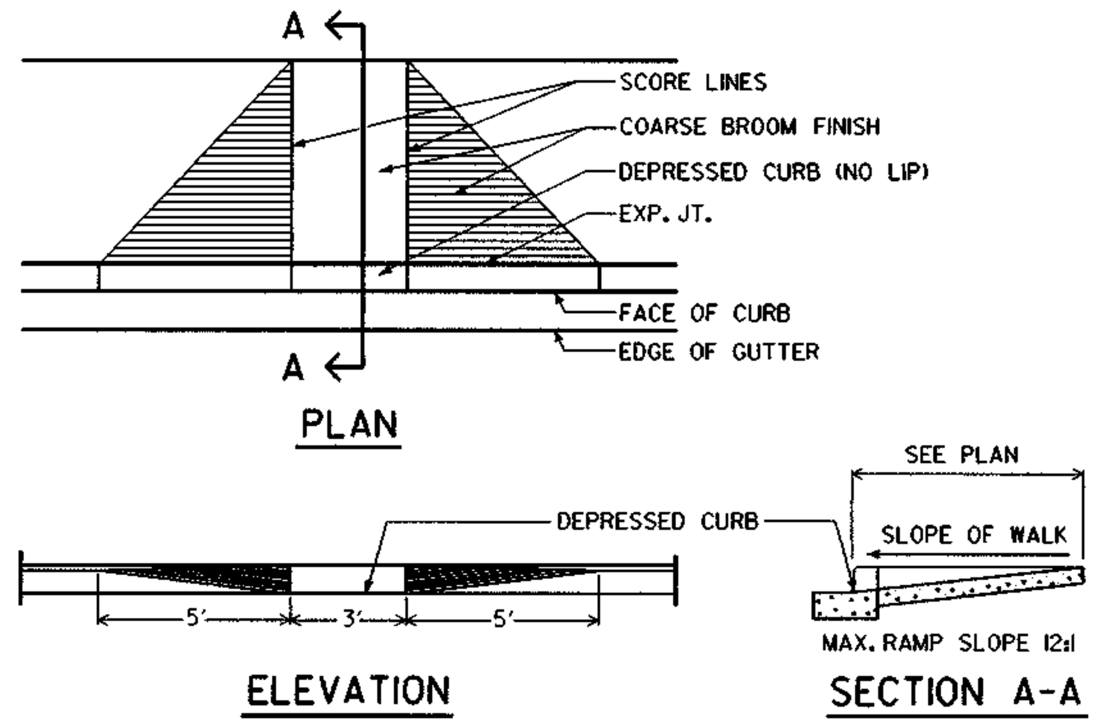
"Standard Marker Set" denotes 3/4 inch iron pin with 2 inch dia. aluminum cap marked "Daft McCune Walker Inc. Property Marker C99"

CURB CURVE DATA FOR LINEAR PROFILE					
NAME	DELTA	RADIUS	LENGTH	TANGENT	CHORD
⑫	251°58'10"	47.00'	206.69	——	L=76.06' S38°24'44"E
⑬	71°58'10"	37.00'	46.48	26.87	L=43.48' S51°35'16"E

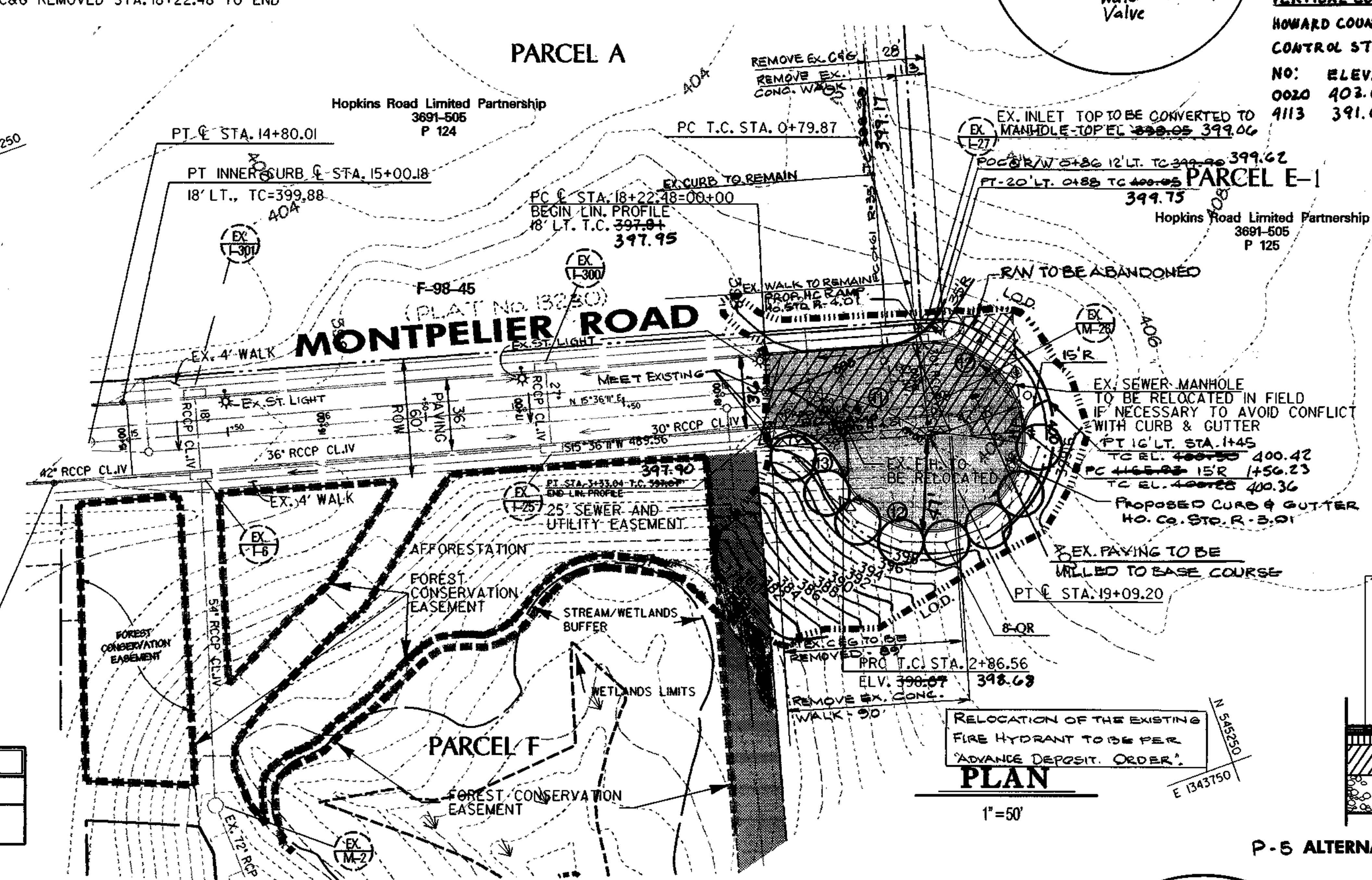
NOTE: PAVING. C&G REMOVED STA. 18+22.48 TO END

EXISTING STREET LIGHTS, PER F98-45, 150 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' POLE.



HANDICAPPED RAMP

NOT TO SCALE

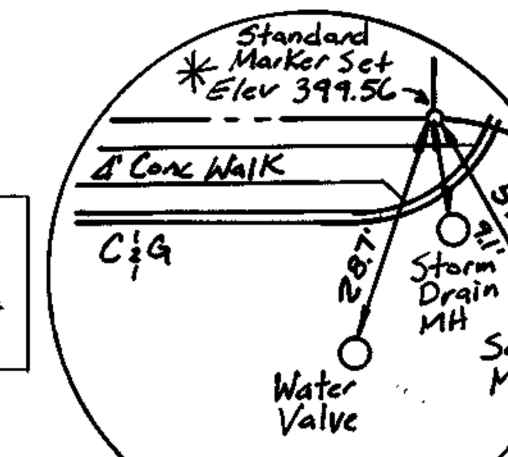


RELOCATION OF THE EXISTING FIRE HYDRANT TO BE PER "ADVANCE DEPOSIT ORDER".

PLAN

1"=50'

CENTER LINE CURVE DATA					
NAME	DELTA	RADIUS	LENGTH	TANGENT	CHORD
⑪	39°54'30"	124.50'	86.72'	45.20	L=84.98 N35°33'26"E



HORIZONTAL CONTROL

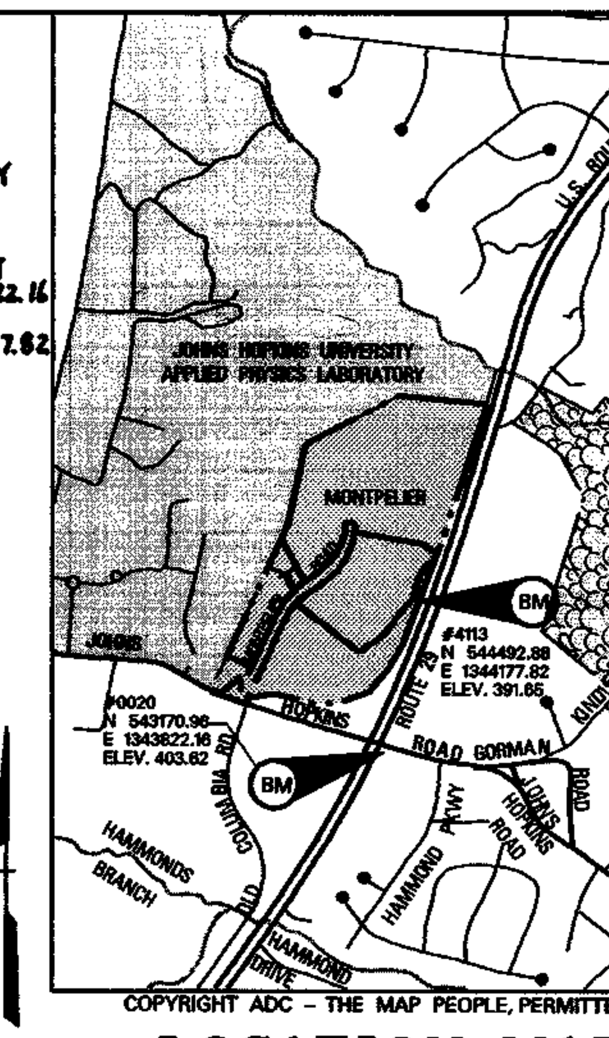
HOWARD COUNTY SURVEY CONTROL STATION:

NO:	NORTH	EAST
0020	543170.96	1343822.16
4113	544492.88	1344177.82

VERTICAL CONTROL

HOWARD COUNTY SURVEY CONTROL STATION:

NO:	ELEVATION
0020	403.62
4113	391.65



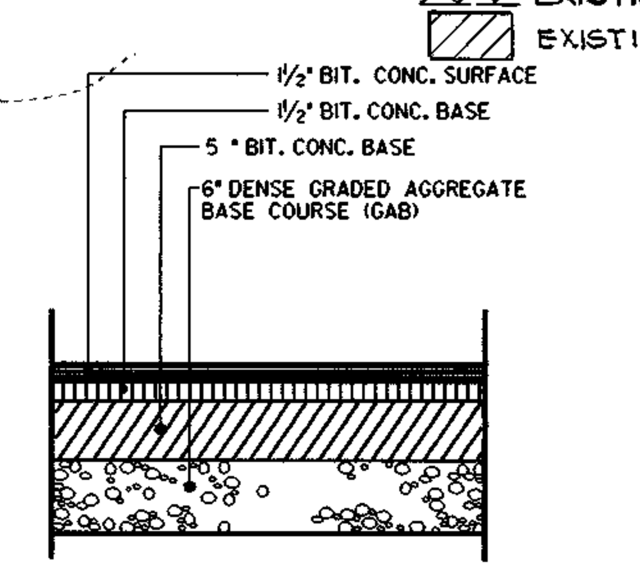
COPYRIGHT ADC - THE MAP PEOPLE, PERMITTED USE No. 20995366

LOCATION MAP

SCALE: 1" = 2000'

LEGEND

- EXISTING PAVING TO BE REMOVED
- PROPOSED PAVING
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER
- LIMIT OF DISTURBANCE
- EXISTING SIDEWALK TO BE REMOVED
- EXISTING PAVING TO BE MILLED



P-5 ALTERNATE PAVING SECTION DETAIL

NO SCALE

Date

Professional Engr. No. 14230

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 8/24/99

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/24/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/24/99

Date	No.	Revision Description
6/6/00	△	CUL-DE-SAC T.C. PROFILE - CONVERT EX. I-27 TO MANHOLE - MILL EX. PAVING

Montpelier Research Park

HOWARD COUNTY MARYLAND

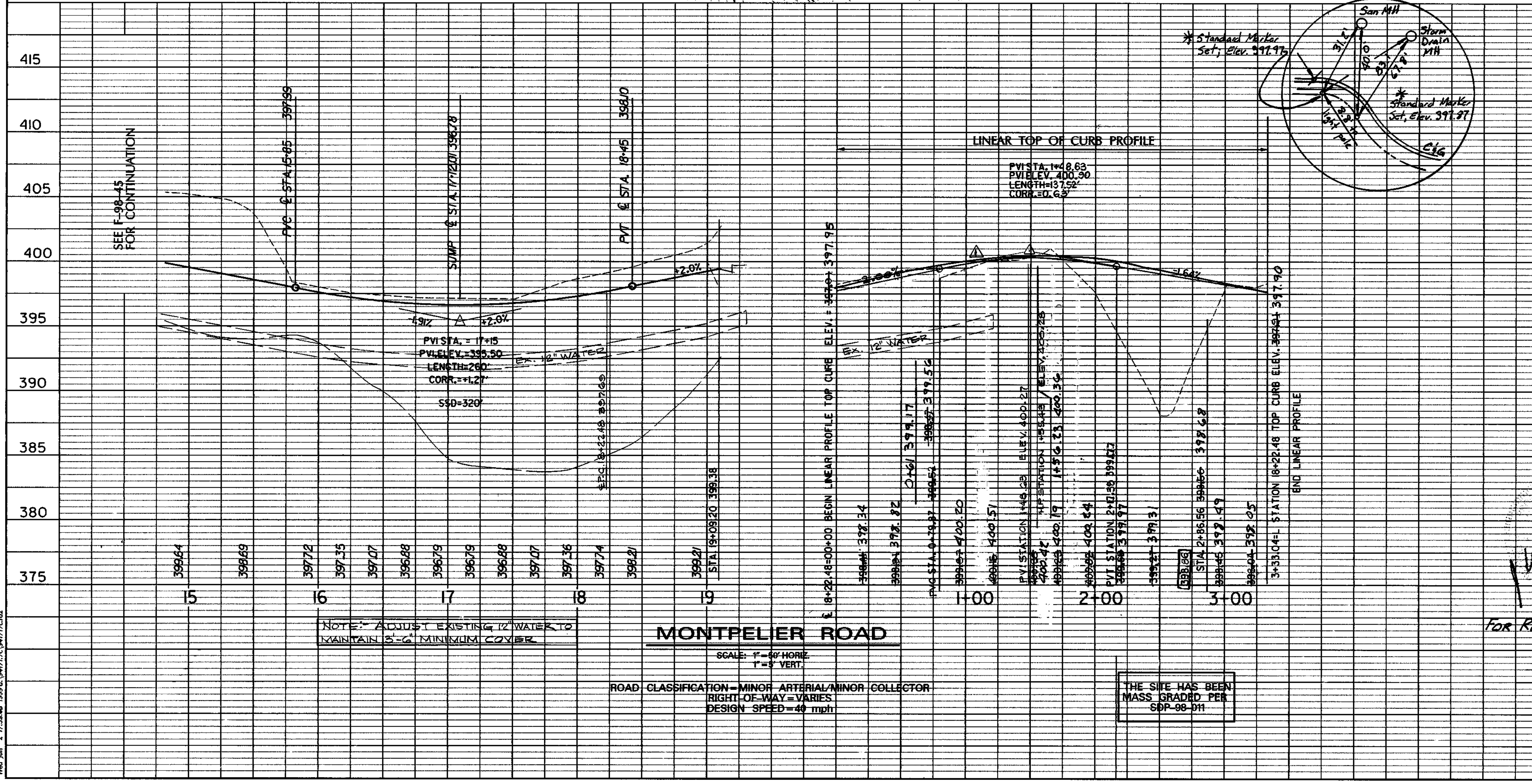
OWNER/DEVELOPER: HOPKINS ROAD LIMITED PARTNERSHIP
9030 RED BRANCH ROAD, SUITE 200 COLUMBIA, MD 21045

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

TITLE

MONTPELIER ROAD ROAD CONSTRUCTION, GRADING, EROSION & SEDIMENT CONTROL PLAN

Des By: BIS	Scale: As Shown	Proj. No. 94171.7c
Drn By: ADL	Date: 6-03-1999	1 OF 6
Chk By:	Approved:	



NOTE: ADJUST EXISTING 12" WATER TO MAINTAIN 3'-6" MINIMUM COVER

MONTPELIER ROAD

SCALE: 1"=50' HORIZ.
1"=5' VERT.

ROAD CLASSIFICATION=MINOR ARTERIAL/MINOR COLLECTOR
RIGHT-OF-WAY=VARIES
DESIGN SPEED=40 mph

THE SITE HAS BEEN MASS GRADED PER SDP-98-011

FOR ROAD AS-BUILT ONLY 11-20-01

SEQUENCE OF CONSTRUCTION

SEQUENCE	NUMBER OF DAYS
1. OBTAIN A GRADING PERMIT & ROAD CONSTRUCTION PERMIT	7
2. INSTALL SUPER SILT FENCE	2
3. REMOVE EXISTING PAVING, SIDEWALK, CURB AND GUTTER	5
4. INSTALL SCE AT END OF PAVING	1
5. ROUGH GRADE AREA	21
6. CONSTRUCT PAVING, SIDEWALK, AND CURB AND GUTTER	21
7. STABILIZE ALL AREA IN ACCORDANCE WITH STANDARDS & SPECS.	5
8. UPON APPROVAL OF THE SEDIMENT EROSION INSPECTOR, REMOVE ALL EROSION CONTROL MEASURES.	2

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

U.S. NATURAL RESOURCE CONSERVATION SERVICE — DATE 8/17/99

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

HOWARD S.C.D. — DATE 8/17/99

DEVELOPER'S CERTIFICATION:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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."

SIGNATURE OF DEVELOPER — DATE 8/12/99
PRINT NAME BELOW SIGNATURE Howard L. Remeck

ENGINEER'S CERTIFICATION:

"I 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."

SIGNATURE OF ENGINEER — DATE 6/2/99
PRINT NAME BELOW SIGNATURE Jeffrey L. Schwab

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slags, coarse fragments, gravel sticks, roots, trash, and other materials larger 1 1/2 inch in diameter.

ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

b. Organic contents of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization- Section I- Vegetative Stabilization Methods and Materials.

V. Topsoil Application

i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slop Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

Top Soil Specifications

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

[signature] 9/17/99
U.S. NATURAL RESOURCE CONSERVATION SERVICE — DATE

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

[signature] 9/17/99
HOWARD S.C.D. — DATE

DEVELOPER'S CERTIFICATION:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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."

[signature] — 8/12/99
SIGNATURE OF DEVELOPER — DATE
PRINT NAME BELOW SIGNATURE Howard L. Reneck

ENGINEER'S CERTIFICATION:

"I 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 REQUIRMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

[signature] — 6/2/99
SIGNATURE OF ENGINEER — DATE
PRINT NAME BELOW SIGNATURE Jeffrey L. Schwab

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:
1. PREFERRED - APPLY 2 TONS PER ACRES DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.)
2. ACCEPTABLE - APPLY 2 TOMS PER ACRES DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS/1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31 SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 LBS/1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. OPTION (3) - SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATIONS USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDING.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION - LOOSEN UPPER THREE INCHES OF SOIL BE RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

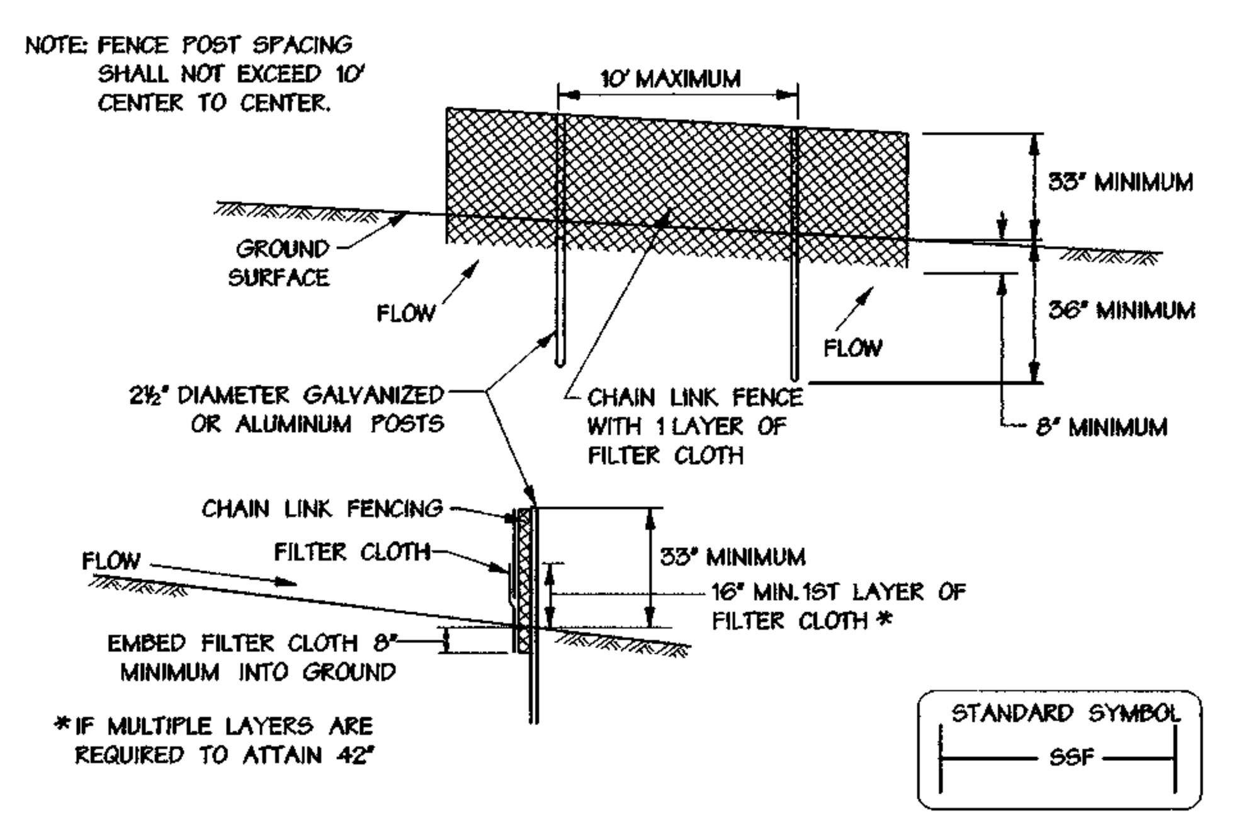
SOIL AMENDMENTS - APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.)

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 15 OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OF UNROTTED WEED FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHLAT ON FLAT AREAS. ON SLOPES 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

Temporary And Permanent Seeding Notes



CONSTRUCTION SPECIFICATIONS

1. FENCING SHALL BE 42 INCHES IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY (SHA) DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6' LENGTH POSTS.
2. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE. THE CHAIN LINK FENCING SHALL BE SIX (6) GAUGE OR HEAVIER.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
5. FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
6. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

H - 26 - 5

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

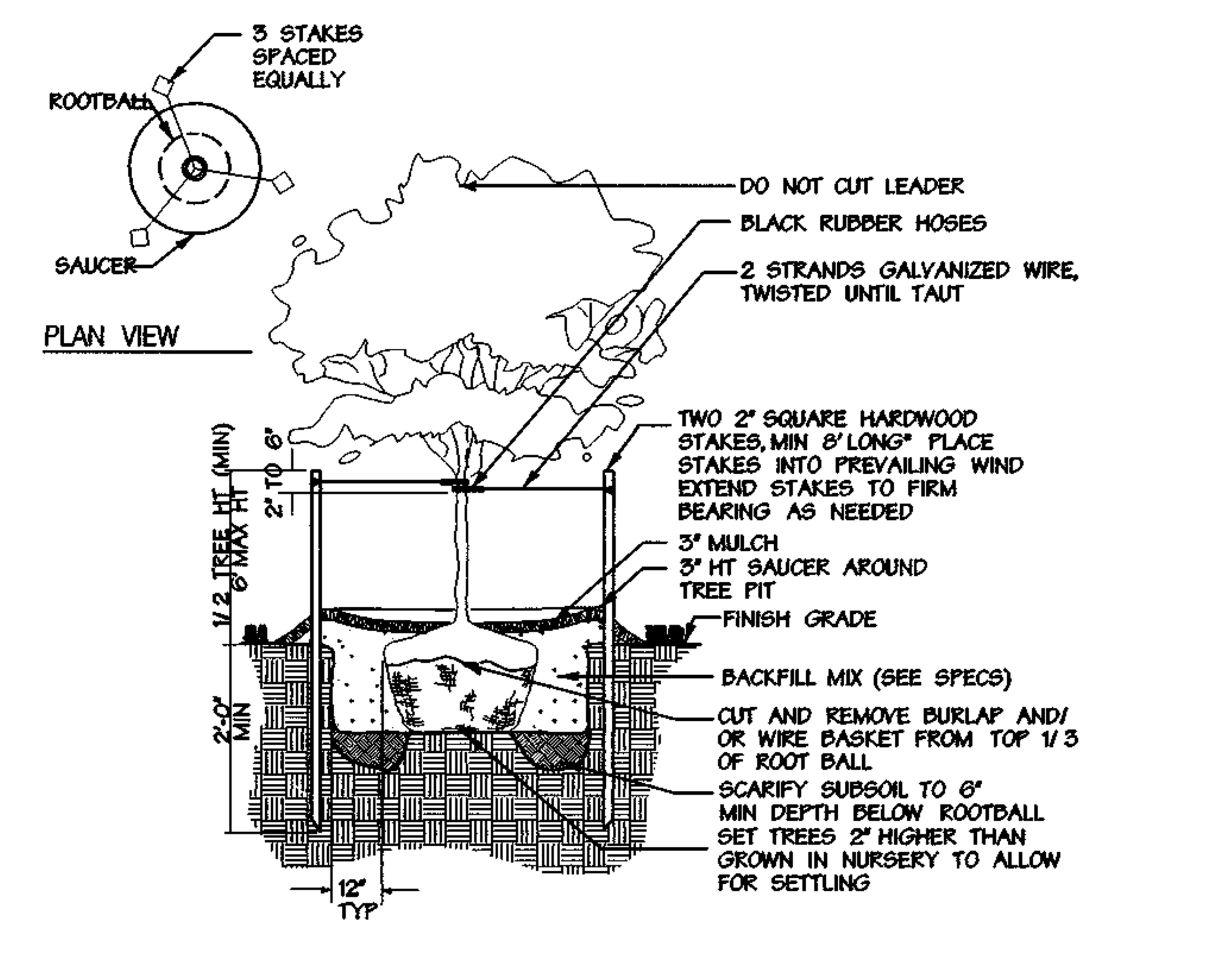
Super Silt Fence — Not To Scale

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
   A. SEVEN CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1.
   B. FOURTEEN DAYS AS TO ALL OTHER DISTURBED OF GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASING SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL.1, CHAPTER 12, OF THE "HOWARD COUNTY DESIGN MANUAL", STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDINGS, SODS, TEMPORARY SEEDING AND MULCHING (SECTION G). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:

TOTAL AREA OR SITE	42.2ACRES
AREA DISTURBED	0.57 ACRES
AREA TO BE ROOFED OR PAVED	0.22 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.35 ACRES
TOTAL CUT	0 CUBIC YARDS
TOTAL FILL	1665 CUBIC YARDS
OFF-SITE WASTE/BORROW AREA LOCATION WASTE = N.A.-STOCKPILE ON-SITE	

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

Sediment Control General Notes



NOTE: QUERCUS ROBUR-2 1/2-3" CAL, 13-15' HT. "NORTHERN RED OAK"

Street Tree Planting — Not To Scale

DUST CONTROL SPECIFICATIONS

TEMPORARY METHODS:
1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION - THIS IS GENERALLY DONE AS AN AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THE RUNOFF BEGINS TO FLOW.
5. BARRIERS - SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE AFFECTIVE IN CONTROLLING SOIL BLOWING.
6. CALCIUM CHLORIDE - APPLY AT A RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS:
1. PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
2. TOPSOILING - COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

H - 30 - 1

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

Dust Control Specifications

[signature] 11-20-01

FOR ROAD AS-BUILT ONLY

General Notes

1. All construction shall be performed in accordance with the latest standards and specifications of Howard County, plus MSHA standards and specifications if applicable or as specified.

2. Approximate location of existing utilities are based on contract numbers 44-1160 and 30-1757-d, and supplemented with field survey by DMW in August 1997. Contractor shall verify the location of any utilities which may be impacted by the work. The contractor shall take all necessary precautions to protect the existing utilities and maintain uninterrupted service. Any damage incurred due to contractor's operation shall be repaired immediately at the contractor's expense.

3. The contractor shall test pit existing utilities at least five (5) days before starting work shown on these drawings to verify their location and elevation. The contractor shall notify the engineer immediately if location of utilities is other than shown.

4. The contractor shall notify 'Miss Utility' at 1-800-257-7777 at least 48 hours prior to any excavation work being done, and shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.

5. Any damage caused by the Contractor to existing public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be repaired at the Contractors expense.

6. Topography at 2' intervals is based on the mass grading shown on SDP-98-011, aerial photogrammetry by Photogrammetric Data Services in June 1986, and by supplementary topo along Johns Hopkins Road by DMW in August 1997.

7. All hydraulic data is for the 10-year storm unless otherwise noted.

8. Existing public water and sewer contract number (44-1160, 30-1757-d). Water and sewer are Public, Contract Number (34-3654-D). Drainage area is the Middle Patuxent.

9. The subsurface exploration and geotechnical engineering analysis for this project was made by Hillis Carnes, Inc. on Jan 31, 1997.

10. All fill areas shall be compacted to a minimum of 95% of the maximum dry density as determined and verified in accordance with AASHTO T-180.

11. The coordinates shown hereon are based upon the Howard County geodetic control which is based upon the NAD83 Maryland Coordination System. Howard County monument nos. 0020, 4113, were used for this project (See Location Map).

12. Storm water management quantity and quality for Parcels A,B,C and D is provided by a retention facility per SPD-98-011. Stormwater Management for the North end of the site will be provided in a separate facility at the time of development.

13. 100 year floodplain limits per DMW floodplain study. Wetland delineation on Jan. 29, 1988 by Environs: jurisdictional determination reconfirmed by Corps of Engineers in April 1996.

14. There are no known cemeteries or burial grounds on this site. However, upon discovery of any evidence of burials or graves, the developer will be subject to section 16.1305 of the Howard County Subdivision and Land Development Regulations.

15. The traffic study was prepared by Cunningham & Assoc. dated October 1997. The improvements shown on these plans are for Phase 1 only as shown in the report.

16. Electric, gas, cable and telephone lines designed by others.

17. State & Federal permit tracking number 199765674.

18. WP98.12 granted on 8-22-97 for deferral of landscaping requirements to Final and/ or Site Development Plans and for waiver of Sketch & Preliminary Plan for inital stage of subdivision.

19. There are no noise studies required for this project.

20. Waivers to the Howard County Design Manual Volume III include a waiver to the typical section for a minor arterial, waiver to the 670' radius requirement for a minor arterial, and a waiver to the intersection spacing requirement at Montpelier Road and Johns Hopkins Road.

21. Provide handicap ramps where shown in plan.

22. Trench compaction for storm drains within the road or street right of way limits shall be in accordance with Howard County Design Manual Volume IV, Std. No. G-2.01.

23. Sag and Crest vertical curves were designed in accordance with Howard County Design Manual Volume III.

24. Street trees in accordance with Subdivision and Land Development Regulations, section 16.124

25. Street lights will be required in this development in accordance with the Design Manual. Street light placement and the type of fixture and pole selected shall be in accordance with the latest Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for Street Lights in Residential Developments (June 1993). The June 1993 policy includes guidelines for lateral and longitudinal placement. A minimum spacing of 20' shall be maintained between any street light and any tree.

26. The contractor shall maintain traffic at all times.

27. Unless otherwise noted, dimensions from the curb are measured from face of curb.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

[signature] for — 8/24/99
CHIEF, BUREAU OF HIGHWAYS — DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[signature] — 8/24/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

[signature] — 8/27/99
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

Date

[seal and signature] 6/2/99

Professional Engr. No. 14230

Date	No.	Revision Description

Montpelier Research Park

HOWARD COUNTY MARYLAND

OWNER/DEVELOPER: HOPKINS ROAD LIMITED PARTNERSHIP
9030 RED BRANCH ROAD, SUITE 200 COLUMBIA, MD 21045

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

TITLE

MONTPELIER ROAD
ROAD CONSTRUCTION, GRADING, EROSION & SEDIMENT CONTROL PLAN

Des By: BIS	Scale: As Shown	Proj. No. 94171.7c
Drn By: ADL	Date: 6-03-1999	2 OF 6
Chk By:	Approved:	

F-99-191

Wed Jun 2 17:46:58 1999 d:\94171.7c\94171.7c.sec

Parcel A

Montpelier Road
HOWARD COUNTY LOCAL ROAD

MATCHLINE SEE SHEET 4

MATCHLINE SEE SHEET 4

Parcel B

Parcel E1

Parcel F
HOWARD COUNTY DEPT.
OF RECREATION & PARKS

EX. FOREST CONSERVATION EASEMENT

EX. FOREST CONSERVATION EASEMENT

EXISTING
SWM POND
SDP 98-11

U.S. Route 29

MgB2 MgC2 MgC3 MID3 MID2 GIB3 Ba

N 544750
E 1344250

N 545500
E 1343500

±0.7 ACRES
AFFORESTATION
PLANTING
Area 'a'

NORTH

KEY SHEET

LEGEND

SYMBOL	DESCRIPTION
	SLOPES= >25%
	SLOPE= 15%-25%
	STREAM
MID3 MgC3	SOILS
	EXISTING CONTOURS
	EXISTING TREES/ TREE LINE
	WETLAND/STREAM BUFFER
	WETLAND
400	PROPOSED CONTOURS
	FLOODPLAIN
	LIMIT OF DISTURBANCE
25'	EXISTING 25' WIDE PUBLIC WATER, SEWER & UTILITY EASEMENT
	PROPOSED FOREST CONSERVATION EASEMENT
	EXISTING FOREST CONSERVATION EASEMENTS

NOTE:
1. THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTRY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

2. SEE SHEET 15 FOR AFFORESTATION PLANTING SPECIFICATIONS, DETAILS & NOTES.

3. SUPER SILT FENCE WILL ALSO ACT AS TREE PROTECTION FOR EXISTING FOREST AREAS.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 8/24/99

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/24/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/20/99

Date	No.	Revision Description

11-20-01
FOR ROAD AS-BUILT ONLY

Montpelier

PARCELS E-1, G-1 & G-2
Research Park
HOWARD COUNTY MARYLAND

OWNER/DEVELOPER: HOPKINS ROAD LIMITED PARTNERSHIP
9030 RED BRANCH ROAD, SUITE 200 COLUMBIA, MD 21045

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

8.11.99
Date

STATE OF MARYLAND · MELANIE MOSER · 551 · REGISTERED LANDSCAPE ARCHITECT

Landscape Architect No. 551

SUBDIVISION NAME		SECTION/AREA		PARCEL #
Montpelier				E-1, G-1 & G-2
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
13229-13234	17	PEC	41	5th	6051.02
WATER CODE		SEWER CODE		
E 21		6440000		

TITLE: FOREST CONSERVATION / AFFORESTATION PLAN

Des By: TPC	Scale: 1"=50'	Proj. No. 941717B	
Dm By: TPC	Date: 8-11-99	3 OF 6	
Chk By:	Approved:		

SDP-98-192 F-99-191
Wed Aug 11 10:25:17 1999 D:\941717B\941717b.tcl

Name	Bearing	Distance	Name	Bearing	Distance
L1	N 09° 34'00" W	29.01'	L27	N 30° 49'36" W	28.67'
L2	N 18° 07'11" E	34.60'	L28	N 53° 15'34" W	16.48'
L3	N 06° 34'20" W	17.47'	L29	N 45° 43'48" E	22.14'
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L5	N 43° 55'23" W	84.16'	L31	N 40° 55'26" E	14.98'
L6	N 72° 55'53" W	41.76'	L32	N 06° 17'36" E	17.37'
L7	N 15° 01'59" E	13.11'	L33	N 11° 45'25" W	11.24'
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L26	N 70° 59'12" W	36.24'	L52	N 25° 14'12" E	316.44'
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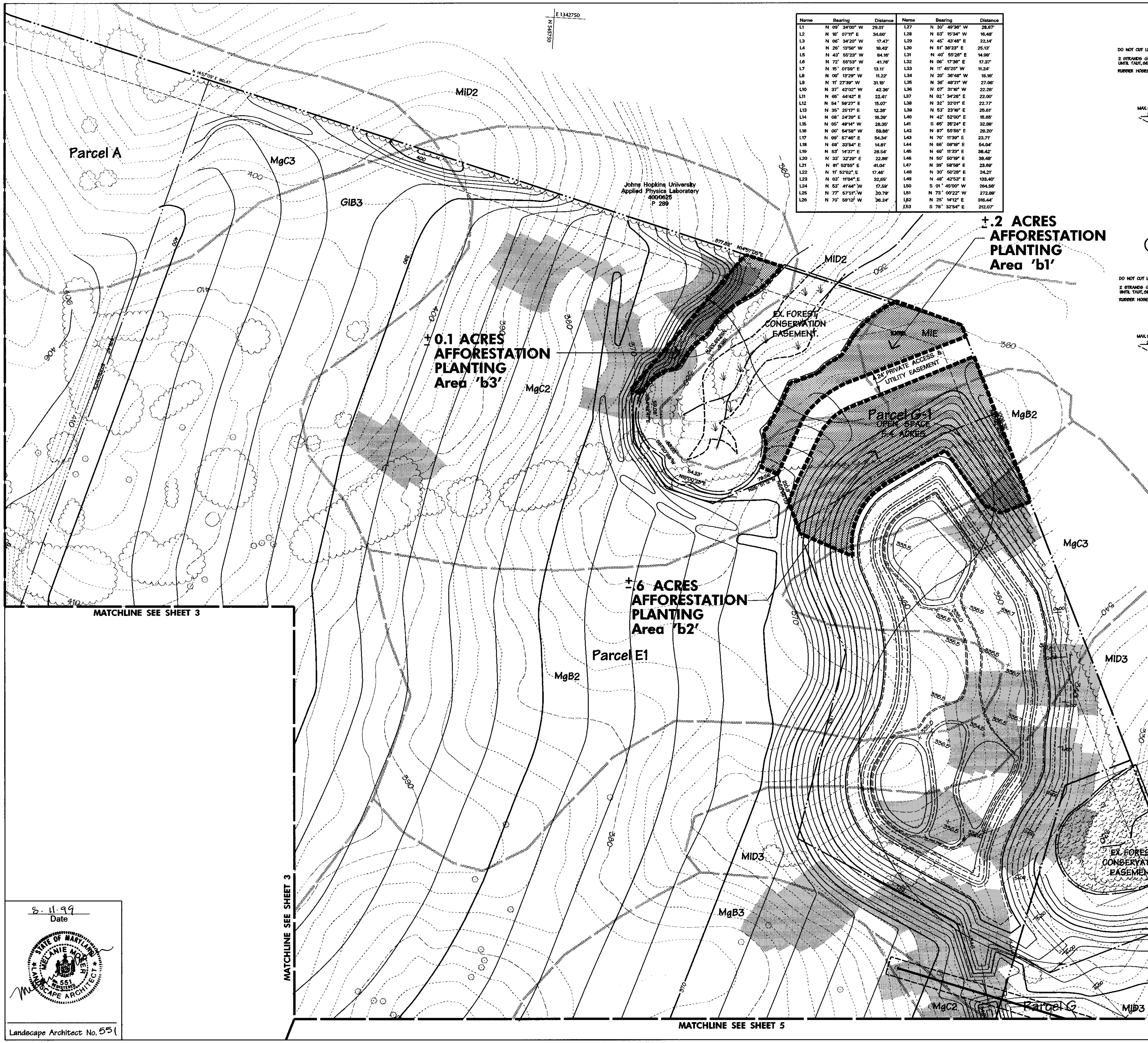
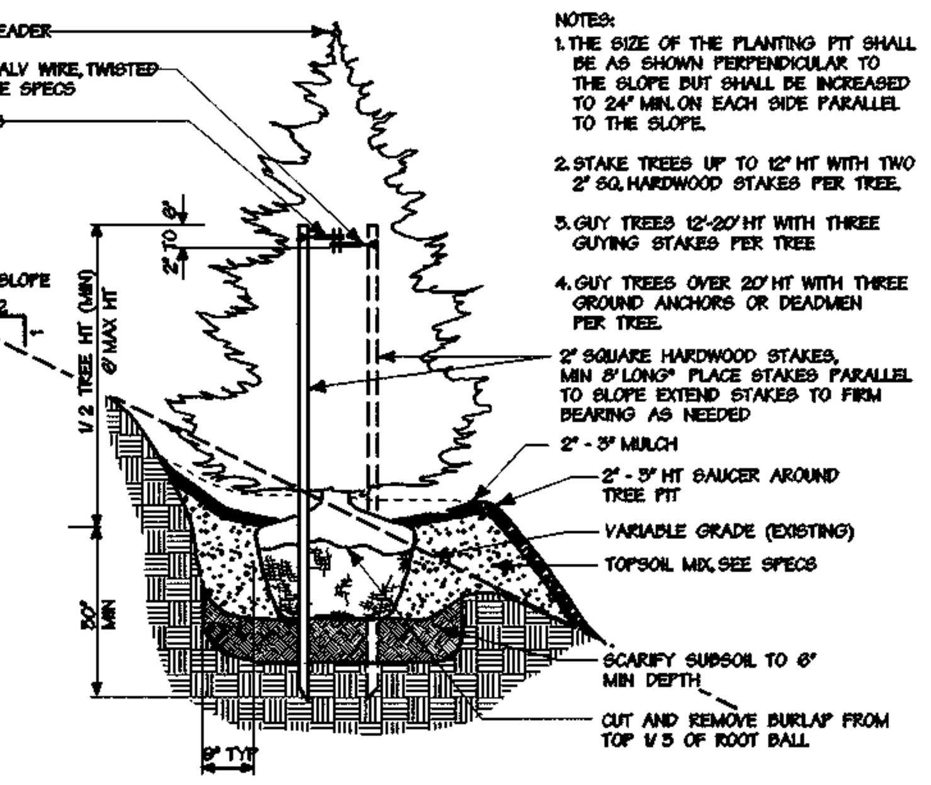
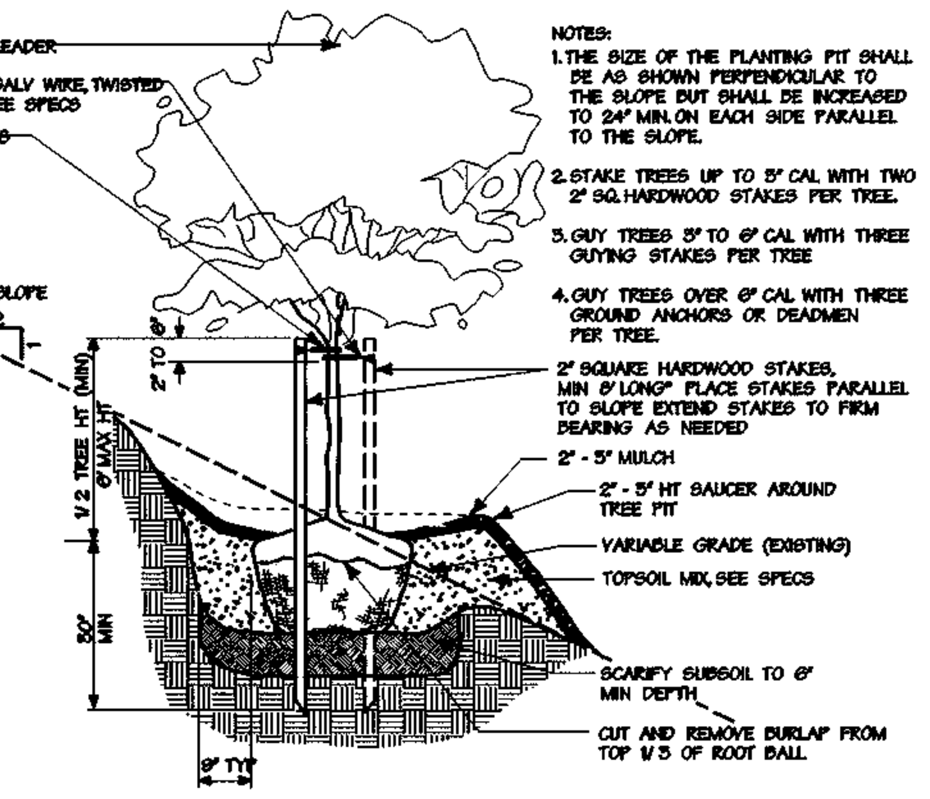
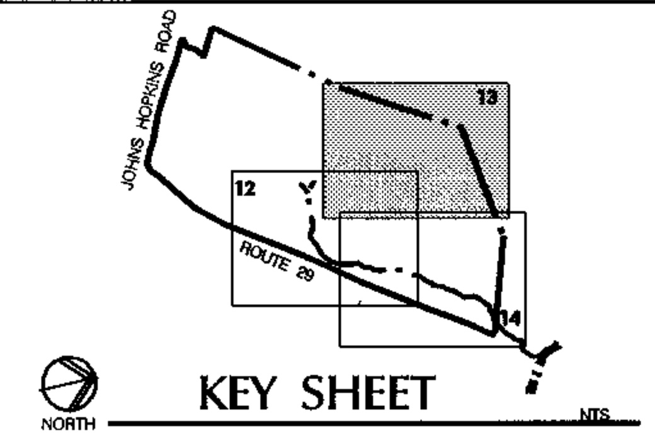




(F) Evergreen Tree Planting on Slope
Not To Scale



(E) Tree Planting on Slope
Not To Scale



KEY SHEET

LEGEND

SYMBOL	DESCRIPTION
	SLOPES = >25%
	SLOPE = 15%–25%
	STREAM
MlD3 / MgC3	SOILS
	EXISTING CONTOURS
	EXISTING TREES/ TREE LINE
	WETLAND/STREAM BUFFER
	WETLAND
400	PROPOSED CONTOURS
	FLOODPLAIN
	LIMIT OF DISTURBANCE
	EXISTING 25' WIDE PUBLIC WATER, SEWER & UTILITY EASEMENT
	PROPOSED FOREST CONSERVATION EASEMENT
	EXISTING FOREST CONSERVATION EASEMENTS

NOTE:
DEPENDING UPON ULTIMATE ROAD DESIGN AND LOCATION OF ITS TERMINUS, DPZ MAY REQUIRE ADDITIONAL PLANTING TO PROVIDE A VISUAL BUFFER OF THE STORM WATER MANAGEMENT FACILITY

NOTE:
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2. SEE SHEET 15 FOR AFFORESTATION PLANTING SPECIFICATIONS, DETAILS & NOTES.

3. SUPER SILT FENCE WILL ALSO ACT AS TREE PROTECTION FOR EXISTING FOREST AREAS.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 8/24/99

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/24/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/04/99

Date	No.	Revision Description

Montpelier
PARCELS E-1, G-1 & G-2
Research Park
HOWARD COUNTY MARYLAND

OWNER/DEVELOPER: HOPKINS ROAD LIMITED PARTNERSHIP
9030 RED BRANCH ROAD, SUITE 200 COLUMBIA, MD 21045

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue, Towson, Maryland 21286, 410 296 3333, Fax 296 4705

SUBDIVISION NAME	SECTION/AREA	PARCEL #
Montpelier	—	E-1, G-1 & G-2

PLAT#	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
13229-13234	17	PEC	41	5th	6051.02

WATER CODE	SEWER CODE
E 21	6440000

TITLE
FOREST CONSERVATION / AFFORESTATION/ LANDSCAPE PLAN

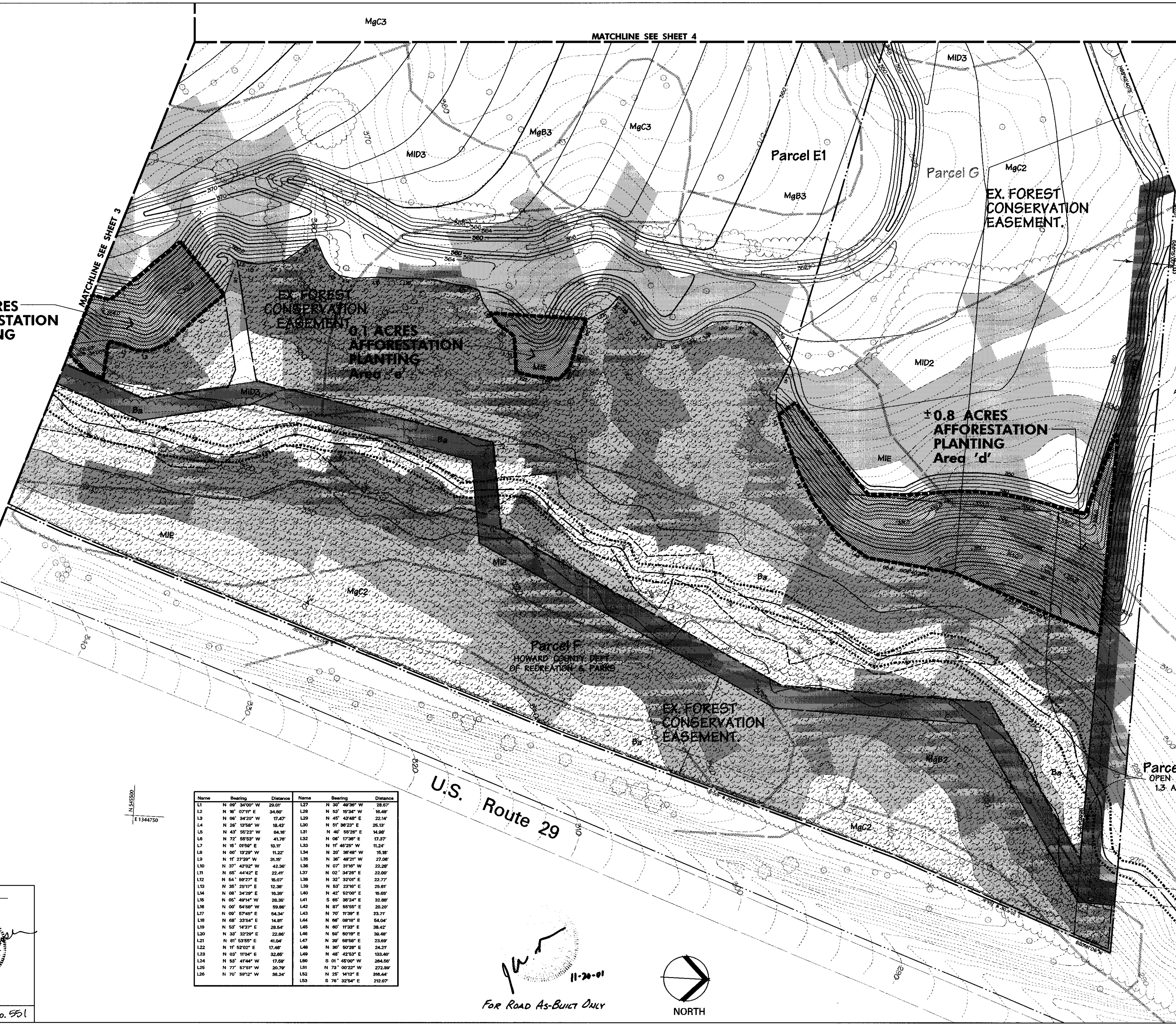
Des By: TPC	Scale: 1" = 50'	Proj. No. 941717B
Drn By: TPC	Date: 8-11-99	4 OF 6
Chk By:	Approved:	

~~SDP-99-92~~ F-99-191
Wed Aug 11 14:33:03 1999 d:\941717b\941717b.fc2

8.11.99
Date

STATE OF MARYLAND
MELANIE MOSER
No. 551
REGISTERED
LANDSCAPE ARCHITECT

Landscape Architect No. 551



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400	PROPOSED CONTOURS
	FLOODPLAIN
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	EXISTING 25' WIDE PUBLIC WATER, SEWER & UTILITY EASEMENT
	PROPOSED FOREST CONSERVATION EASEMENT
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2. SEE SHEET 15 FOR AFFORESTATION PLANTING SPECIFICATIONS, DETAILS & NOTES.
3. SUPER SILT FENCE WILL ALSO ACT AS TREE PROTECTION FOR EXISTING FOREST AREAS TEMP

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

Howards Shik for 8/24/99
CHIEF, BUREAU OF HIGHWAYS — DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

8/24/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Cindy Hamilton 8/24/99
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

Name	Bearing	Distance	Name	Bearing	Distance
L1	N 09° 34'00" W	29.01'	L27	N 30° 49'36" W	28.67'
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L26	N 70° 59'12" W	36.24'	L52	N 25° 14'12" E	316.44'
			L53	S 78° 32'54" E	212.07'

8·11·99
Date

STATE OF MARYLAND MELANIE MOSER LANDSCAPE ARCHITECT 551

Landscape Arch. No. 551

11-20-01

FOR ROAD AS-BUILT ONLY

NORTH

Date	No.	Revision Description

Montpelier

PARCELS E-1, G-1 & G-2

Research Park

HOWARD COUNTY MARYLAND

OWNER/DEVELOPER: HOPKINS ROAD LIMITED PARTNERSHIP
9030 RED BRANCH ROAD, SUITE 200 COLUMBIA, MD 21045

DMW

Daft · McCune · Walker, Inc.

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue Towson, Maryland 21286 410 296 3333 Fax 296 4705

SUBDIVISION NAME: Montpelier	SECTION/AREA: —	PARCEL #: E-1, G-1 & G-2
PLAT#: 13229–13234; BLOCK #: 17; ZONE: PEC	TAX/ZONE MAP: 41; ELECT. DISTRICT: 5th	CENSUS TRACT: 6051.02
WATER CODE: E 21	SEWER CODE: 6440000	

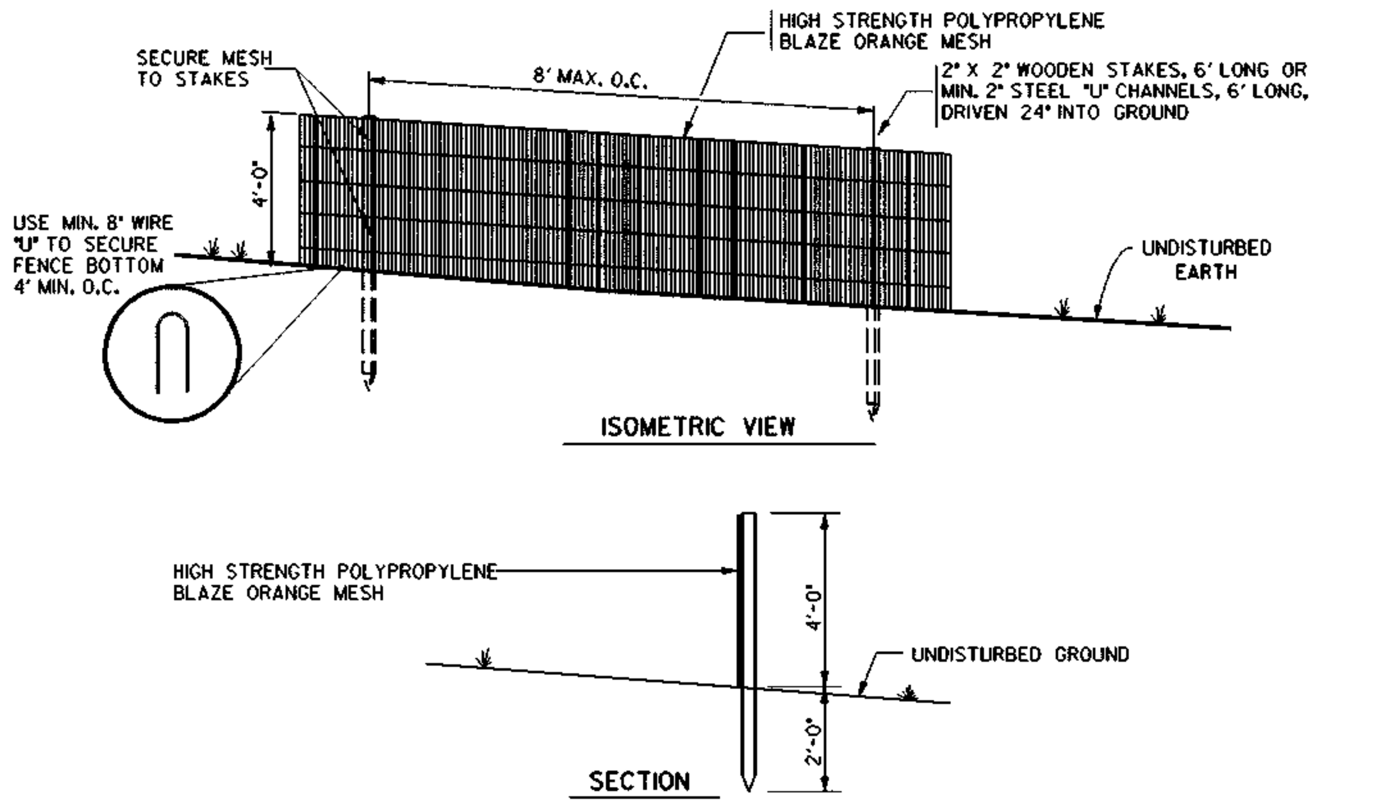
TITLE

FOREST CONSERVATION / AFFORESTATION PLAN

Des By: TPC	Scale: 1" = 50'	Proj. No. 941717B
Drn By: TPC	Date: 8–11–99	5 OF 6
Chk By:	Approved:	

~~SDP-99-92~~ F-99-191

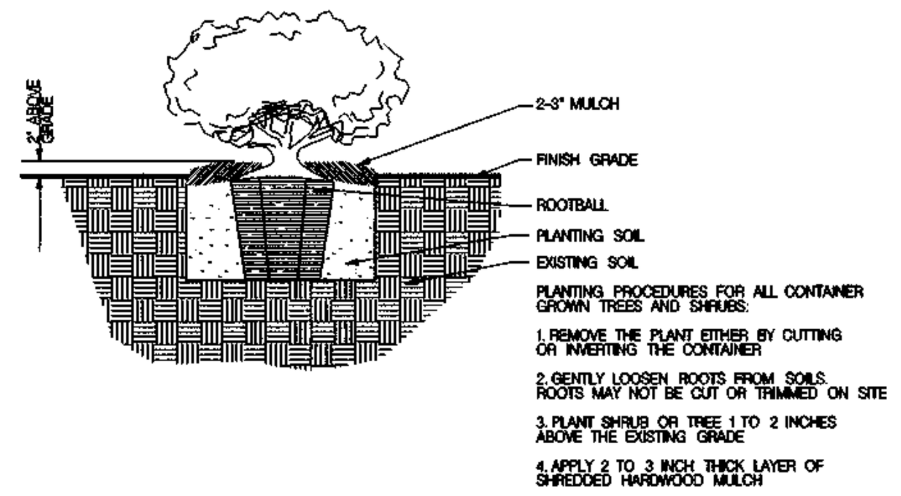
Wed Aug 11 15:57:11 1999 d:\941717b\941717b.fc3



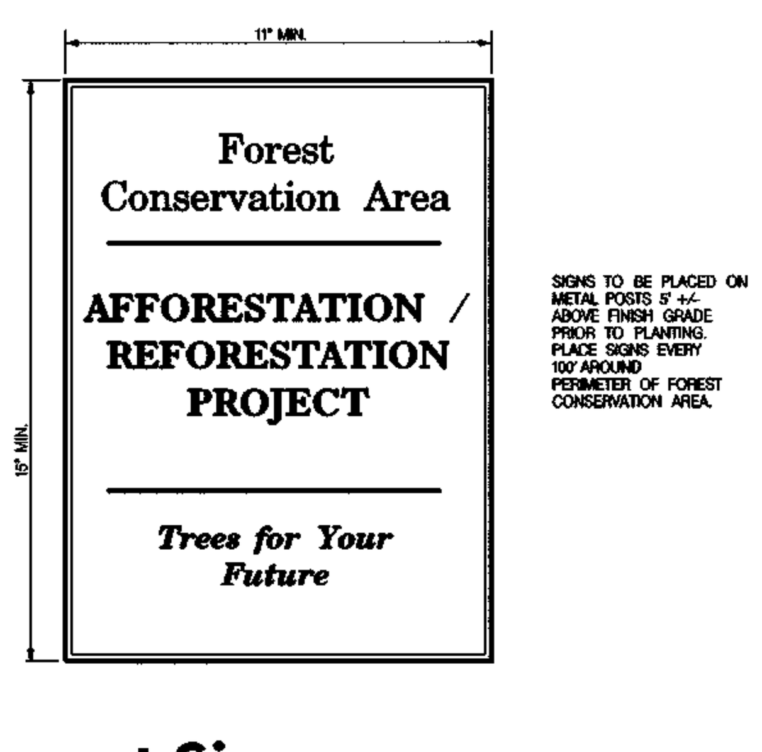
NOTES:

1. THIS DETAIL IS FOR FOREST PROTECTION DEVICE ONLY
2. FOREST RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS
3. BOUNDARIES OF FOREST RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING THE DEVICE
4. ROOT DAMAGE SHALL BE AVOIDED
5. PROTECTION SIGNAGE MAY ALSO BE USED
6. FOREST PROTECTION FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION

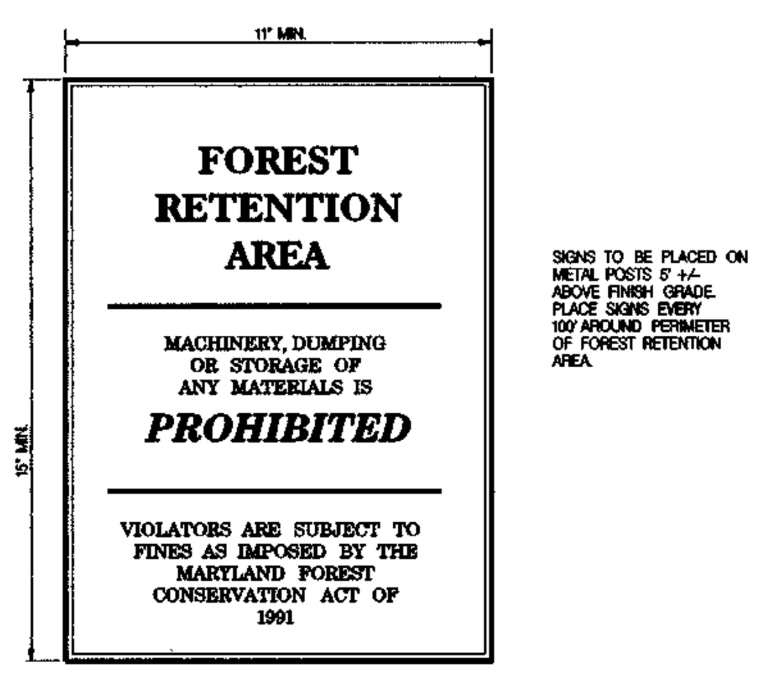
Forest Protection Fence
Not To Scale



Planting of Container Grown Material
Not To Scale

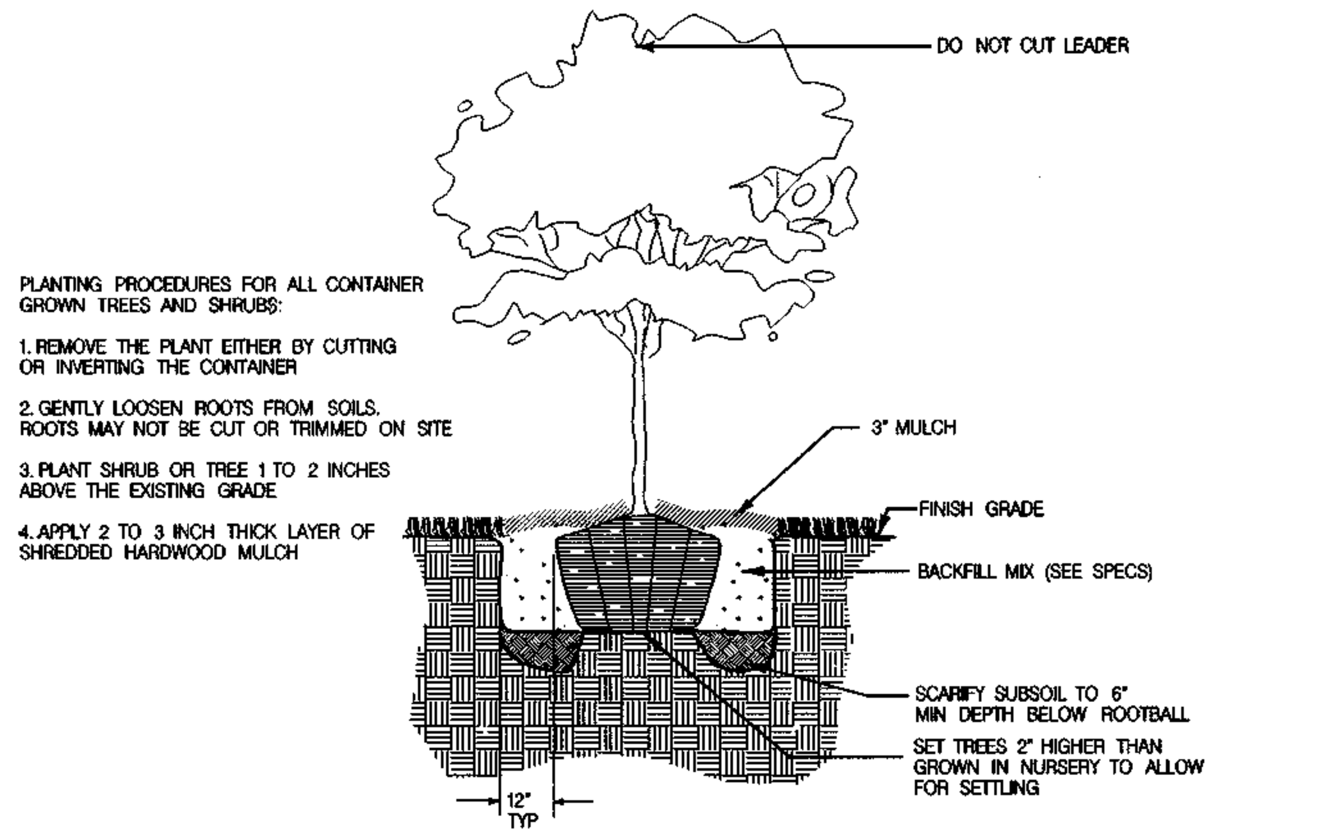


Permanent Signage
Not To Scale



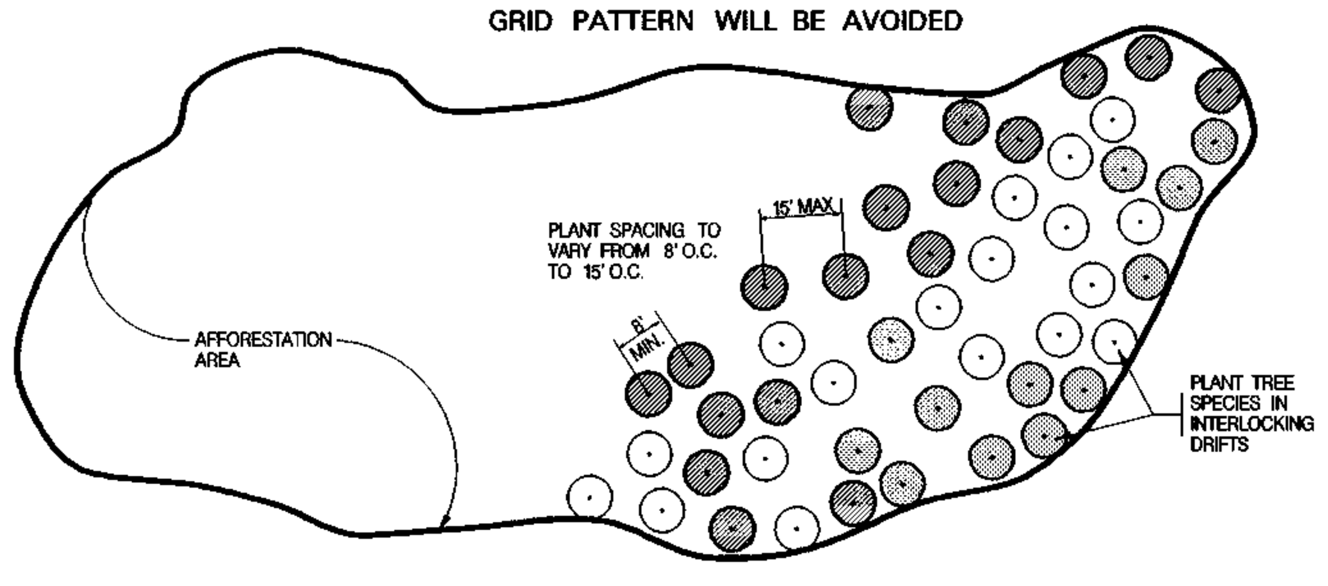
SIGNS MAY NOT BE ATTACHED TO TREES.

Temporary Signage
Not To Scale



Typical Tree Planting (For container grown)
Not To Scale

GRID PATTERN WILL BE AVOIDED



Planting Design Schematic
Not To Scale

GOALS & OBJECTIVES

The objective of this plan is to complete Forest Conservation Plan requirements for the Montpelier site by establishing a permanent location for "Potential Afforestation Areas" as they were previously designated.

A Forest Conservation Easement will be placed on all afforestation /reforestation areas.

FOREST RETENTION

Tree retention/Soil Protection areas will be delineated with temporary signage as appropriate. See Temporary Signage Detail prior to the beginning of any construction activity. Attachment of signs to trees is prohibited.

Forest protection fencing and retention area signage to be installed where grading has been indicated.

PRECONSTRUCTION MEETING/CONSTRUCTION PERIOD PRACTICES

Before construction begins, a required preconstruction meeting shall be held. The principle contractors, engineer, Howard County Inspectors and a qualified forest professional familiar with the plan shall be present. All items pertaining to forest retention, tree preservation, and construction period practices shall be discussed.

Any changes to the plan due to on-site conditions must be approved by the Howard County Department of Planning and Zoning.

No grading, excavation, utility placement, sediment and erosion control activities, or vehicular traffic will occur within forest retention areas.

Storage of equipment and materials shall not be permitted in the forest retention areas.

There will be no burial or disposal of discarded material on-site within the retention area.

There will be no open burning within 100 feet of woodlands.

Temporary structures including, but not limited to construction trailers, sanitary facilities, etc. shall not be placed within the forest retention areas.

Employee parking shall not be permitted in the forest retention areas.

POST CONSTRUCTION MANAGEMENT/MAINTENANCE BY CONTRACTOR

All dead trees or tree limbs which pose an immediate safety hazard will be felled. Trees dropped within the forest retention area will not be removed.

All temporary forest protection structures will be removed after construction and permanent signage will be placed where indicated on the plan.

A 2-year Contractor's Maintenance and Monitoring Period shall begin at mobilization. Seventy five percent survivorship must be guaranteed for this period. The site shall be inspected at the end of the two year period to ascertain survivorship and provide for replacement if necessary.

The Contractor's maintenance of new planting shall consist of watering, cultivating, weeding, and mulching as necessary to insure survival.

Contractor shall protect planting areas and plants at all times against damage of all kinds for duration of maintenance period. Maintenance includes temporary protection barriers and signs as required for protection. If any plants become damaged or injured, because sufficient protection was not provided, treat or replace as directed by Landscape Architect at no additional cost to Owner.

ALL AFFORESTATION AREAS SHOWN ON THIS PLAN TO BE PLACED IN FOREST CONSERVATION EASEMENT.

STANDARDS AND SPECIFICATIONS FOR PLANTING

1. PLANT MATERIAL SELECTION

A. Nursery grown plant materials greater than 1" caliper should meet or exceed the requirements of the American Nurserymen Specifications, i.e. should be typical of the species and variety, have a normal habit of growth, be first quality, sound, vigorous, well-branched, have healthy, well furnished root systems, and be free of disease, insect pests and mecanical injuries.

B. Planting stock less than 1" caliper should meet the following standards:

Seedling/whips:

Hardwoods – 1/4" to 1/2" caliper with roots not less than 8" long
Shrubs – 1/8" or larger caliper with 8" root system.

2. PLANTING SITE PREPARATION

Soils shall not be disturbed outside the area necessary for planting individual specimens and the removal of exotic invasive plant material. These areas should be stabilized as shown on the temporary seeding notes on sheet 8.

3. PLANTING PERIOD

All material shall be planted between September 15 and May 31. Material shall not be installed when ground is frozen.

4. PLANT MATERIAL STORAGE

Plants should be planted within 24 hours of delivery if possible. Plant material which are left unplanted for more than 24 hours shall be protected from direct sun and weather and kept moist. Nursery stock should not be left unplanted for more than two weeks.

5. ON-SITE INSPECTION

Prior to planting, planting stock shall be inspected by the landscape architect or other qualified professional familiar with this plan. Plant material not conforming to standard nurseryman specifications for size, form, vigor, roots, trunk wounds, insects and disease should be replaced.

6. TOPSOIL FOR PLANTING SOIL

A. On-site material or imported from same source as topsoil used on site for finish grading.

1. Uniform composition, free of subsoil, clay lumps, stones, stumps, roots or similar objects larger than 1 inch.
2. Topsoil must be free of plants or plant parts of bermudagrass, quackgrass, Johnsongrass, nutsedge, poison ivy, Canada thistle, or others as specified.
3. All topsoil shall be tested by a recognized laboratory for pH and soluble salts. A pH of 4.5 to 7.5 is required. Soluble salts shall not be higher than 500 parts per million.

7. ADDITIVE FOR BACKFILL MIX

A. Wood Residuals:

1. Source shall be well composted, not chemically treated.
2. Physical properties – grading:

U.S. Sieve	Dry Weight Percent Passing
3/8"	100
1/4"	90 – 100
No. 8	70 – 100
No. 35	0 – 30

3. Organic content by ash analysis: 90 – 100 percent dry weight
4. Chemistry:

Range

a. Saturation Extract Conductivity (EC) — Nil – 3.5
b. Reaction (pH) — 3.0 – 5.5

5. Salinity: Maximum saturation extract conductivity 1.0 millimhos per cm at 25 degrees centigrade.

B. Sand

1. Physical Properties – Grading:

U.S. Sieve	Dry Weight Percent Passing
No. 4	100
No. 10	95 – 100
No. 18	90 – 100
No. 35	65 – 100
No. 60	0 – 50
No. 140	0 – 20
No. 270	0 – 7

2. Chemistry:

Saturation Extract Conductivity (EC) — Nil – 3.0
Sodium Absorption Ratio (SAR) — Nil – 6.0
Boron – ppm in saturation extract solution — Nil – 1.0
Reaction (pH) — 6.0 – 7.5
Available calcium – sodium acetate extractable – ppm — Nil – 2000 dry weight

C. Treble Superphosphate: Commercial product containing 19 to 20 percent available phosphoric acid.

8. MULCH

A. Shredded long fiber hardwood.

B. Mulch shall have been shredded within the last six (6) months.

9. PLANTING MIX

A. Planting mix shall be prepared at approved on-site staging area using approved on-site existing soil. Mix minimum quantities of 20 cubic yards or sufficient mix for entire job if less than 20 cubic yards is required.

B. Thoroughly mixed in the following proportions for tree and shrub planting mix:

.5 cy Existing soil
.2 cy Sharp sand
.3 cy Wood residuals
4.5 lbs. Treble superphosphate
5 lbs. Dolomite limestone (eliminate for acid loving plants)

10. LAYOUT AND EXCAVATION OF PLANTING AREAS

A. Plants shall be placed in each zone at random locations shown at spacing as indicated on the plan.

B. The Landscape Architect or qualified professional will check location of plants in the field and shall adjust to exact position before planting begins.

C. Subsoil shall not be worked when moisture content is so great that excessive compaction will occur, nor when it is so dry that clods will not readily break. Water shall be applied, if necessary, to bring soil to an optimum moisture content before tilling and planting.

D. Tree pits shall not be excavated more than 24 hours in advance of planting operation. Tree pits shall be excavated to the following dimensions:

Excavation for	Width	Depth
Canned Trees	Can + 12 in.	Can + 4 in.
B&B Trees	Ball + 12 in.	Ball + 4 in.

E. Excavate shrub pits to the following depths:

Excavation for	Width	Depth
Shrubs	Ball or Can + 8 in.	Can + 4 in., not less than 12 in.

11-20-01

FOR ROAD AS-BUILT ONLY

11. PREPARING PLANT MATERIALS FOR PLANTING

A. Container stock shall be removed carefully after cans have been cut on two sides with approved cutter. Do not use spade to cut cans. Do not lift or handle container plants by tops, stems or trunks at any time.

B. Do not bind or handle any plant with wire or rope at any time so as to damage bark or break branches. Lift and handle plants only from bottom of ball.

C. Balled and burlapped (B&B) plants shall have firm balls of earth. Plants moved with a ball will not be accepted if the ball is cracked or broken before or during planting operations. B&B material shall be dug only when dormant. Pre-dug stored B&B material shall be inspected and approved at the storage site.

D. Do not force roots for bare rooted trees into excavated pits – custom dig pits to receive roots without deformation.

12. MIXING

A. Mix soil base, amendments and chemical additives by mechanical means.

B. Soil and sand bases shall be completely pulverized and free of lumps or aggregated material. Moisture content of base materials shall not be such that chemical granular or pelletized additives become dissolved during the mixing process.

C. Mix media in quantities of not less than 20 cubic yards or mix total quantity required if less than 50 cubic yards. The Contractor shall be responsible for continuity between batches.

D. Contaminating backfill mix with unmixed soil in backfill mixing lots shall be avoided.

13. INSTALLATION OF CONTAINERIZED PLANT MATERIAL

A. Scarify the walls and bottom of all plant pits immediately prior to the placement of plant and backfill mix. The Contractor shall remove all glazing of soil caused by an auger or mechanical hole digger.

B. Place B&B plants carefully in the prepared planting pit. Do not disturb root ball or untie twine or roping until backfill settlement is complete and tree is staked, if applicable. Fill planting pit by flooding each 8 inches of backfill for balls greater than 24 inch diameter. Fill plant pits with soil mix to depth to receive plant root ball, so that top of ball is 2 inches above finished grade. Wrap trunks with double layer of tree wrap.

C. Wells around trees and shrubs: after planting is complete, form a soil well 3 inches high around each plant, extending to the outer limit of the plant pit in accordance with planting details shown on the Drawings.

D. Smooth planted areas to conform to specified grades after full settlement as occurred. Contractor shall bear final responsibility for proper surface drainage of planted areas. Any discrepancy in the drawings or specifications, obstructions on the site, or prior work done by another party, which Contractor feels precludes establishing proper drainage, shall be brought to the attention of the Landscape Architect in writing.

E. Water all plants immediately again after planting.

F. Spread mulch in required areas to the compacted depth of 2 inches.

GUARANTEE:

A MINIMUM SURVIVAL RATE OF 75% IS TO BE GUARANTEED BY THE DEVELOPER AT THE END OF THE TWO YEAR MAINTENANCE PERIOD.

NOTE:

BASED ON THE ADDITIONAL 2.8 ACRES OF AFFORESTATION PROVIDED ON THESE PLANS. ALL FOREST CONSERVATION OBLIGATIONS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE HAVE BEEN ADDRESSED FOR THIS DEVELOPMENT.

Reforestation Planting

Species	Size	Spacing	Quantity
Acer rubrum	24" whips /Cont.	8'-11' mdm	75
Prunus serotina	24" whips /Cont.	8'-11' mdm	75
Fraxinus pennsylvanicum	24" whips /Cont.	8'-11' mdm	75
Quercus alba	24" whips /Cont.	8'-11' mdm	75
Amelanchier arborea	24" whips /Cont.	8'-11' mdm	75
Liriodendron tulipifera	24" whips /Cont.	8'-11' mdm	75
Juglans nigra	24" whips /Cont.	8'-11' mdm	75
Quercus coccinea	24" whips /Cont.	8'-11' mdm	75
Sassafras albidum	24" whips /Cont.	8'-11' mdm	75
Viburnum prunifolium	24" whips /Cont.	8'-11' mdm	75
Lindera benzoin	24" whips /Cont.	8'-11' mdm	80
Hamamelis virginiana	24" whips /Cont.	8'-11' mdm	75
Viburnum acerifolium	24" whips /Cont.	8'-11' mdm	75
		Total	980

Forest Conservation Chart

14.4± ACRES AFFORESTATION/REFORESTATION REQUIRED
10.4± ACRES AFFORESTATION/REFORESTATION ON SITE UNDER SDP 98-11
2.8± ACRES AFFORESTATION/REFORESTATION ON SITE UNDER SDP 99-92
1.2± ACRES FEE IN-LIEU (PAID)

NOTE:

1. THE PRECISE LOCATION OF PLANT MASSINGS WILL BE LOCATED IN THE FIELD BY LANDSCAPE ARCHITECT.
2. GRID PATTERNS WILL BE AVOIDED
3. PLANT MATERIAL MAY BE GROUPED IN CLUSTERS OF NO MORE THAN 5 TO 7 WHIPS OF THE SAME PLANT. PLANTS WILL BE INSTALLED IN A RANDOM FASHION.

Conditions and Management Practices for Working in Nontidal Wetlands and Buffers

A. REMOVE EXCAVATED MATERIAL, CONSTRUCTION MATERIAL OR DEBRIS TO AN UPLAND DISPOSAL AREA OUTSIDE OF ANY WATERWAY, FLOODPLAIN, NONTIDAL WETLAND, OR BUFFER;

B. IF BACKFILL IS OBTAINED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.

C. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONTIDAL WETLAND;

D. MAINTAIN THE HYDROLOGIC REGIME OF NONTIDAL WETLANDS OUTSIDE THE LIMITS OF DISTURBANCE.

E. RECTIFY ANY NONTIDAL WETLANDS AND BUFFERS TEMPORARILY IMPACTED BY THE PERMITTED ACTIVITY. ALL STABILIZATION IN THE WETLAND AND BUFFER SHALL BE OF THE FOLLOWING RECOMMENDED SPECIES: ANNUAL RYEGRASS (Lolium multiflorum), MILLET (Setaria italica), OATS (Uniola sp.) AND /OR RYE (Secale cereale). OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN THE WETLAND OR BUFFER. ALL TEMPORARY FILLS SHALL BE REMOVED IN THEIR ENTIRETY ON OR BEFORE THE COMPLETION OF CONSTRUCTION;

F. TO PROTECT IMPORTANT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS:

USE I WATERS. IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD MARCH 1 – JUNE 15 INCLUSIVE, DURING ANY YEAR.

G. NO REMOVAL OF VEGETATION, GRADING, FILLING, DRAINING, OR OTHER ALTERATION OF THE NONTIDAL WETLANDS OR BUFFER OUTSIDE THE LIMITS OF DISTURBANCE SHALL OCCUR WITHOUT WRITTEN AUTHORIZATION FROM THE WATER MANAGEMENT ADMINISTRATION.

8·11·99
Date

STATE OF MARYLAND · MELANIE MOSER · REGISTERED LANDSCAPE ARCHITECT · 551

Landscape Architect No. 551

Forest Conservation Worksheet

1. BASIC SITE DATA
   - Gross Site Area — 104.0 Acres
   - Area within 100 year floodplain — 1.2 Acres
   - Area within MSHA row reservation — 7.5 Aces
   - Net tract area — 95.3 Acres
   - Land use category (R-RLD, R-RMD, R-S, C/O,I) — PEC
2. INFORMATION FOR CALCULATIONS
   - a. Net tract area — 95.3 Acres
   - b. Reforestation threshold 15% x A — 14.3 Acres
   - c. Afforestation threshold 15% x A — 14.3 Acres
   - d. Existing forest on net tract area — 7.5 Acres
   - e. Forest areas to be cleared — 3.8 Acres
   - f. Forest areas to be retained — 3.7 Acres
3. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION

   AFFORESTATION: If existing forest areas area are less than the afforestation minimum (if D is less than C), afforestation requirements apply.
4. AFFORESTATION CALCULATIONS
   - a. Net tract area — 95.3 Acres
   - b. Afforestation minimum 15% x A — 14.3 Acres
   - c. Existing forest on net tract area — 7.5 Acres
   - d. Forest areas to be cleared — 3.8 Acres
   - e. Forest areas to be retained — 3.7 Acres

Clearing below the Minimum

If existing forests are less than the afforestation minimum (if D is less than C) and clearing is proposed, the floowing calulations apply:

Afforestation for unforested areas below minimum C-D — 6.8 Acres
afforestation for clearing below minimum Ex2 — 7.6 Acres
Total afforestation required C-D + Ex2 — 14.4 Acres

Afforestation requires the total forest area to be equal to the minimum and it requires compensation for clearing.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 8/24/99

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/24/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/24/99

Date	No.	Revision Description

Montpelier
PARCELS E-1, G-1 & G-2
Research Park
HOWARD COUNTY MARYLAND

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME	SECTION/AREA	PARCEL #
Montpelier		E-1, G-1 & G-2

PLAT#	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
13229-13234	17	PEC	41	5th	6051.02

WATER CODE	SEWER CODE
E 21	6440000

TITLE: FOREST CONSERVATION/ AFFORESTATION DETAILS & NOTES

Des By: JAR	Scale: As Shown	Proj. No. 941717B
Drn By: TPC	Date: 8-11-99	6 OF 6
Chk By:	Approved:	

~~SDP 99-92~~ F-99-191

Wed Aug 11 14:03:32 1999 D:\941717B\941717b.fc4