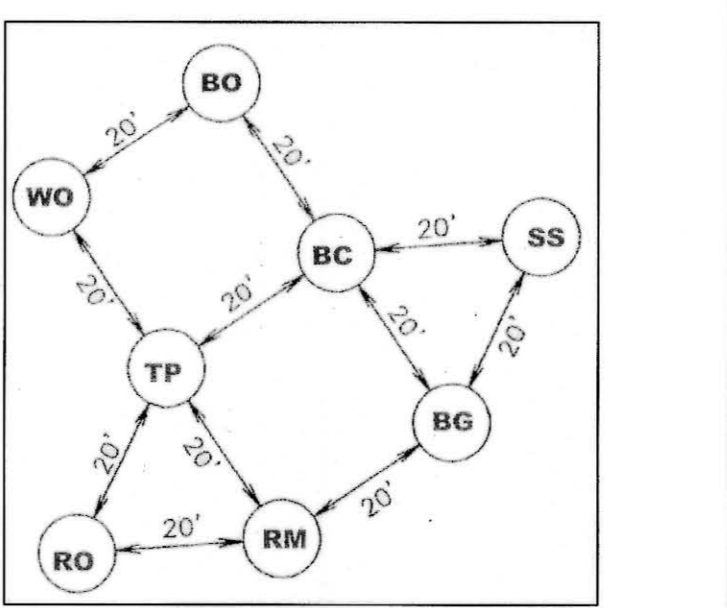
THE AREA OF STREAM BUFFER/REFORESTATION PLANTING SHALL BE PROTECTED DURING CONSTRUCTION PER THE FOLLOWING:

FOREST PROTECTION PROCEDURES-PRE-CONSTRUCTION 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 IN THE 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 CRITICAL ROOT ZONE AND THEREFORE THE LOCATION OF THE PROTECTIVE DEVICES IS TO BE DETERMINED AS FOLLOWS: a) ISOLATED SPECIMEN TREES- 1.5 FEET OF PROTECTIVE RADIUS PER INCH OF DBH b) 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: a) PLACING OR STOCKPILING BACKFILL OR TOP SOIL IN PROTECTED AREAS b) FELLING TREES INTO PROTECTED AREAS c) DRIVING CONSTRUCTION EQUIPMENT INTO OR THROUGH PROTECTED AREAS d) BURNING IN OR IN CLOSE PROXIMITY TO PROTECTED AREAS e) STACKING OR STORING SUPPLIES OF ANY KIND f) CONCRETE WASH-OFF AREAS g) CONDUCTING TRENCHING OPERATIONS h) GRADING BEYOND THE LIMITS OF DISTURBANCE i) PARKING VEHICLES OR CONSTRUCTION EQUIPMENT j) REMOVAL OR ROOT MAT OR TOPSOIL k) SITING AND CONSTRUCTION OF: UTILITY LINE, ACCESS ROADS, IMPERVIOUS SURFACES, STORM WATER MANAGEMENT DEVICES, AND STAGING AREAS 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, SUBCONTRACTORS, 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.

TYPICAL PLANTING DIAGRAM



- WO= WHITE OAK
BO= BLACK OAK
TP= TULIP POPLAR
BC= BLACK CHERRY
RM= RED MAPLE
BG= BLACK GUM
SS= SHADBLow SERVICEBERRY
RO= RED OAK

NOTE TO CONTRACTOR:

- 1. THE CONTRACTOR SHOULD REMOVE ANY DEAD OR DISEASED TREES. 2. TREES ARE TO BE PLACED IN A RANDOM PATTERN TO CREATE A NATURAL EFFECT. THEY ARE TO BE MIXED IN THE RATIOS DESCRIBED ABOVE AND THEY ARE TO BE SPACED APPROXIMATELY 20 FEET APART.

PLANTING PLAN

THE TREE SPECIES SELECTED ARE CONSISTENT WITH THE MIXED UPLAND OAK ASSOCIATION NATIVE TO THE SOILS. THE COUNTY MANUAL RECOMMENDS A PLANTING DENSITY OF 100 STEMS PER ACRE IF 2" STOCK IS PLANTED, AND THE SCHEDULE BELOW MEETS THAT RECOMMENDATION. SPECIES WILL BE RANDOMLY MIXED AND PLANTED APPROXIMATELY 20' APART FROM OTHER PLANTINGS. STRAIGHT ROWS SHOULD BE AVOIDED TO SIMULATE A MORE NATURAL ARRANGEMENT. THE TOTAL NUMBER OF PLANTS WILL BE 126 TREES BASED ON 1.26 ACRES AT 100 TREES/ACRES.

Table with columns for species and quantities: (PIONEER) TULIP POPLAR DOM. 15, BLACK CHERRY (UNDERSTORY) 15, FLOWERING DOGWOOD (UNDERSTORY) 15; (CLIMAX) BLACK GUM DOM. 15, RED OAK DOM. 15, S. RED OAK (UNDERSTORY) 15, RED MAPLE (UNDERSTORY) 15, WHITE OAK DOM. 12.

Table with columns: COMMON NAME, SCIENTIFIC NAME, QUANTITY. Lists various tree species like White Oak, Black Oak, Red Oak, etc.

OTHER PLANTING INSTRUCTIONS

PLANT MATERIAL SHOULD BE OBTAINED FROM A REPUTABLE NURSERY AND ORDERED 3 TO 6 MONTHS BEFORE DESIRED DELIVERY. DELIVERY SHOULD BE ARRANGED TO OCCUR AS CLOSE TO PLANTING TIME AS POSSIBLE, AND STOCK SHOULD BE PROTECTED FROM DIRECT SUN AND DRYING UNTIL PLANTING. PLANTING DATES ARE OCTOBER THROUGH MAY, WITH SPRING MONTHS PREFERRED. STOCK SHOULD BE INSPECTED BEFORE PLANTING FOR SIGNS OF DAMAGE, DISEASE, OR INSECT INFESTATION, VIGOR, AND SIZE. DAMAGED OR INFERIOR PLANTS SHOULD BE REPLACED. UPON PLANTING CONTAINER GROWN STOCK, PLANTS SHOULD BE REMOVED FROM THE CONTAINER AND THE SOIL GENTLY LOOSENEED FROM THE ROOTS. IF ROOTS ENCIRCLE THE ROOT BALL, OR ARE J-SHAPED OR KINKED, CONSIDER REPLACEMENT. DO NOT TRIM ROOTS ON-SITE.

THE PLANTING FIELD SHOULD BE DUG AND BACK FILLED WITH THE NATIVE SOIL. RAKE THE SURFACE AND COVE THE DISTURBED AREAS WITH APPROXIMATELY 4 INCHES OF MULCH, BUT AVOID BURRYING THE BASE OF THE STEM TO PREVENT FUNGAL ROT. WATER IMMEDIATELY TO SETTLE THE SOIL AROUND THE ROOTS.

SOILS SHOULD BE TESTED TO DETERMINE THE NEED FOR FERTILIZER. IF FERTILIZER IS NEEDED, IT SHOULD BE APPLIED AT THE TESTING LAB'S RECOMMENDED RATES AFTER THE FIRST GROWING SEASON (LATE FALL OR EARLY SPRING). ORGANIC OR SLOW-RELEASE FERTILIZERS ARE PREFERRED.

WATERING SHOULD BE PLANNED TO COMPENSATE FOR DEFICIENT RAINFALL. NEW PLANTINGS NEED WATER ONCE A WEEK FOR THE FIRST GROWING SEASON. THE SECOND YEAR, WATERING MAY ONLY BE NECESSARY IN JULY AND AUGUST, AND IN SUBSEQUENT YEARS ONLY WATER DURING DROUGHT PERIODS. WATERING SHOULD BE DONE SLOWLY ENOUGH TO PERMIT DEEP SOAKING OF THE ROOT ZONE.

MONITOR THE YOUNG TREES FOR SEVERAL YEARS FOR HEALTH, INSECT DAMAGE, AND INVASIVE VINES. REPLACE DEAD AND DYING TREES. THE SURVIVAL RATE SHALL BE A MINIMUM OF 80% OF THE PLANTINGS AFTER THE FIRST GROWING SEASON, AND 75% AFTER THE SECOND YEAR. DO NOT SPRAY INSECTICIDES UNLESS IT HAS BEEN DETERMINED THAT AN INFESTATION WITH THE POTENTIAL TO THREATEN THE SURVIVAL OF THE TREES IS PRESENT. CONTROL INVASIVE VINES MANUALLY, OR BY CAREFUL AND SELECTIVE USE OF APPROPRIATE HERBICIDE.

POST PROTECTIVE SIGNAGE THAT STATES THAT THIS AREA IS A FOREST CONSERVATION AREA AND TREES HAVE BEEN PLANTED FOR REFORESTATION. AN EFFORT SHOULD BE MADE TO INFORM AND GAIN THE COOPERATION OF THE ADJACENT RESIDENTS TO MONITOR AND PROTECT THE PLANTINGS.

FOREST PROTECTION PLAN

THE FOREST CONSERVATION AND REFORESTATION AREAS WILL NEED TO BE PROTECTED FROM INJURY DURING THE LAND CLEARING AND CONSTRUCTION PROCESS, AND FROM ANY FUTURE LAND USE CHANGES. LONG-TERM PROTECTION WILL REQUIRE PLACING THE FOREST IN A PERMANENT, RECORDED, NON-DEVELOPABLE, OPEN SPACE OR CONSERVATION EASEMENT. THE LEGAL DOCUMENT ESTABLISHING THIS PROTECTION WILL BE REQUIRED FOR FINAL FCP APPROVAL.

CONSTRUCTION PHASE

PROTECTIVE MEASURES DURING THE CONSTRUCTION STAGE WILL FOCUS ON PROTECTING THE CRITICAL ROOT ZONE OF THE RETAINED TREES ALONG THE NEW FOREST EDGE. THE FINAL LOC LINE WILL BE STAKED IN THE FIELD BY A QUALIFIED PROFESSIONAL WHO WILL DETERMINE WHICH INDIVIDUAL TREES WILL BE SAVED, AND THE EXTENT OF THE CRITICAL ROOT ZONE BASED ON TREE SPECIES AND SIZE. THE RESULTING BOUNDARY WILL BE FENCED WITH APPROVED FENCING AND POSTED AS A TREE PRESERVATION AREA, AND NO DISTURBANCE TO THE VEGETATION WITHIN THE RETENTION AREA WILL BE ALLOWED, EXCEPT THAT WHICH MAY BE NECESSARY TO MANAGE THE HEALTH OF THE TREES, SUCH AS THINNING, PRUNING, OR VINE CONTROL. ANY GRADING AND CONSTRUCTION THAT WILL OCCUR UPHILL FROM THE FOREST WILL REQUIRE SEDIMENT CONTROL MEASURES SUCH AS A SILT FENCE OR OTHER DEVICE THAT WILL PREVENT SILTATION IN THE CRITICAL ROOT ZONE OF RETAINED TREES.

TWO-YEAR POST-CONSTRUCTION MANAGEMENT PROGRAM

HOWARD COUNTY REQUIRES THE DEVELOPER TO COMMIT TO A MINIMUM OF TWO YEARS OF RESPONSIBILITY FOR THE MANAGEMENT OF THE FOREST CONSERVATION AREA. THE PROGRAM MUST BE SUPERVISED BY A QUALIFIED PROFESSIONAL. THE OBLIGATIONS INCLUDE: PERIODIC (BEGINNING AND END OF GROWING SEASON) INSPECTION OF THE CONDITION OF THE FOREST; NECESSARY MANAGEMENT SUCH AS MAINTENANCE OF FENCING AND SIGNAGE, TREATMENT OR REMOVAL OF DAMAGED OR DYING TREES, OR INVASIVE PLANT CONTROL; EVALUATION OF NEW LAND OWNERS OR OCCUPANTS ABOUT ALLOWABLE ACTIVITIES AND FUTURE RESPONSIBILITIES FOR THE FOREST; AND A FINAL INSPECTION AND CERTIFICATION THAT THE FOREST IS INTACT AND THE CONDITIONS OF THE FCP HAVE BEEN MET SUBMITTED TO THE COUNTY. UPON REVIEW OF THE FINAL CERTIFICATION, THE COUNTY WILL NOTIFY THE DEVELOPER OF RELEASE FROM ALL FUTURE OBLIGATIONS, AND THEIR TRANSFERAL TO THE OWNER.

APPENDIX E FOREST CONSERVATION WORKSHEET

Table with columns for calculations: GROSS SITE AREA (24.50 ACRES), AFFORESTATION CALCULATIONS (A-F), REFORESTATION CALCULATIONS (I-IV), AFFORESTATION CALCULATIONS (A-F), TOTAL AFFORESTATION REQUIRED (1.26 ACRES (D)).

AFFORESTATION REQUIREMENT WILL BE SATISFIED BY: 1. 1.26 ACRES OF ON-SITE AFFORESTATION.

TENTATIVELY APPROVED DEPT. OF PLANNING AND ZONING OF HOWARD COUNTY

Map grid information: Section NA, Area, Phase NA, Date OCT. 2002, Scale 1" = 100', Sheet 4 of 4.

PRELIMINARY PLAN OWINGS PROPERTY RESUBDIVISION OF LOT 3 CONSISTING OF LOTS 6-16, PARCELS A-E 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

Dewberry & Davis LLC logo and contact information: Engineers Planners Surveyors Landscape Architects, 804 West Diamond Avenue, Suite 200, Gaithersburg, MD 20878-1414.

LANDSCAPE PLAN / FOREST CONSERVATION PLAN